BEFORE WARM SPRINGS DAM

A HISTORY OF THE LAKE SONOMA AREA

by

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1985

Dedicated to

BETTY MATTHEWS SNYDER

Dry Creek rancher and generous host

Preface

The Warm Springs Cultural Resources Study was one of the first large preservation projects conducted under federal preservation policies enacted in the late 1960s. A large multi-disciplinary team worked on the Warm Springs Project from 1974 to 1984. *Before Warm Springs Dam: A History of the Lake Sonoma Area* was the last of many reports produced by that team, synthesizing the material for a general audience. Unfortunately, by the time the report was completed in 1985, the U.S. Army Corps of Engineers had insufficient funds to distribute it as widely as intended. Funds for the envisioned future publication of the volume never materialized. A few years ago, the Anthropological Studies Center requested permission from the Corps to publish the volume elsewhere. This was granted and thus began the task of recreating a volume whose text resided on obsolete "elephant disks." Rose White scanned the text from the original provided by the Corps. The authors proofread the text for the myriad minute errors that sneak into scanned text. Maria Ribeiro formatted the report, inserted the graphics, and made the final edits. Scotty Thompson and Richard Stradford helped us find elusive photographs.

Much as we were tempted to update the volume and revise sections we now know to be inaccurate or outdated, we agreed that such an effort would put the volume's publication back another 15 years. So except for very minor technical edits, this is the *Before Warm Springs Dam: A History of the Lake Sonoma Area* as it was submitted to the U.S. Army Corps of Engineers in 1985.

The Authors
December 2000

Preface - 1985

This volume is one of four summarizing cultural studies performed under U.S. Army Corps of Engineers' sponsorship in connection with the construction of Warm Springs Dam-Lake Sonoma in Sonoma County, California. Using perspectives from cultural geography, demography, anthropology, and other disciplines, this volume describes the use of project land by various populations from prehistoric times up to the initiation of the Corps project. Although the volume draws from technical and professional reports, its content and style have been designed to make it appealing to a general audience.

The purpose of this volume is to synthesize and analyze the area's history, not just describe it. The authors chose to explore a number of continuing themes to present a dynamic picture of life in the Lake Sonoma Area. A benefit of this approach is that each chapter may stand alone, allowing the reader to choose those of interest without missing part of "the story."

The first chapter gives a brief overview of the cultural studies that were conducted by the Warm Springs Cultural Resources Study and its predecessors, and summarizes the most significant contributions. Chapter 2 describes the study area's environment, Chapter 3 explores what people thought and felt about that environment, while Chapter 4 recounts the history of human activities in the Lake Sonoma Area in relation to the area's natural resources. In Chapter 5, the ways in which successive occupants viewed their right to the land are examined, as well as the legal and extralegal methods they used to maintain their tenure. Settlement pattern, the ways in which human beings and activities were arranged on the landscape, is the subject of Chapters 6 and 7. The role of family and kin through time is examined in Chapter 8, which also includes the histories of four settler families. So that the Lake Sonoma Area should not appear too much like an isolated community, Chapters 9 and 10 add an essential perspective by examining its relationship with the region, the state, and the nation, through trade, recreation, travel, and a variety of other types of interactions.

Acknowledgments - 1985

It has been observed that giving credit where it is due is among an author's greatest pleasures—if one can be sure that nobody has been left out and, thereby, unintentionally slighted. Considering the number of professional studies that we have drawn on for this volume, as well as the numerous people who have helped us with sound advice along the way, we approach this task with little chance of complete success.

Various chapters and drafts of this volume were read and critiqued by our colleagues. We would like to thank them for their advice; although not all of their suggestions were followed, they were always appreciated. In particular we acknowledge the comments received from: Clinton Blount (Theodoratus Cultural Research), Mildred Dickemann (Sonoma State University), Roberta Greenwood (Greenwood and Associates), Dennis Harris (Sonoma State University), Richard Lerner (U.S. Army Corps of Engineers), Daniel Markwyn (Sonoma State University), David Peri (Sonoma State University), and Dorothea Theodoratus (Theodoratus Cultural Research).

When our research took us out of the Warm Springs Cultural Resources Study office to various institutions and private homes in the greater San Francisco Bay Area, we were always welcomed. Hannah Clayborn directed us around the collections of the Edwin Langhart Museum in Healdsburg and arranged for permission to reproduce photographs from the archives. The staff of the Sonoma County Room at the Central Sonoma County Library in Santa Rosa also allowed us to temporarily turn their facility into a makeshift photographic studio in order to copy photographs on file there. The authors are particularly indebted to Mrs. Betty Snyder of Santa Rosa, both for permission to use photographs and other documents in her possession and for sharing her knowledge of rural life; Mrs. Snyder's hospitality was sincerely appreciated.

Helen McCarthy of the University of California at Davis provided us with the unpublished results of the prehistoric archaeological excavations carried out in the Lake Sonoma Area, as well as with photographs of the excavations. Gene Price and Frank Norick of the Lowie Museum at the University of California at Berkeley kindly allowed us access to and guided us through the museum's collection of early California ethnographic photographs. Photographer Scott Patterson is also to be thanked for providing us with copies of some of his excellent photographs, which are reproduced in this volume.

Several "unsung heroes," employees of the Sonoma State University Academic Foundation, Inc., Rohnert Park, California, and the University's Anthropological Studies Center, provided cheerful assistance on a variety of fronts. Chief among these was Marilyn Sisler who, with the able assistance of Pat Mikkelsen, kept the administrative aspects of the project under control. Nelson "Scotty" Thompson did an admirable job preparing many of the maps and other graphics for this volume. The text was word-processed by Marsh Rose and C. Kristina Roper.

Over the two years that this volume has been in the making, the authors were fortunate in having the leadership of David A. Fredrickson, Principal Investigator of the Warm Springs Cultural Resources Study. Dr. Fredrickson's encouragement helped keep us going during periods of low morale, while his supportive attitude has made the project as a whole a most rewarding experience.

Special thanks go to Richard Lerner of the U.S. Army Corps of Engineers. In addition to his extensive comments on the text and format, Dr. Lerner is also to be credited with recognizing the need for this document and arranging for it to become a reality. As a result of Dr. Lerner's support and his services as General Editor of the final report publications, both the American public and the spirit of the law have been well served.

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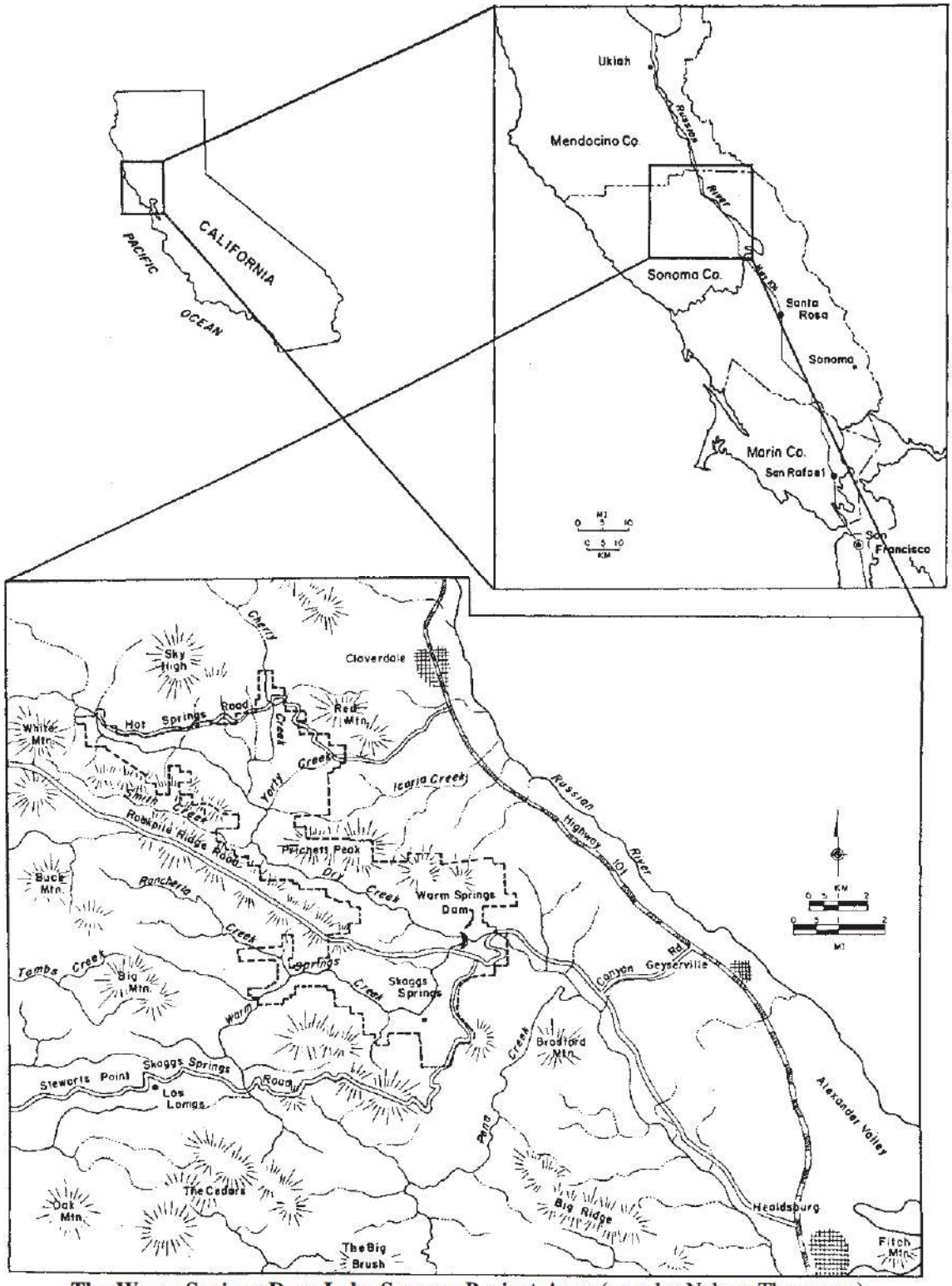
Warm Springs Cultural Resources Study

CONTENTS



The Warm Springs Dam-Lake Sonoma Project Area (map by Nelson Thompson)

CHAPTER 1

STUDYING THE LAKE SONOMA AREA

FLOOD CONTROL AND WARM SPRINGS DAM

Since the 18th century, major government-sponsored public works have been the responsibility of the U.S. Army Corps of Engineers. Even before California had been admitted to the Union, the Corps surveyed the San Francisco Bay with an eye to its military potential. In succeeding decades, the Corps became involved in a variety of water-related projects, ranging from the removal of Blossom Rock, a navigational hazard in San Francisco harbor, to improving the channel of the silt-clogged Sacramento River.

During the late 1930s, flooding throughout the Russian River basin prompted various local, county, and state bodies to petition the federal government to develop a flood-control plan for the area. Numerous studies and hearings during the next 20 years resulted in the construction of the first major Corps of Engineers project in the Russian River basin: Coyote Valley Dam-Lake Mendocino, completed in 1959. Plans for the second stage of the Corps's program for flood control in the area—the construction of a dam on Dry Creek—were refined during the early 1960s, and in 1962, construction funds for the project were approved by Congress (1).

CULTURAL RESOURCE STUDIES

Cultural resource studies in the Lake Sonoma Area began in 1964, when Adan Treganza, an archaeologist from San Francisco State College, and his small crew surveyed the area for prehistoric sites. Although several sites were found during their brief reconnaissance, none was judged to be important enough to warrant excavation. Construction began on the Warm Springs Dam in 1967. Seven years later, however, the work was halted by a court order arising out of concern for the project's overall safety and its effects on the environment, including cultural resources. Since the work on the dam had begun, new professional standards had been developed by archaeologists and two major pieces of federal legislation had been passed.

The National Environmental Policy Act (NEPA) of 1969 directed that, prior to a project's approval, a report must be prepared that considers the project's impact on a number of factors. This act mandated that federal agencies "preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment which supports diversity and variety of individual choice."

The requirement to consider cultural resources had been stipulated in even greater detail by the National Historic Preservation Act passed by Congress in 1966. It advised federal agencies that "the historical and cultural foundation of our Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people" (2).

Although the project was already under construction, the Corps of Engineers prepared an Environmental Impact Statement for Warm Springs Dam-Lake Sonoma. One of the points of contention was resolved when the Corps agreed to sponsor a comprehensive study to identify cultural resources in the Lake Sonoma Area and to take additional steps to mitigate the project's adverse effects on these resources.

Some Early Studies

Early studies in the Lake Sonoma Area sought to identify and evaluate potential cultural resources. In the process, the researchers also identified many research domains which provided focus for subsequent studies. Archaeologists worked in the Lake Sonoma project area for nearly eight years between 1974 and 1984. Their aims were threefold: to discover all of the archaeological sites in the area; to evaluate damage that might be done to them as a result of construction, flooding, or recreational activities; and to determine how to minimize the damage or record information that would be lost. The first part of this job—finding the sites—is known as "survey" to archaeologists. In 1974, Robert Orlins and a crew of eight from the University of California at Davis spent two months surveying the Lake Sonoma Area. This involved the team members, spaced a few yards apart,

actually walking over the area, carefully inspecting the ground for signs of past human presence. A "site" was recorded at a location where this kind of evidence was found.

Although the period of interest to historical archaeologists—beginning in California with the first Spanish settlement—is not as distant in time as the prehistoric era, it is nevertheless distant in experience from modern Americans. For many years, the fact of its recent character caused some professionals to doubt the value of investigating the period archaeologically: in tune with the times, Treganza's 1964 survey did not consider historic-period remains at all, and the 1974 team did not feel qualified to evaluate the historic sites they encountered. For this reason, historical archaeologist Lyle Stone was hired in 1976 to document and evaluate the project's historic sites.

Eventually, more than 120 archaeological sites, ranging from several ancient prehistoric middens to 19th-century ranches, were recorded in the Lake Sonoma study area. Many were directly threatened by construction of the dam. Consequently, it was the archaeologists' next job to evaluate these sites so that plans could be developed to salvage some of the information they contained.

In keeping with the spirit of NEPA, the scholars who took part in the study were concerned not only with the area's past, but also with its heritage importance to contemporary peoples, specifically local Indians whose ancestors had occupied the area in antiquity. In fact, this theme came to be preeminent in the ethnohistoric and ethnographic work that was done in the area.

While archaeologists surveyed the ground for archaeological sites, anthropologists Lowell Bean and Eugene Hirtle conducted surveys of the ethnohistoric and ethnographic literature on the area, and Dorothea Theodoratus implemented an extensive interview program. Knowledgeable local Indians "spanning five generations and ranging from fourteen to one hundred and thirteen years of age" were interviewed to record both historic and contemporary Native American use of the area (3). In this way, the most important continuing Indian use of the area was discovered: the cultivation of several species of plants for basketry, ceremonial use, and traditional healing. These ethnobotanical (plant-collecting) sites were identified in the field and recorded.

In 1976, with these data in hand, much of the project's lands were nominated for inclusion on the National Register of Historic Places, and in the following year, the Dry Creek-Warm Springs Valleys Archeological District was formally placed on the Register. The District included not only land owned by the Corps of Engineers, but also private properties located downstream in the Dry Creek Valley that were historically associated with the project area. The District contains 85 prehistoric, 24 historic, and 8 ethnobotanical sites. The prehistoric sites ranged in size, type, and age. Many of the downstream sites had been occupied by local Pomoans into the early 20th century and were still known by name. Historic archaeological sites connected with known persons and activities included Skaggs Springs Resort, the Scott District School, and the homesteads of Louis Mead, James Pritchett, and John Ferry. The Peña adobe, built by the area's first Mexican settlers, was also included in the National Register District. These 117 sites, particularly those that would be damaged or destroyed by the Corps's project, provided the main focus for the subsequent cultural resource studies (4).

WARM SPRINGS CULTURAL RESOURCES STUDY

In 1978, the same year that work on the dam resumed, the Corps of Engineers began the first of its mitigation-phase cultural resource studies. This work was coordinated by Dr. Richard N. Lerner, Corps Anthropologist, and carried out by the newly created Warm Springs Cultural Resources Study, an organization made up of scholars from Sonoma State University, University of California campuses at Davis and Riverside, California State University at Sacramento, and Santa Rosa Junior College, as well as professionals working independently or with private research organizations.

The objective of the group, headed by Dr. David A. Fredrickson of Sonoma State University, was to design and implement a program, as required by law, to lessen the effect of the Corps's project on the cultural properties included in the National Register District. The resulting program was later described by *New West* magazine as a "textbook example of cultural resources management, gathering together professionals of a multidisciplinary breadth never before contemplated by a government agency": prehistoric and historic archaeologists, historians, ethnohistorians, linguists, ethnographers, geographers, botanists, ethnobotanists, geologists, folk-

Warm Springs Dam under construction circa 1979; Rockpile Road Bridge crosses Warm Springs Creek at middle left.

lorists, and an anthropological museologist (5). Under the auspices of the Warm Springs Cultural Resources Study, these people studied the Lake Sonoma Area to a depth rarely achieved elsewhere.

The present volume's geographical focus—what is referred to as the "Lake Sonoma Area" (also, "study area" and "project area")—is composed of more than 17,000 contiguous acres in northern Sonoma County, California: the land purchased by the Corps of Engineers for the dam and reservoir site. Ethnographic research with the Dry Creek and Cloverdale Pomo included study of the use of lands near the project which had been held by these groups in the past. Additional studies in the Dry Creek uplands area to the northwest of Corps property and along Kelly Road, done in connection with biological and road relocation investigations, added much supplementary data about thousands of acres and provided a broader context for the Lake Sonoma Area investigations.

Ethnographic and Ethnobotanical Studies

By stressing the living, dynamic aspects of local Indian culture rather than treating it only historically, as a collection of cultural relics from an archaic way of life, the ethnographic studies were able to make contributions of great importance to scholarly knowledge. At the same time, this approach generated equally significant humanistic insights into the efforts of contemporary Native Americans to retain their cultural integrity. From the first such research in the area, conducted under the leadership of Dorothea Theodoratus by ethnographer David Peri, it was clear that many Dry Creek Indians still lived nearby; far from having melted into the cultural "pot," they were both proud of their heritage and deeply attached, emotionally and spiritually, to the Lake Sonoma Area.

Ethnobotanical sites were particularly important. Interviews revealed that in recent years Indian people had been finding certain important plants increasingly difficult to obtain; as a result, collection sites on Warm Springs and Dry creeks were being utilized by people from as far away as Lake and Mendocino counties. In greatest demand was basket sedge, whose roots are used in making delicate twined and coiled baskets. In addition to sedge's economic importance to several renowned Pomoan basketweavers, other plants contributed to the continuation of other aspects

Indian basketweavers transplanting sedge along Dry Creek (photo by Scott Patterson)

of the area's traditional Indian culture. To lessen the effect of the loss of these plants, thousands of sedge, willow, angelica, and lomatium plants were transplanted to new locations downstream from the dam. Initial harvests by the weavers suggest that the sedge relocation is a success. In recognition of this innovative mark, the Warm Springs Cultural Resources Study received a national award in 1982 from the Army Corps of Engineers.

Language was another element of local Indian culture that was documented as part of the study. Linguists have compared the degree of difference between three of the Pomoan languages—Southern Pomo, Kashaya (or Southwestern), and Central Pomo—to that of the Western European Romance languages, Spanish, French, and Italian. Dialects of each language were spoken by a number of small, politically autonomous groups, called tribelets by ethnographers. Of the Southern Pomo dialects, the variant spoken in the Santa Rosa-Sebastopol area died out early in the 20th century; that of the Healdsburg locality was lost after World War II. In fact, only two Southern Pomo dialects, Mihilakawna (Dry Creek) and Makahmo (Cloverdale), survived into the 1980s; fortunately, both were spoken by inhabitants of the Lake Sonoma project area. Project linguists soon discovered that even these were in danger, as only ten speakers of the Mihilakawna dialect survived, while only one speaker of the Makahmo dialect remained. Linguist Robert Oswalt summed up the critical state of things in these words:

> The situation is quite analogous to that of an endangered species. Great sums have been spent to preserve species near extinction. . . . And yet there is another kind of living organism, more intimately a part of humankind, which grows and evolves, and in some cases dies, with no comparable effort being expended to preserve it: Language (6).

Accordingly, the linguists made numerous recordings of native speakers, compiled word lists, and analyzed the languages' grammatical structure. There has been a renewed interest among people of Makahmo and Mihilakawna descent in learning the language of their ancestors. It is certain that the linguists' work has made a priceless contribution toward the preservation and revival of these threatened "species."

To provide the perspective of local Indians on these cultural studies, a Native American Advisory Council was formed. This group gave advice on a variety of Indian concerns, including the disposition of many of the petroglyph rocks, considered sacred by some, that were to be flooded by the reservoir.

Petroglyph rock in the Lake Sonoma Area; numerous cupules visible on left

Two of the boulders were selected for exhibition at the Visitors Center, while the remainder were moved from their original locations and buried to prevent vandalism and for possible later display.

A guiding principle of the ethnohistoric research was the perishable nature of the information: while much of the history of the area's White population was available from written and archaeological sources, much of the experience of the Indian residents was contained only in the memory of tribal scholars and other elder citizens. The advancing years of many Indian consultants, together with changes in the landscape caused by dam and reservoir construction, combined to put this store of knowledge in peril. The generation who could recall firsthand the Indian lifestyle of the late 19th and early 20th centuries was passing away. Without their accounts, it would have been impossible to reconstruct, for example, the pattern of seasonal movements that allowed Indians to survive in a world dominated by hostile Whites, while retaining their own cultural identity. Stories passed down through the generations recall events that were ignored by contemporary historians, such as the forced relocation of Dry Creek Indians during the 1850s, known as the "Death March."

Ethnohistory and History

Another contribution of the Warm Springs Cultural Resources Study was the approach taken to the study of the area's historic-period residents. Small rural communities in the West had rarely been studied in this kind of breadth and depth. Not enough "important" happenings occurred here for the likings of many historians concerned principally with events described in written documents. Studies such as those for the Lake Sonoma project have helped to make researchers aware of the quantity and quality of data that exist for these overlooked areas.

By and large, the people who were studied were ordinary folk, although large landowners left the most information about themselves. Some segments of the population—such as the landless or transient—were barely represented in the historic records. Despite these gaps, the work provided insights into many aspects of 19th- and early 20th-century rural life. This was achieved on a variety of levels, ranging from compiling episodic, oral history accounts, to analyzing historical processes that affected the area's long-term development. Most important for the latter goal was the opportunity to study the histories of individual families over many years and to chart their responses to certain broad historic changes. A major focus was their changing finances, as reflected in landholding and acquisition practices and agricultural

diversification versus specialization. By following the careers of families, researchers could also discover relationships between the families' size and composition and economic changes on both the household and regionwide level.

We can speculate that the history of the Lake Sonoma Area is that of a typical part of rural California. At the same time, it is clear that the area was much more strongly articulated into county, state, and national networks during the 19th-century period than during the mid-20th, by which time it had moved to the periphery. We might also think about the degree to which this may have been true of much of 19th-century rural California, and how this would substantially change our view of this period. To date there has been little in-depth study of this problem in other areas of the state, which once more highlights the importance of the Lake Sonoma Area studies.

Archaeology: Prehistoric and Historic

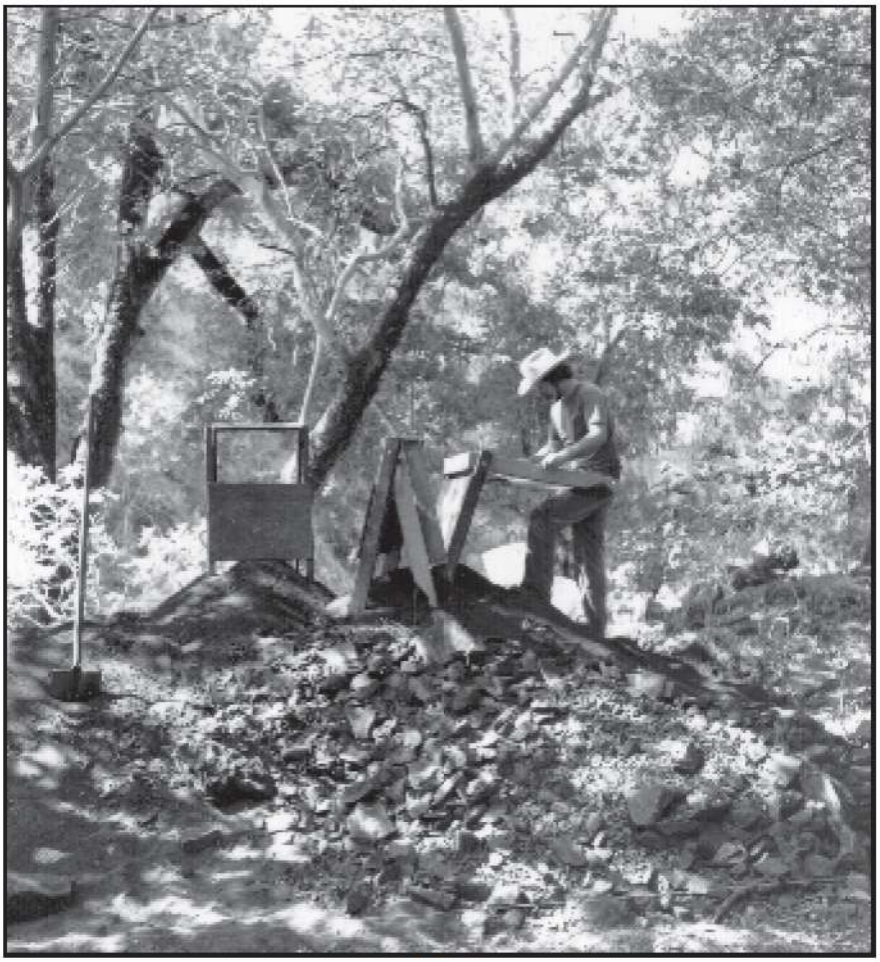
The 1974 U.C. Davis survey began a period of in-depth archaeological examination that made the district one of the most heavily studied rural areas of its size in northern California. For prehistorians, the Lake Sonoma project represented a rare opportunity. Generally, researchers cannot study in depth more than a few sites in any region—the time, logistical problems, and costs involved are prohibitive. In the case of the Warm Springs Dam project, however, many of these problems were surmounted through the Corps of Engineers' support.

The study gave head prehistoric archaeologist Martin Baumhoff and his colleagues the chance to examine changes that occurred over thousands of years within the area, including the occupants' relationships with other groups. From the survey, the archaeologists knew the sites' locations on the ground. Excavation allowed them to date the sites' occupation. Brought together with information about the area's topography and ecology, this information was used to study the changing relationship of human uses of the area to the natural environment. The prehistorians were interested in reconstructing the size, location, and types of sites in the various sections of their study area during particular periods in the past. This interest is based both on a desire to describe particular living patterns, in both historical and geographical terms, and to identify the environmental and social forces that influence groups to adopt one pattern over another.

Relationships between groups of people, as well as those between people and their natural environment, formed important topics of study whose manifestations can be recognized archaeologically. On the basis of various indicators, archaeologists determined that intensive human use of the area began about 3000 B.C. They hypothesized that, with the development of trade, the society became socially stratified and occupationally specialized, with traders, priests, and artisans living in separate communities away from low-status individuals. Eventually, this system is thought to have broken down when, as a result of religious innovation, the social structure changed to the more egalitarian system that characterized the period immediately preceding Euroamerican contact.

In addition to changes in relationships within the area, archaeologists also found evidence of fluctuations in the relationships between the Lake Sonoma Area people and their neighbors. This was determined by studying the trade in obsidian. This volcanic glass, which does not occur naturally in the project area, is a common feature of the prehistoric sites, whose inhabitants used it to make various cutting, piercing, and scraping tools. The presence of obsidian is evidence of either trade or of a relationship that allowed people from the Lake Sonoma Area to enter others' territory and collect this valuable resource. If obsidian is chemically analyzed, its geographic source can be pinpointed. By studying the sources of obsidian artifacts of known dates, the archaeologists were able to determine that the main obsidian procurement site changed over time from the Clear Lake area's Mount Konocti, to Glass Mountain in the Napa region. With this information now in hand, future research can focus on refining the causes of the change, which may relate to major political or economic movements in prehistoric north-central California.

The approach taken by historical archaeologists toward their sites is necessarily quite different, as many of the questions about the historic period can be answered without the use of archaeology. Often, valuable insights are reached by examining the "fit" between artifacts excavated from a particular site and information from other sources. Consequently, the Lake Sonoma project historical archaeologists were familiar not only with archaeology and material remains, but also with other ways of researching local history.



Archaeologist at work

As historical archaeology was a relatively young discipline in northern California at the outset of the project, the potential of some sites was not recognized by Corps of Engineers officials in time to save them from their own personnel: in the project's early stages, some sites were bulldozed and several historic structures were burned to the ground for fire-control practice before they could be evaluated or recorded. In spite of these difficulties, chief historical archaeologist Roberta Greenwood and her associates were able to draw important conclusions about past lifeways in the Lake Sonoma Area. By studying the arrangement of ranches, farms, fields, and fences on the historical landscape, the archaeologists found subtle links between the local land-use pattern and the ways in which people viewed the natural environment. A number of local building techniques were also discovered, including the use as posts and piers of redwood logs, often with the bark intact, and the construction of stone dugouts for cold storage.

On a more limited material level, the archaeological work provided a partial inventory of the artifacts kept on 19th- and early 20th-century rural ranches and farms. Most of the artifacts that historical archaeologists extract from their sites have little monetary worth or even curio value; many are only broken parts of what were once common objects. Indeed, if individual pieces are taken out of the context of their place of discovery, few retain much value at all, even to archaeologists. Yet with some knowledge of the way in which a group of artifacts came to be discarded in a certain place during a given time period, useful insights can be garnered from even the most simple remains, while good artifact assemblages enable archaeologists to make important contributions to historical knowledge. The homestead of Louis Mead, for example, yielded a wide range of glass, ceramic, and metal artifacts that attest to the quality of Mead's day-to-day existence. The lack of any female-associated artifacts among the clothing

fasteners or shoe parts found on the site is consistent with the results of historical research, which indicated that Mead was a bachelor.

The degree to which Lake Sonoma Area residents participated in regional, national, and international trade networks was also assessed by means of archaeological finds. Archaeology can provide information about trade networks that is unavailable elsewhere. Historical sources sometimes contain accurate listings of the origins, amounts, and types of everyday goods imported to California at various times. Archaeological work, however, is generally the only way of reconstructing the pattern of these goods' distribution within communities and, especially, in individual households. But this is not an end in itself. These patterns indicate the nature and degree of integration of the local community into the larger world. Ceramic tableware, for example, is often stamped with the maker's mark; these were used by the Lake Sonoma project archaeologists to study trade during the 19th and 20th centuries. By studying ceramics from dated deposits, the archaeologists were able to compare acquisition practices within the study area with trends on the national level. They also noted a distinct difference between the ceramics used at the Skaggs Hot Springs hotel, a project-area resort, and those used on the homestead sites. The hotel had a wider variety of vessel forms used for serving and toiletry purposes, but a smaller range of decorative types, relying mainly on the plain or green-banded, heavy, white ceramics marketed by potters as "Hotel Ware."

Ultimately, the importance of the historical archaeology program did not depend on the results of any of its individual aspects, but rather on its contribution as a whole to a well-rounded knowledge of the past. In particular, the method of articulating oral and written information with that forthcoming from the ground itself provided a more complex and human picture of the area than would have been possible from any single source.

As with most problems that are addressed by scientists and scholars, the conclusions of the research at Lake Sonoma will inevitably be taken up as the questions for studies in the future. Consequently, the success of all aspects of the studies will be judged not only by their own substantive results, but also by the quality and quantity of leads they have provided to guide future research.

Cultural Resources Studies and This Volume

Webster's dictionary has defined a resource as "something that lies ready for use or that can be drawn on for aid." The information collected by scholars over the years as part of the mitigative efforts fits this category well. As knowledge in the minds of Indian tribal elders, words in dusty, leather-bound volumes, and uninterpreted objects and "data" in the ground, the cultural resources of the area were largely unavailable for "use" by society at large. The research work was done for the purpose of historic preservation. However, the spirit of the law recognizes and demands that to do justice to the resources we must do more than merely preserve and record them in highly technical professional reports of limited circulation.

Information gathering has to be taken one step further before its value can be realized: the information has to be organized and put in a format that is readily available and understandable. This volume is one of four that have been prepared by the Warm Springs Cultural Resources Study to present the results of its research into the prehistory, history, and ethnography of the Warm Springs Dam-Lake Sonoma project area. It seeks to serve at least three audiences: the general public, which is entitled to the benefits of these studies as it is to those from the work of any other public agency; professionals—anthropologists, historians, archaeologists, and other social scientists—who often do not receive unpublished information generated by studies such as this; and those with a particular interest in the area itself, either out of avocational interest in its history or because the information pertains to their own community or heritage.

It is hoped that all of these groups will find something of value in these things that lay "ready for use."

Skaggs Springs Resort on Warm Springs Creek (photo from the Obed Bosworth collection)

Lake Sonoma filling behind Warm Springs Dam, 1985

CHAPTER 2

THE ENVIRONMENT: THE SETTING, PAST AND PRESENT

A TRIP TO WARM SPRINGS DAM

This mid-December journey began in fog. Driving north from San Francisco, the trip to Santa Rosa took a little over an hour. Typically, by that time the low cloud cover had "burned off"—as it is expressed locally—resulting in a brisk but clear midmorning. From here we could see three or four skinny columns of white vapor emerging from the mountaintops some miles to the northeast. In fact, this was steam from Sonoma County's Geysers district, where subterranean steam power has been harnessed to drive huge turbine generators, providing electricity to communities as far away as San Francisco.

On both sides of the freeway there were signs of the recent changes evident in much of the county; its proximity to San Francisco has caused much development here since 1970. With the rising cost of agricultural land, some orchard crops, such as prunes, are being replaced by wine grapes, a more profitable investment. Decaying, untended orchards alongside plantings of young vines still protected in their white cardboard cylinders are common sights now between Santa Rosa and Healdsburg, where we crossed the broad Russian River.

To get to the dam, we took Canyon Road, a rolling country road that crosses the low hills between the Russian River and Dry Creek valleys. We then followed Dry Creek Road up the north side of the valley, just above the valley floor. Like the road, many older homes and ranches are on high ground, reminding us of the floods that once inundated the valley each winter, contributing to its fertility. Vineyards and orchards cover the valley floor and creep up its sides. Unlike some parts of the county where wine-grapegrowing is a recent phenomenon, viticulture has been practiced in the Dry Creek Valley since the 1840s, and on a large scale since the countywide grapegrowing boom of the 1870s. As we passed by, it was clear that some of the modest Victorian houses built by those 19th-century viticulturalists were now occupied by farmworkers, while many of the pioneers' successors and descendants favor more modern homes.

About 12 miles out of Healdsburg, a bend in the road by a deeply cut bank brought us in sight of the dam. Where the valley had begun to narrow and its sides to steepen, it was blocked by the dam's great bulk. It was here that we were surprised by our first sight of Dry Creek itself. Barely 15 feet wide and not more than 3 deep, it was difficult to believe that this languid stream would ever fill up the enormous basin behind the dam. Crossing the creek immediately in front of the dam, we encountered some low, official-looking buildings and trailer offices. Construction on the dam had only recently been completed, and dozens of vivid yellow pieces of heavy equipment—dozers, blades, and front-end loaders—were lined up, idle, in a fenced compound. On the opposite side of the road was the Visitors Center and fish hatchery, where, for ten cents, the visitor could buy a handful of fish food to throw to the young trout and salmon in their concrete ponds. But our interest was in seeing the dam and its environs from up high, and to do this we drove past the cluster of buildings, up steep Skaggs Springs Road, to the overlook.

Warm Springs Dam is situated at the junction of Warm Springs and Dry creeks. While Dry Creek Valley is some 2000 feet wide at this point, Warm Springs Creek flows through a narrow, V-shaped gorge. By this junction, almost 800 feet above the valley floor, is the overlook spot with its observation tower. From here we were able to look down on the dam's great crescent. At its base, creek water had accumulated in a small, stagnant-looking pond. Fill for the dam had come mostly from the ridge on the opposite side of the valley. The area was now brown, unnaturally terraced, and striped with long, parallel gullies. In some places, new grass had grown up bright green and strangely artificial-looking in comparison with the drab grey-green of the untouched hillsides. Down in the valley, the area that was to become Lake Sonoma had been denuded of trees and shrubs. The effect was a surreal ghost shoreline that switchbacked at a single elevation along the opposite slope. Over the ridge to the east, on the opposite side of Alexander Valley, the thin columns of steam we had seen from Santa Rosa were now heavy, towering

Overlook above Warm Springs Dam

white plumes that drifted in an unbroken line of cloud above the mountaintops to Mount St. Helena.

Back on the road, we crossed Warm Springs Creek by the new bridge that carries Rockpile Road out onto the ridge that forms the southwestern side of the valley. The sight of this great span crossing the insignificant stream far below was so strange and incongruous that we stopped briefly halfway across to enjoy the novelty.

Driving along this ridge, one can begin to experience the character of the uplands that extend to the west. This country is quite different from the valley bottomland. Here, sheep and cattle ranching have been the chief pursuit for more than a century. The sloping, open pasture on the ridge's south side is witness to the land-clearing on a massive scale undertaken by 19th-century ranchers to create grazing land. Today the dam and lake dwarf all other human imprints on the landscape; yet, even before the construction, this area was no pristine wilderness, but a region changed by human use over several thousand years. The observant can still see remnants of times past in the split stakes of sheep fencing from the days before woven wire, and in the remains of family orchards.

A prominent sign by the roadside warns the visitor that from this point on the track is flanked by private property whose owners are wary of trespassers. Recently, local ranchers have been plagued by poachers, sheep thieves, and careless visitors; some believe this problem will get worse when the lake is filled and more adventurous tourists come to the area.

Soon the paved road gave out to a potholed, dirt surface. Having been sufficiently intimidated, we stopped here and turned northeast to look across Dry Creek Valley. Directly opposite us now were the barren, rocky prominences known as Pritchett Peaks. The green slopes that skirt these outcrops suggest an easy hike; in reality, the way is steep, exhausting, and, in the winter, chillingly windswept. This particular afternoon, a strong westerly wind funneled between the ridges, turning the valley into a wind tunnel. Taking this as our signal to leave, we headed back along the ridge, across the bridge, and down past the dam into the valley.

NATURAL ENVIRONMENT

Location and Topography

The Lake Sonoma Area is composed of more than 17,000 acres of land in the North Coast Ranges of California, some 100 miles north of San Francisco and 20 miles east of the Pacific Ocean (1). The area consists of two odd-shaped swaths: one follows the narrow upper Dry Creek Valley and the ridges that flank it for about 12 miles, from the present dam site northwest along Dry Creek to about 3 miles past its intersection with Cherry Creek; and the other goes some 5 miles west up Warm Springs Creek past Rancheria Creek. The steepness of the drainages leading into the upper Dry Creek Valley bears witness to erosion on a massive scale that, in places, has created dark, gloomy canyons. In other areas, where waterborne sediments have accumulated, broad oak-studded meadows have formed.

Climate

The Lake Sonoma Area is situated in a transitional zone between two climatologically distinct regions: the damp Pacific Coast to the west and the drier Russian River Valley to the east. In temperature pattern, the upper Dry Creek Valley experiences a range in monthly averages of about 30 degrees Fahrenheit during the year; in contrast, average temperatures at Fort Bragg on the coast range only about 10 degrees. Mean summer maximums in the valley vary between about 88 and 92 degrees Fahrenheit; mean winter minimums are from 36 to 38 degrees Fahrenheit. Most precipitation occurs during the winter, from November through February; mean annual rainfall varies from about 40 inches on the valley floor to about 55 inches on western ridgetops. This heavy average, however, constitutes considerably less rainfall—as much as 20 inches less—than the mountains nearer the coast. Changes in air pressure during summer days often draw in banks of ocean fog that stay overnight and recede the next morning. This phenomenon, known locally as "natural air conditioning," is most welcome on hot summer afternoons. During the winter, radiation or ground fogs are common.

The general wind pattern in the area is that of the entire Pacific Coast: onshore (westerly) during the day and offshore at night. Locally, the movement of cold air down into deep canyons creates nighttime, down-canyon surface winds; on sunny days, up-canyon winds are generated by the heating of the ground's surface.

Soil and Vegetation

The soil and vegetation types that occur in the Lake Sonoma Area are determined by several environmental factors, including topography, geology, and climate. In the northeastern part of the area, relatively high temperatures and low precipitation have encouraged the development of shallow soils and a covering of oak woodland and chaparral-associated plants. In the cooler and wetter southwest, soils are deeper, and mixed evergreen forest and oak woodland communities predominate; these are three of the five general vegetation types, each made up of several plant communities, that have been identified in the area by ecologists. The coniferous forest type, consisting of redwood, douglas fir, and other evergreens, is also well represented. Redwood and fir dominate in cooler, moister areas, whereas hardwood evergreens, such as tan oak, madrone, live oak, and bay occur on well-drained slopes. On southern exposures and the edges of the mixed forest can be seen the northern oak woodland type. Oregon and black oak and manzanita dominate here, while coniferous trees are scarce. Together the north oak woodland and evergreen forest cover as much as 75 percent of the study area. The chaparral vegetation type occupies areas having shallow, rocky, and nutrient-deficient soil. This type is characterized by few trees and a predominance of low shrubs and grasses. Much of the grassland in the study area has developed on land cleared of hardwoods and conifers for grazing. Numerous types of grasses, both exotic and native, cover these open areas. The riparian vegetation type, which is also present, includes all plants that grow along or in watercourses. Trees include cottonwood, willow, valley oak, live oak, and alder; some areas support a thick growth of buckeye, poison oak, and toyon.

Wildlife

To meet their basic requirements of sustenance and protected nesting sites, each animal species may use the vegetation zones' resources differentially during the course of the day. Deer, for example, may drink in the riparian areas in the early morning, browse in the chaparral during the day, and spend the night in dense oak woodland. The junctions of different vegetation zones, called "ecotones," are particularly important locales, for here the resources of many vegetation types are available within a small area.

Human intervention has acted to increase the population of some species in the area, while reducing

or eliminating others altogether. Animals such as the elk, grizzly bear, and beaver were hunted out of existence here long ago. Black-tailed deer, however, may be more populous than in the past; official estimates set the number of these animals at 20 to 100 per square mile in various sections. Several medium-sized mammal species in addition to deer inhabit the area, including the coyote, whose population has also increased of late, badger, and bobcat. Feral pigs, the descendants of domestic hogs that were raised on the open range, are not uncommon; their search for roots and bulbs has given some meadows the appearance of ploughed fields. Small mammals, such as cottontails and jackrabbits, skunks, ground squirrels, and grey tree-squirrels, all abound. Common birds in the area include coots and mallards, quail, band-tailed pigeons, jays, redheaded woodpeckers, and the ubiquitous turkey vulture. Several nesting sites of the peregrine falcon, an endangered species, have been identified on rocky outcrops on Pritchett Peaks. Salmon, steelhead, and other trout all spawn in Dry Creek. Reduction in the numbers of some fish species caused the California Department of Fish and Game in 1982 to stop all fishing in Dry Creek and other Russian River tributaries.

ENVIRONMENTAL CHANGE: NATURAL AND CULTURAL

The Changing Climate

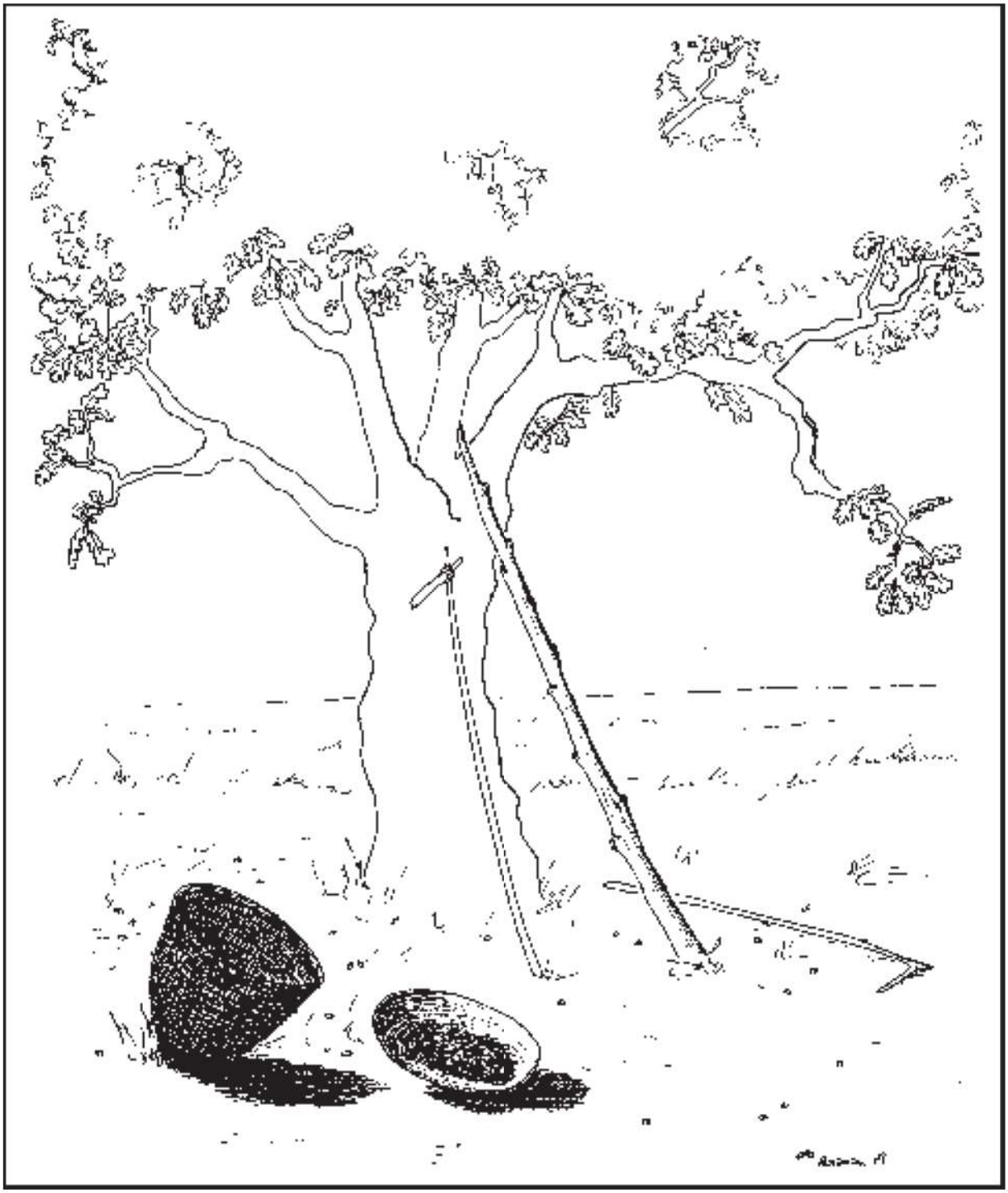
Over the past 20,000 years, seemingly insignificant fluctuations in climate have brought about major environmental changes that have influenced—some would say determined—the pattern of human use of the earth. During the last glacial period, what is now the San Francisco Bay was dry land, a valley surrounded by low hills. In general, the area's climate would have been somewhat cooler and wetter than it is today. Many prehistorians believe that it was during this period that humans first entered North America.

A widely held theory of the populating of the continent contends that this migration occurred between 18,000 and 40,000 years ago. At this time, a significant amount of the earth's water was captured in massive ice sheets. It was this phenomenon that caused the sea level to be lowered, by about 300 feet. Then the Bering Strait, which now separates Alaska from Eurasia, was a plain, 1000 miles wide. This isthmus between the two continents, known as Beringia, provided an opportunity for humans to cross. Of course, the people who used this route did so inadvertently. It is likely that they were nomadic hunters who lived by following the herds of large mammals, including caribou, musk ox, and bison, that would have been attracted by Beringia's tundra environment. The migration of some species of animals by this route has been well established: there is little doubt that the ancestors of the elephant, elk, and moose evolved in Eurasia and spread east, whereas those of the horse and camel originated in the Americas (2).

A new climatic cycle, a warming trend, began about 12,000 years ago. The mile-deep polar ice caps began to melt, glaciers receded, and the sea level began to rise. Slowly, Beringia was inundated. By about 6000 years ago, what geologists have named the Franciscan Valley became recognizable as the San Francisco Bay. Scientists have estimated that the maximum average temperature was achieved 3000 to 5000 years ago. This date range has been supported by the study of fish scales taken from Clear Lake in Lake County, California, which reflect the animals' growth rates. Such a change is also evident in the growth patterns of ancient bristlecone pine trees in the White Mountains of eastern California.

The effect on vegetation of a higher air temperature, which is believed to have been as little as two to three degrees Fahrenheit, was profound. Areas previously dominated by species well adapted to cooler conditions were gradually stocked with a different assembly of plants and animals. As the California climate became more Mediterranean and desertlike, temperate plant communities were forced out of much of their old range, being replaced by heat- and drought-resistant species. This replacement, however, was not total. In some areas, microclimates allowed pockets of the previously dominant community to survive. The effects of microclimates on vegetation can easily be seen by comparing the communities that grow on a shaded, north-facing, or windward slope with those that grow on a southern or lee exposure; presently, in the hillier regions of northern California, cooler slopes tend to be dominated by conifers and sunnier locations by hardwoods (3).

Although little information specific to northern Sonoma County is available to reconstruct the area's ancient environment, important work has been done in nearby Mendocino County by scientist James West. There, sediment that had accumulated over several thousands of years in a lakebed was found to contain



Harvesting acorns (drawing by Rusty Rossman)

sufficient pollen to allow researchers to reconstruct the history of regional vegetation change. Although some of the results reflect local processes, such as alterations in the lake's immediate environment, there is evidence for the transformation of vegetative communities due to a change in climate. In the oldest sample, which dates to 7000 or 8000 years ago, pollen indicated the presence of a pine forest. For a pine forest to have dominated, cooler temperatures must have prevailed at that time. The next two samples showed increasing proportions of oak pollen, indicating a warming trend between about 6500 to 5000 years ago, which allowed the oak to extend its range into the higher elevations. In the most recent sediments, the proportion of oak decreased, while douglas fir increased, suggesting the beginning of a cool period about 2000 to 2500 years ago that has continued to the present (4).

By comparing the results of various studies, scientists have come to some general conclusions about climatic changes over the past 10,000 or 12,000 years that would have had important effects on the distribution of plants and animals in northern California. Although there is some variation in the dates assigned by different scholars to various climatic episodes, most of these fall within an acceptably narrow range. That the climate has changed, and in certain ways, there is no disagreement; pollen, fish-scale, and tree-ring data all support the idea.

Project archaeologist Martin Baumhoff has pointed out that if these climatic changes were indeed great enough to cause this kind of environmental alteration, they would also have had a significant effect on the area's human occupants. He noted that the hills in the Lake Sonoma Area are on the eastern edge of the coastal redwood belt; although some redwoods occur on sheltered, northern slopes, evergreens and oak woodland predominate. As acorns were a very important subsistence crop to northern California's Indians, this area would have been an attractive place for residence. Conversely, if a cooler and wetter climate had made possible the redwood belt's eastward expansion, the reduction in the proportion of oaks, and consequently the acorn crop, would certainly have had important effects on the ways in which people used the land. This might have involved differences from the historically documented patterns of behavior in areas such as seasonally based use of the land and the size and make-up of the groups that occupied the area. Consequently, stated Baumhoff, "reconstruction of the prehistoric environment is of the utmost importance in the analysis of archaeological remains" (5).

Accounts from the 16th and 19th Centuries

Archaeological finds and surviving natural remains, such as pollen, are our only means of reconstructing the changing environment occupied by northern California's early inhabitants. As we move into the later period, however, written sources appear in the form of travelers' descriptions and official government agents' accounts. It is the occurrence of these kinds of records, or even the start of some surviving oral traditions, that scholars see as marking the beginning of a region's "historic" period and, simultaneously, the end of its prehistoric era. Unfortunately for our purposes, the early accounts were not written with future environmental reconstruction in mind. The writers often traveled simply to scout the land, to assess its worth and the possibility of settlement. And yet their accounts are very revealing, both about the environment as they saw it and about the eras in which they were written.

In the following section, these contemporary accounts will be used to build a composite picture of the study area's natural environment and the changes wrought there by successive peoples. Only the barest outline of the area's history is necessary for this purpose; detail is supplied elsewhere in this volume. The nature of the historic record is such that some of the earlier accounts are not of the Lake Sonoma Area itself but of nearby locations. This absence of documentation makes an important statement about the peripheral character of the study area, for this was never a stage on which events of momentous importance were acted out. Rather, the Lake Sonoma Area is representative of California's hill country, exemplifying some of the processes that changed the face of this developing area.

A description of changes in environmental setting cannot progress far without reference to the influences of the area's native occupants, for Sonoma County's pioneers did not settle in an untouched wilderness. Fortunately, through the strong tradition of oral history among the Mihilakawna (Dry Creek) and Makahmo (Cloverdale) Pomo groups, it is possible to make some general statements about Indian land-modification practices which changed parts of the natural environment. Although large-scale cultivation was not practiced, other techniques were used that encouraged certain desirable plants

Drake's encounter with California Indians (from *The Annals of San Francisco*, by Frank Soulé, John H. Gihon, and James Nisbet, 1855)

and plant communities at the expense of others. The impact of these kinds of practices on the landscape would have been on a scale noticeable only to people with specialized knowledge. In contrast, the custom of seasonally burning off areas of brush would have caused easily recognized changes in local plant communities. Burning prevents the buildup of dense, woody chaparral and allows the growth of grasses, forbs, and other low-growing plants. As these plants provide better forage for deer and other wild game, the population of these animals increases. Prehistoric burning would have created large grassy slopes, thus preventing the kind of heavily destructive forest fires that are fueled by an accumulation of downed wood and chaparral growth. Some of these practices continued, although with less intensity, into the 20th century, as later chapters will show.

The first historical description of the north San Francisco Bay area was provided by a member of Sir Francis Drake's party. In June 1579, these English seamen were making their way south along the California coastline as part of their circumnavigation of the earth. For 14 days the navigator had been unable to take sightings from the sun or stars because of the thickness of what the writer perceived as cloud cover—what today's coastal California residents know as ocean fog. This summer weather pattern was quite beyond the experience of the English seamen. The diarist commented on this foggy period:

> During all which time, notwithstanding it was in the height of summer, yet were we continually visited with like nipping colds... we could have very well have been contented to keep about us still our winter clothes (6).

The group made a landfall for repairs and to take on supplies. Exactly where their camp was established has been disputed for many years. The most widely held theory contends that it was on the Marin County coast, probably at Drakes Bay. Although it appears that representatives of Indian groups from all over the local area visited Drake's beachhead, the Englishmen made only one recorded sortie into the countryside,

when Drake himself visited a local village. While the description that has come down to us is rich in detail concerning the village and its inhabitants, the writer made only these few comments on the countryside itself:

> The land wee found to be farre different from the shoare, a goodly country and fruitful soyle, stored with many blessings fit for the use of man: infinate was the company of very large and fat Deere which we saw by thousands, as we supposed, in a heard, and besides a multitude of strange kind of Conies (7).

The multitude of "conies"—an old English word for rabbits—were, in fact, colonies of ground squirrels, which the explorer noticed lived in warrens dug rabbitlike into the sandy soil. Perhaps the writer's approval of the area stemmed from his sense of familiarity with its mild climate and rolling appearance, which resembles southern England.

In the first years of Spanish rule in California, the area north of San Francisco Bay held little interest for the new settlers and was rarely entered. By the early 19th century, outside interest in the North Bay area began to grow. Spain, and later Mexico, claimed the region and sparsely settled it. Russian explorers sailed up the Russian River, and agricultural colonies were established along the Sonoma County coast by a commercial Russian company. The best known of these, and the headquarters of the Russians' operation, was Fort Ross. The group's presence began in 1812 and lasted for nearly 30 years. During this time, when the rural products of northern California consisted largely of half-wild stock cattle raised on huge, unfenced tracts, the Russians cultivated land for numerous kinds of grains, fruits, and vegetables that were shipped out to supply the company's other colonies.

At about the time the Russian settlement was being abandoned, the Mexican government stepped up its attempt to secure northern California from other would-be colonial powers by distributing large grants of land to those willing to occupy them and to swear fidelity to Mexico. Most of these tracts were in fertile, well-watered areas, including Dry Creek Valley, which was granted to José German Peña in 1843. At that time, the use of land by Mexican Californians was centered around cattle that were raised for the hide and tallow trade. Peña raised cattle like most other grant holders, in addition to specializing in horses; his herds probably used the surrounding hills for forage in season, and would surely have grazed on the bottomlands near the confluence of Warm Springs and Dry creeks. Although most of Peña's grant is situated immediately to the southeast of the Lake Sonoma project area, there can be little doubt that he considered all the Dry Creek Valley his own and used it accordingly. Thus Peña may have begun the land use that, later in the century, was to develop into exploitive overgrazing and contribute to substantial changes in the area's natural environment. Peña was also among the first to make use of the valley's fertile soil by planting seeds and crops. The sketch-map, or diseño, that was filed with Peña's land-grant application shows a *milpa* (cornfield) and two *siembres* (sown fields) adjacent to his dwelling on Dry Creek.

U.S. government-sponsored surveys of northern California began shortly after statehood. One such expedition, led by Col. Redick McKee, traveled up the Russian River Valley in 1851, passing Peña's little settlement, on its way to negotiate treaties with northern California Indian groups. Although the travelers were not naturalists, entries in the expedition's log give some insight into the area's natural environment as it was after the first waves of Euroamerican settlement. California was at the height of its gold-mining period, and its rural, non-miner population was relatively small. Consequently, while agriculture and ranching had altered the landscape in some more accessible regions in the state, major changes in flora and fauna were still to come. The following entries from the McKee party's log concern the land lying between Santa Rosa and about Geyserville:

> We saw during the day great numbers of the blue or crested quail; coveys of from twenty to fifty, exceedingly tame. . . Redwood was now abundant on the mountains to the left [west]. . . At camp we found recent signs of deer, and two were started within it. Two grizzly bears were also seen in the neighborhood.
>
> The largest single body of prairie country is that lying between Santa Rosa and Fitch's Ranch [at about Healdsburg]. . . . Above Fitch's the bottom consists of detached valleys, of at most a few square miles in extent, separated by wooded hills. Small basins are

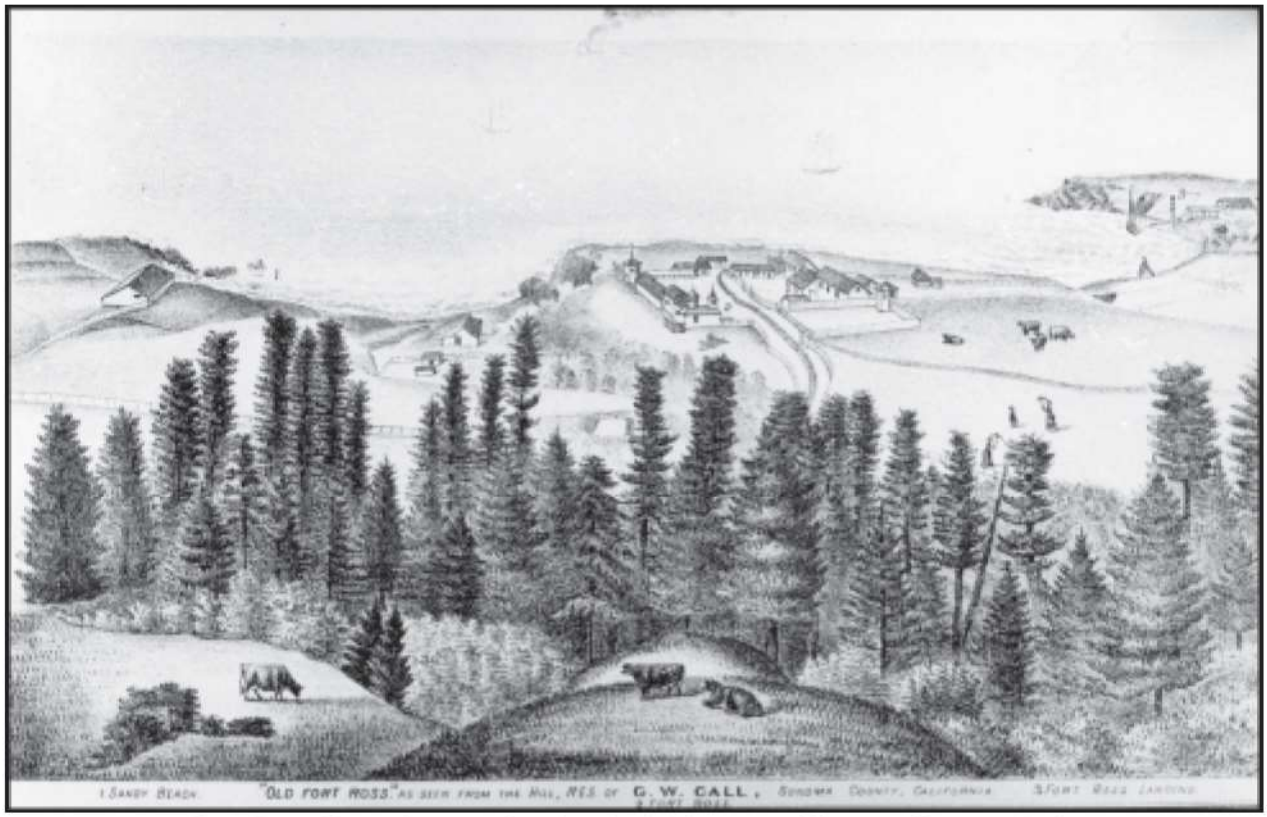
> also scattered around the mountains, which, however, do not add greatly to the quantity. This country generally requires irrigation for the production of green crops, but is admirably adapted to the small grains. Beyond this, its great value is for pasturage, the ranges on either side being very extensive and rich. Large herds of cattle were formerly kept there (8).

As mining declined over the next 20 years, more Californians began growing high-profit grain crops in the valley and stocking the hilly rangeland with ever-increasing numbers of cattle and sheep. For years the hill country around Dry Creek had been used for grazing by ranchers who had a legally uncertain right to the land. With growing land scarcity, these people found it advisable to establish their possession on firmer grounds by means of patents from the federal government. The first step to patenting public domain was a survey, and an invaluable record of the general characteristics of the land was created in the process. The surveyors were instructed to set up certain fixed points on the landscape, usually rock cairns or wooden posts, from which property boundaries could be established. They were also charged with providing a description of the survey area and a map showing distinctive natural landmarks, such as springs, mountains, and unusual vegetation types, as well as man-made elements, including roads, fences, and homes. These notes are particularly valuable because they contain rare information about the use and condition of the rangeland surrounding the Dry Creek Valley. An 1872 survey included part of the upper Dry Creek Valley and the hills to the southwest. Of this area, the surveyor noted:

> The eastern portion of the township is very broken and rough with occasional openings of grass. The open land is No. 1 grazing. The bottom land on Dry Creek is being cultivated, but is quite limited in extent. Most of the timber is white and black oak with a little redwood and fir (9).

We shall see that a survey 20 years later gives hints that, by this time, substantial changes in local vegetation had occurred.

Conventional histories are of little use in researching the environmental changes in this somewhat obscure part of California. In the 19th



Fort Ross (from Thompson's *Historical Atlas Map of Sonoma County*, 1877)

century, it was the business of writers of local history to sell their works; this was most easily achieved by accentuating the county's fertility and level of development to inspire its proud citizens sufficiently to buy a copy of the history book. Consequently, when the 1880 tome *History of Sonoma County* gives the following glowing picture of the Dry Creek Valley, we may be a little skeptical:

> [The valley] is without a peer in the production of wheat, corn, and staple products, while the hill land on its border produces all kinds of fruit, being especially adapted to grape culture (10).

Yet there is no doubt that the 1870s and early 1880s was a time of relatively rapid development and change. Grain's high price and ease of growing made clearing land in the valley worthwhile. A newspaper correspondent traveling to Skaggs Springs resort on Warm Springs Creek in 1881 described the scene as follows:

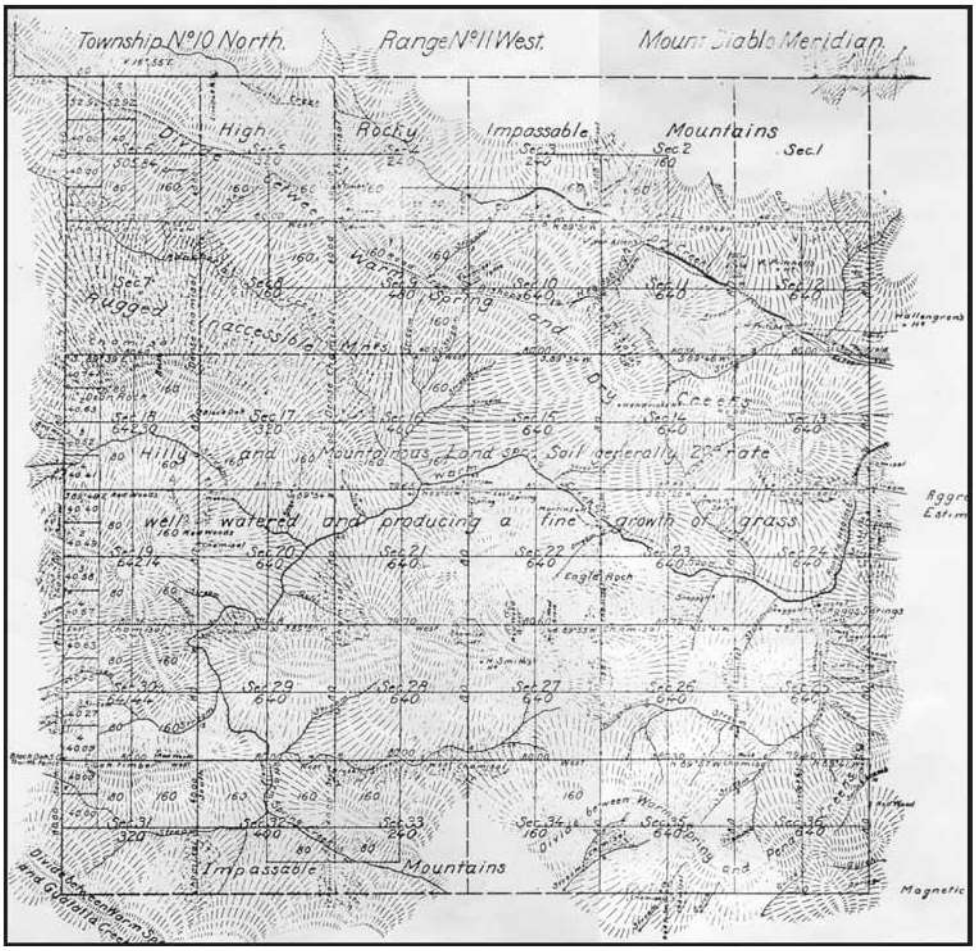
> The farms of . . . Upper Dry Creek were in good condition. We notice quite a number of young vineyards started this season and looking thrifty. This is a really beautiful little valley flanked as it is on two sides by ranges of mountains of singular formation. These are generally covered by a growth of heavy shrubbery with a variety of bright green foliage in pleasing contrast to the golden fields of grain lying at their base (11).

At this time, the heavily forested hills surrounding upper Dry Creek began to be denuded. Although redwood logging was not recorded in the Lake Sonoma Area at this time, no doubt it occurred here as elsewhere in the county. Many groves of tan oak were stripped of their bark, which was used in the hide- tanning process, and the trees left to die. But not all trees were cut for wood products; sheep raisers also played a part. According to the State Board of Forestry, "as ranges deteriorate under the influence of overstocking [of sheep], the remedy sought is to render new lands available by the burning of brush and girdling timber" (12). The Board estimated that, by 1885, 50 percent of Sonoma County's original timber stock had been cut, much simply girdled and left to die. Not only the hardwoods—oak and madrone—were dealt with in this way. Tracts of fir, which had not yet acquired commercial value as construction lumber, were also destroyed. Entire hillsides could be seen littered with girdled trees that had been left to rot where they had fallen.

Rangeland experts have shown that increased erosion is closely associated with a reduction in plant cover. In this area, plant cover was lessened both intentionally, by the sheep ranchers, and as a result of sheep grazing itself. Soon after their introduction to the Sonoma County hills, sheep greatly reduced the amount of native plants such as wild clover, bunch grass, and sunflower, while exotic species, notably foxtail and wild oat, arrived to take over the range. These plants, however, were scarcely better suited to the new rangeland environment than those they had replaced, for in areas that were heavily grazed, sheep ate so many seed-bearing tips that these plants could not propagate. Consequently, the soil was bare when the winter rains came and the surface quickly became saturated, causing the soil to be eroded in sheets by the fast-moving water. Funneled by natural convolutions into surface streams, the water increases in power, eventually cutting sharp-edged gullies into the ground's surface. Although there is no documentary evidence of erosion on a massive scale during the late 19th century in the Lake Sonoma Area, there can be little doubt that many of the deep gullies that are present today had their origins during that period.

Changes in the land brought about by settlers' activities also affected wild animal populations. Although isolated grizzly bear were reported in the hills until the early 1880s, sport hunting both by ranchers and visitors eradicated this once-common breed from the area. Even the number of black bear had been severely reduced by the same means: in 1872 a party of local ranchers and "eight good bear dogs" spent three days hunting in the hills west of Healdsburg; their only prize was one small black bear (13). After this time, sighting a bear in the vicinity was something of a novelty. It is probable, based on modern experience, that human-wrought environmental changes actually benefited the area's deer population. By improving the browse for sheep through burning and clearing, ranchers unintentionally provided more food for the deer. Although hunting would have countered part of the upward trend of the deer population, the ranchers' war against deer's chief predator, the coyote, must also have resulted in an increase in the number of deer.

During the 1870s and 1880s, the Lake Sonoma Area experienced something of a boom. Some parts,



1873 General Land Office survey plat

especially the more rugged sections, would never again see such a large population, as growing families moved there in the hope of taking advantage of the relatively high prices that agricultural products commanded. Unlike the situation in the fertile Dry Creek Valley bottomland, where agriculture in its various forms was to continue until the present, the population boom in the uplands lasted only a single generation. Although these family operations were typically based in sheep raising, various types of crops were also grown, changing the area's appearance. These crops included alfalfa, hay, and corn for animal fodder; orchard crops for marketing; and a variety of vegetables and berries grown for the table. When, during the last years of the 19th century, many families moved out of the area, they left behind them evidence of their presence, which survives in the form of stump-scattered hillsides, untended orchards, and patches of exotic flowers and eucalyptus groves marking the remains of their homes and barns.

Within a relatively short time, much of the hill land in and surrounding the area became the property of a few, large-scale sheep ranchers. Clearing additional land for grazing became less common because of the labor costs it involved. In fact, there is evidence that some previously cleared land was allowed to degenerate to chaparral: in 1872 and 1875, government surveyors of the township to the south and west of the upper Dry Creek Valley wrote of this region's suitability for grazing and its covering of oak and other trees. When the area was resurveyed in 1893, the situation appears to have changed. The surveyor noted that, "A number of trees have been destroyed in clearing adjacent land. The portions of this township that I have surveyed are very rough and mountainous and it is principally covered with dense chaparral" (14). From this account, we must conclude that some sheep raisers allowed less productive portions of their range to deteriorate. Yet this would have been a peculiar response on their part, for although the sheep population had declined by half

over the previous 10 years, a more extensive—consequently less densely grazed—range would still have been to the ranchers' advantage; certainly the knowledge of how to sustain rangeland was present, as controlled burning was frequently practiced in the area.

Literary references to the project area before the creation of Lake Sonoma are sparse. One notable exception is the autobiography of Orville Baldwin, an upland rancher for much of the first three decades of the 20th century. Baldwin noted that bears were all but unknown in the area. Of the smaller mammals, wildcats, coyotes, and foxes were not uncommon. Coyotes were not usually a significant problem to Baldwin's sheep; certainly, they were not perceived as such a menace as they have become in recent years. Feral pigs and bald eagles were considered pests, but of a low order. The pigs would root up meadows looking for bulbs and roots, thus destroying the grass, and an eagle would occasionally take a lamb. While noting these animals' presence, Baldwin only took action against persistent offenders (15). Neighbors referred to him as "Rattlesnake Baldwin" because of his reputed reluctance to kill even this varmint.

ENVIRONMENT AND THE LAW

Assessing Environmental Impacts

In many ways, Orville Baldwin's attitude reflected that of the rising conservationist movement, exemplified in the characters of John Muir and Theodore Roosevelt. The key to reconciling conservation with long-term, productive land use was planning. It was not until 1969, however, that a resurgence of environmental awareness gave birth to legislation that required a public evaluation of the effects of all federally funded projects. Under this law, the National Environmental Policy Act, an Environmental Impact Statement (EIS) was prepared in 1973 which considered the effects of the Warm Springs Dam-Lake Sonoma project on a variety of factors; these included soils and geology, wildlife habitats, air and water quality, traffic patterns, regional economic development, seismic activity, vegetation, and archaeological sites. Although these assessments are made on the basis of professional, and often highly technical, studies, the EIS review is intended to be comprehensible to any intelligent person, who should be in a position, after reading it, to critically evaluate the project's worth.

Ideally, all measurable effects of a project should be evaluated by the EIS to determine whether there is an ultimate loss or gain. For example, by building the Warm Springs Dam and inundating the upper Dry Creek Valley, productive agricultural land was lost to the county. According to the EIS, however, creating the dam and lake would allow more previously unusable downstream land to come into production than would be lost by construction, a positive outcome in economic terms.

The process is evaluative, weighing advantages against drawbacks in relation to community goals; many of these decisions, however, are not clear cut. Few people would claim, for example, that it would be appropriate to build a sewage treatment plant in a densely populated residential neighborhood; the values are clear in this situation. Yet there would be much less agreement in the community on the value of an industrial development. Some would characterize such a plan as an opportunity for economic development, to bring jobs and a larger tax base to the region, whereas others might claim that their area would be changed by the population growth and changes in air quality and aesthetics, and that they like things as they are. Of course, both factions would be right in this case, since they have no common idea of what is desirable. Thus the environmental review process cannot provide an unequivocal signpost to the "best" alternative. The facts do not "speak for themselves"; evaluations will always be made in relation to human and community priorities.

Before an EIS is approved and the project begun, it must be shown that all of the plan's major adverse side effects will be reduced to acceptable levels. In the case of the Warm Springs Dam-Lake Sonoma project, the extreme sensitivity of the natural setting made these efforts especially important. Three such problems that had to be solved by the Corps of Engineers planners and their consultants involved the deleterious effects of construction on soil erosion, vegetation, and wildlife.

Soil Erosion and Vegetation

A combination of relatively steep slopes and unstable soils make erosion an important problem in the Dry Creek watershed. To reduce the amount of erosion-induced soil loss during dam construction, settling ponds were constructed at the bottom of cleared slopes to capture waterborne sediments and prevent them from being carried downstream. As a long-range measure, a carefully formulated program

Laura Somersal splitting sedge roots for basketry (photo by Richard Lerner 1983)

of seeding and reforestation was instituted. Special attention was paid to "Wildlife Management" areas—parcels of land set aside to make up for wildlife habitat lost because of the reservoir (16).

Wildlife: Birds and Fish

While the creation of Wildlife Management areas was calculated to significantly reduce adverse effects on many species of animals, construction created special problems for certain bird and fish species. During the dam's planning stage, biologists discovered that several breeding sites of the peregrine falcon, an endangered species, were situated within and near the project boundary. To protect the birds, Corps of Engineers planners placed strict limits on the uses of land adjacent to the nesting sites and buffered them from areas of heavy public use. Wildlife biologists will continue to monitor the birds, at least through the 1980s, so that any man-made

problems that might affect their population can be quickly spotted and eliminated.

Historically, Dry Creek and its tributaries above the dam constituted more than 80 miles of spawning and nursery grounds for steelhead trout and Coho salmon. After the dam was built, however, these areas could have became inaccessible to the fish, whose numbers were expected to decline accordingly. Fortunately, this projected effect was noted early in the dam's planning stage, and the construction of a fish hatchery was proposed as a way of sustaining the fish population, while also providing an appealing visitor attraction. At the time of writing, the results of the first years' releases have been very encouraging, with many more fish returning to spawn at the hatchery than scientists had expected. It is hoped that in time this program will contribute to returning the Russian River to its previous status as an important sport-fishing stream.

Ethnobotany

Perhaps the most innovative resource-protection program devised to offset construction impacts was directed toward plants of great importance to the local Indian community. Studies made by anthropologists alerted officials that certain plants of traditional economic, medicinal, and ceremonial value—notably sedge, willow, and angelica—were still regularly collected from the upper Dry Creek area by local Pomoan Indians. Although many local Indians vehemently opposed the dam project, several respected community leaders agreed to help the Corps in creating new plant-collection areas downstream from the dam. Between 1979 and 1981, over 48,000 sedge plants and a much smaller number of willow and angelica were moved to the ethnobotanical relocation areas (17).

Archaeology and Archaeologists

Clearly, the pre-dam environment of the upper Dry Creek area contained more than plants and wild animals: for several thousand years it was occupied by people who left archaeological evidence of their presence.

Under the law, archaeological remains are considered as much a part of the environment as are natural elements such as wildlife, plants, and soil. All are conceived of as valuable resources, to be managed wisely. Conserving a diversity of plants and animals is beneficial to the local ecosystem, which in turn contributes to the land's long-term productivity. The value of archaeological sites and artifacts, which are sometimes termed "cultural resources," is more difficult to assess, as it stems from their contribution to scholarly knowledge, to public understanding of past lifeways, and to heritage values of the affected group.

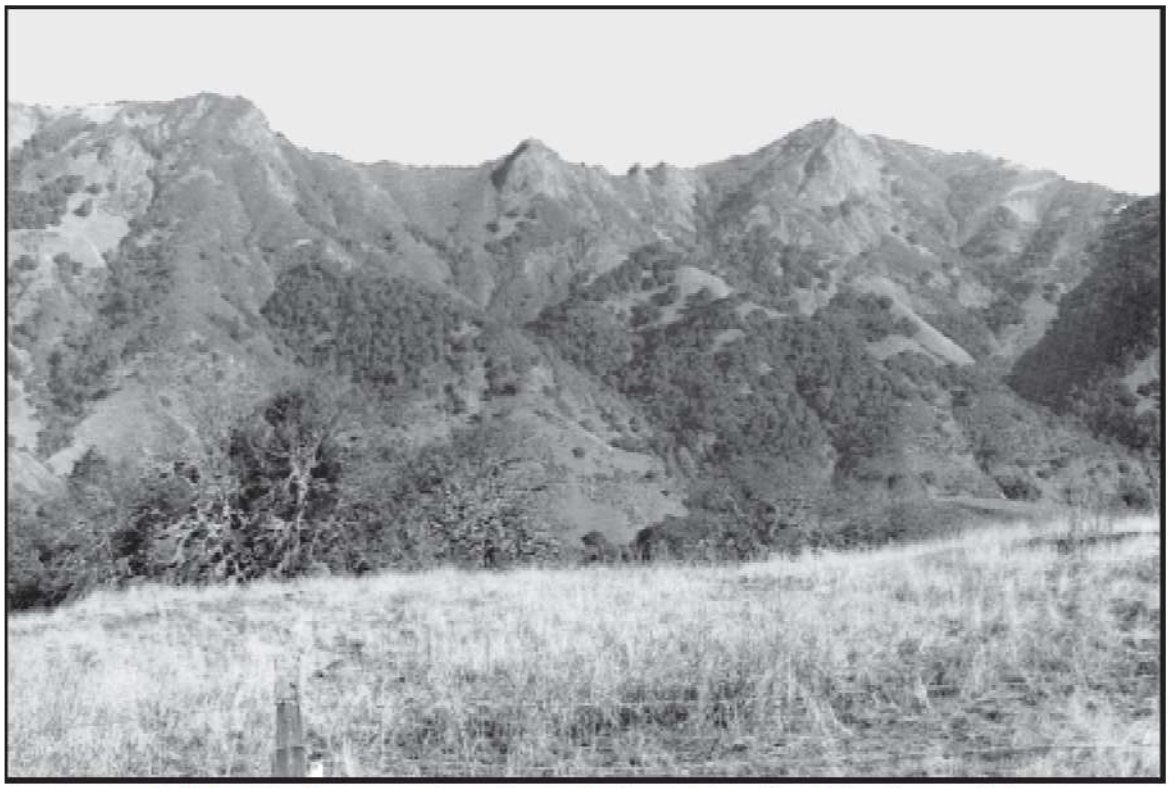
The archaeologists' attachment to the Lake Sonoma Area goes deeper than merely a relationship between scientists and their data source. For more than seven years, archaeologists studied the area, spending the three- to six-month field season of each year in makeshift camps and inevitably becoming part of the environment.

The typical archaeologists' camp was on a terrace by a creek; the creekside setting was particularly important after a day's work in 100-degree weather. The most permanent structure was a mobile office trailer that doubled as a lab, in which artifacts were cleaned, labeled, and cataloged. The open-air kitchen was located nearby, with its huge cast-iron skillets and restaurant-scale pots and pans. Since as many as 30 people sometimes ate at the camp, kitchen equipment included a gas stove and refrigerator, adapted for propane. Tables, benches, and sometimes old armchairs and couches could be found around the kitchen and "community center" firepit.

Years of experience under field conditions made many of the archaeologists particular about their own material comforts; roughing it was no novelty to them. Consequently, a good cook was as indispensable a part of the crew as any scientific specialist on the team. Once off-duty, archaeologists sought relief from monotony and weather that seemed to be either excessively hot or cold. For some camp dwellers, this relief came via bizarre antics and mad-dog style volleyball games. On working days, exhaustion took its toll early in the evening, leaving only a few diehards to their late-night conversations around the stone-lined firepit.

Thus organized, archaeologists were the last people to actually live in parts of the reservoir basin. It is appropriate that a chapter that began as a description of the primordial environment should end with a glance at the lifestyle of people who came to study the land for evidence of its past. For people were as integral an aspect of the area's setting as rocks, plants, and wildlife.

Archaeologists take time out



Pritchett Peaks as seen from Rockpile Road (photo by Adrian Praetzellis)

CHAPTER 3

LANDSCAPE AND ENVIRONMENTAL PERCEPTION

INTRODUCTION

Through the years, decades, and millennia, the appearance of the Lake Sonoma Area inevitably changed. Initially, the usual pace was almost imperceptible, related to the seasons, and thus cyclical in nature. On rare occasions, earthquakes may have suddenly altered topographic features, creating new springs or damming watercourses. Fire, a more frequent agent of change, produced more widespread, though less permanent, modifications to the environment. These fires were caused not only by natural forces, such as lightning, but were also the result of both the purposeful and accidental behavior of human beings.

The preceding chapter described this environment at succeeding intervals as it appeared to various observers. Except, perhaps, for environmental reconstructions based on quantitative data, these descriptions were biased by the values and interests of the observers. A simple example of this phenomenon would be the different characteristics sought, and therefore noted, by farmers, ranchers, and lumbermen: redwood forests posed barriers to farmers and ranchers, but promised wealth to loggers. Thus, our phased reconstruction of the environment was limited by the interests of those persons who chose to commit their observations to paper. This chapter explores people's thoughts and feelings about the project-area environment and how these affected their behavior in realms such as settlement pattern, use of natural resources, and land management (1).

LANDSCAPE

With descriptions in Chapter 2 providing the framework for a history of the Lake Sonoma Area, we can discuss human beings as observers of and participants within the area's natural environment—a broad realm some social scientists define as "landscape" (2). Although not synonymous with environment and place, landscape is akin to these terms in meaning. One cultural geographer nicely describes the difference between environment and landscape:

> Environment is an inherent property of every living thing, it is that which surrounds and sustains; we are always environed, always enveloped by an outer world. Landscape is less inclusive, more detached, not so directly a part of our organic being. Landscape is defined by our vision and interpreted by our minds. . . Environment sustains us as creatures; landscape displays us as cultures (3).

Landscapes are a product of human activity, an accumulation of evidence of human lifeways, both past and present. Some cultural geographers study the landscape as history. The proponents of this discipline profess that landscapes are like artifacts which, in contrast to written sources, cannot lie. According to one advocate, the "landscape is our unwitting autobiography, reflecting our tastes, our values, our aspirations, and even our fears, in tangible, visible form" (4). Every landscape is an expression of cultural values, social behavior, and individual initiative enacted over the years upon a particular place. The landscape, in itself, is not a complete record of human history, for the actions of later groups and individuals may obliterate the visible remains of earlier occupations. Natural forces also alter biographic aspects of the landscape. Thus landscape, like environment, is dynamic, ever changing in its visual display.

Place Names

The creation of a web of place names upon a mental map of the natural environment is one way human beings create order and an understandable world. Place names are one aspect of the landscape which may survive their christeners and even the remains themselves. Place names can provide evidence of landscape creators and their activities, their values, their fears, and their pleasures; changing place names reflect changing land use, land ownership, and beliefs about the natural environment. Thus the names Hardscrabble Camp and Grouse Camp, found on an early map of Sonoma County, are apparently all that remain of two possible mining camps and early stopping places for those traveling

between the Russian River Valley and the coast. Hardscrabble, a name commonly given to Gold Rush mining camps, implies a difficult struggle to scratch something valuable out of the earth. Grouse Camp sounds more inviting, suggestive of abundant game and good hunting. On the other hand, as grouse also means to complain, this may have been an unpleasant locale, giving residents and visitors cause to grumble.

In order that directions and other information may be communicated within and between groups, descriptive names are often given to topographic features. Even when the features themselves have not changed, the names assigned to them by successive groups have. For example, the Southern Pomo called Skaggs Hot Springs Kahowani, or "where hot water is"; what is currently designated Buzzard Rock—formerly possessed of the more elegant title, Eagle Rock—was called Kabeptewi, or "at big rock."

Directional and size modifiers sometimes serve to distinguish geographic locations. Thus the native inhabitants of Dry Creek Valley called their creek Mihilakawna, or "water to the west," while the Russian River was Ashokawna, "water to the east." Some local Southern Pomo groups called the Russian River Bidapte, or "big river." In a similar vein, the map filed in 1843 with the land-grant petition of José German Peña encompassed portions of two watercourses, the Russian River and Dry Creek, designated Rio Grande and Rio, respectively. The meaning of other place names, such as a Southern Pomo term for Toothpick Rock, are culture-bound and cannot be accurately translated (5).

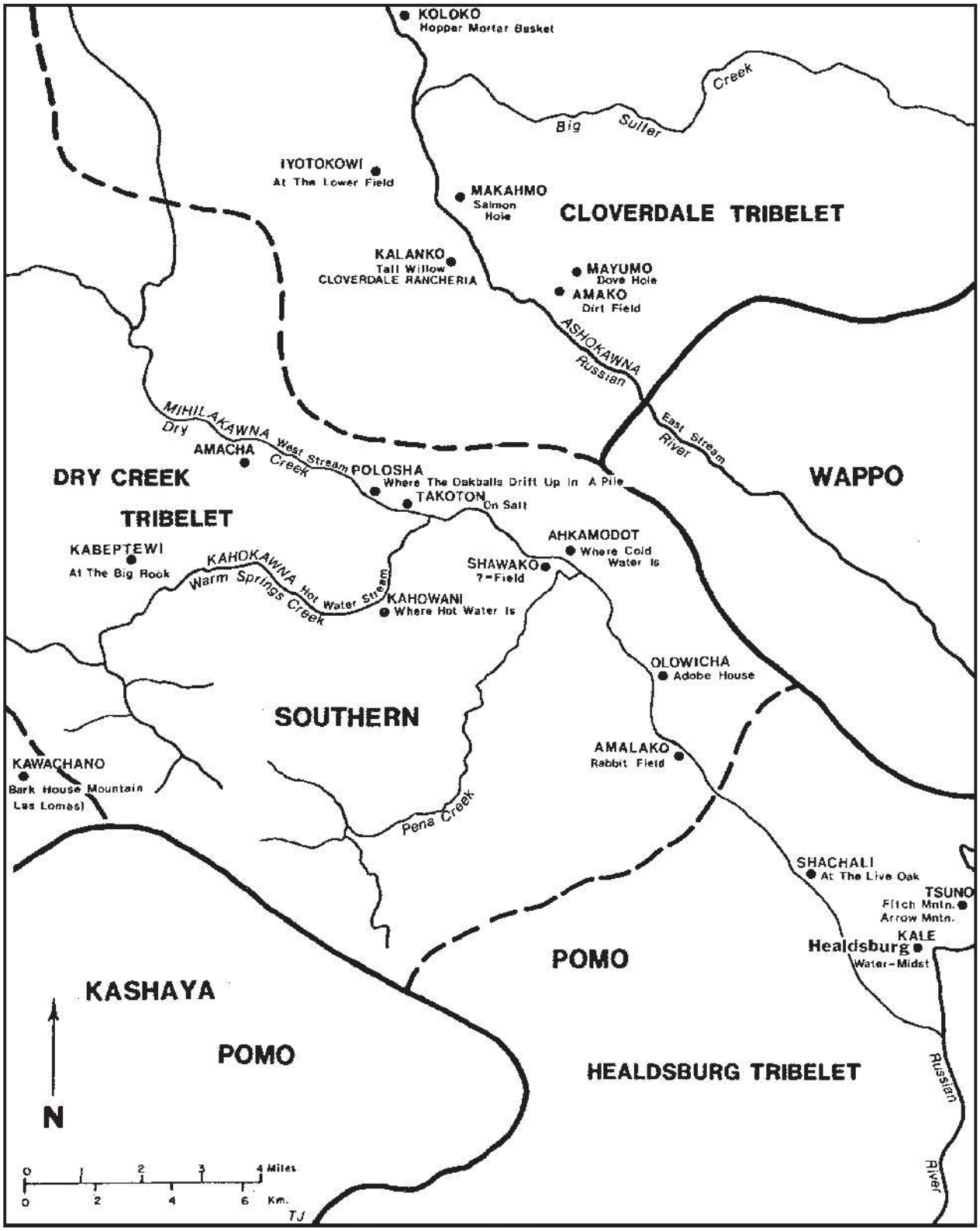
The subsistence economy of traditional Pomoan groups was based on a seasonal round: people harvested plant and animal resources where and when these became available within a specified geographic region. Many of their place names reflect this subsistence base, referring to the locations of important seasonal resources, for example, Amalako, "rabbit field," Makahmo, "salmon-hole," and Osokowi, "at clover-field." Clover must have been abundant in the area, since the word showed up again in the name of Cloverdale, dale being an Old English term for a low-lying area or valley.

When Euroamerican settlers imposed a new economic strategy—farming and ranching—upon the land base, place names changed accordingly. Streams now were given such names as Cherry Creek, Wild Cattle Creek, Wine Creek, and Strawberry Creek. Hunting, which has remained important in the area until the present, is reflected in place names like Buck Mountain. The geographic location of specific activities may also be graced with place names, for example Chatahmowi "at fish-weir-hole," Koloko, "hopper-field," and Schoolhouse Creek.

The names of two of the Pomoan groups that formerly resided within the Lake Sonoma Area were derived from important place names within their territory: Mihilakawna-Chamay, or "west-water people" and Makahmo-Chamay, or "salmon-hole people" (6). In contrast, the sedentary Euroamerican settlers often gave their family names to land forms and watercourses located within their holdings. The study area provides many examples of this practice, which can sometimes aid in the identification of early settlers, including Board Bridge, McClashen Rock, Pritchett Peaks, Dutcher Creek, and Thompson Ridge. Occasionally, more recent inhabitants replaced the names of earlier residents with their own, as with the supplantation of Beatty Creek by Yorty Creek. The spelling of these family names was often altered over time; Pritchett was sometimes shortened to Prichett, Board to Bord, and Yordi quickly became Yorty. During the historic period, some Southern Pomo place names also indicated the presence of Euroamerican settlers: for instance, Olovicha, or "adobe house," and names which translated to "where Powell is," "Curly's Creek," and "black-men's place."

The Kashaya, or Southwestern Pomo, also used portions of the Warm Springs drainage for village sites and for camping, gathering, and ceremonial activities. Kashaya tribal scholars remember the uses of and names for many of these places during prehistoric and early historic times. One historic and prehistoric living site (CA-Son-544/H), called Serene Flat by Euroamerican settlers, had two names in Kashaya. The site's prehistoric name has been forgotten, but in historic times it was called Peska mitiwali, or "place where the bricks lay." In addition, the father of the most recent owner referred to this field as Chimney Flat, since whenever he plowed there, he turned up a great deal of brick (7).

In the old days, every hill and gully had a name which the locals knew, along with the time it took to get from one place to another. These names were seldom understood by outsiders. The Baldwin family created or fostered a number of names for places within their 8000-acre ranch. Some of these were



Pomoan place names in the Lake Sonoma Area

descriptive—Rock Gate Field, for example; some indicated function, such as Beef Pasture and Horse Pasture; and some may have focused on local or family lore, such as Bellyache Hill, Darkest Guallala, and Bear Pen Canyon.

Place names also indicate where fear is centered and what real dangers haunt a group. Chuchukaton, or "on gray-hair-water," designated a spring whose water, it was believed, would turn the drinker's hair gray. Another taboo spot was Kamhsoman, "splashing-water," a deep hole within the Russian River. These names indicate two not uncommon fears. For the Kashaya, Eagle Rock was a frightening place called Donokoko, or "Taboo Mountain." Euroamerican anxieties were more generalized and less centered on specific locales. Bear Ridge, Coyote Ridge, and Hawk Ridge all define larger geographic areas inhabited by livestock predators. Although bears were quickly exterminated and coyotes nearly eliminated by area settlers, the latter once again are seen as a threat to the livelihood of present-day ranchers. According to some cultural geographers, modern man's power to alter the environment has generated a new genre of landscape fears, fears that are not centered in a specific place but generalized to a dread of a "breakdown of the cosmic order and the unleashing of violent natural forces": flood, drought, unseasonable weather (8). Such fears played a part in the decision to construct the Warm Springs Dam.

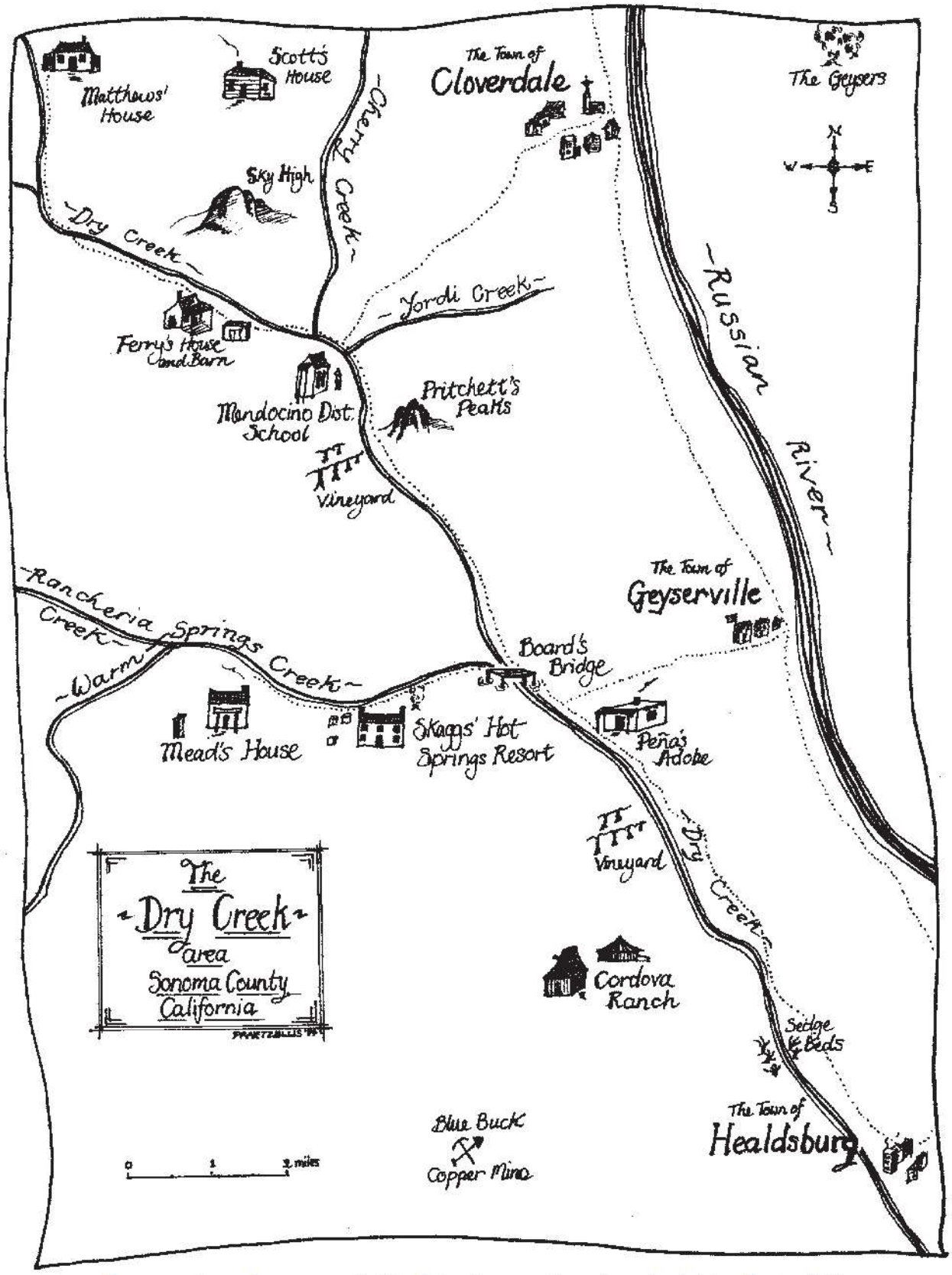
Occasionally, place names reflect ideals. Icaria Creek is the best local example of an ideological place name. Icaria was the name of an ideal republic described in a work written by a French Communist in 1840, later given to several 19th-century communistic settlements in the United States. The Icaria-Speranza settlement, based on these principles, operated just south of Cloverdale from 1881 to 1887 (9).

Landscape as Focus for Ritual and Folklore

Folklore and ritual beliefs and practices are often perpetuated when they are attached to specific locations. Murdered Man's House, visited by Baldwin and his children after the turn of the century, is just such a place. Here, near Toothpick Rock, a stone foundation and a fallen stone chimney marked the spot where once lived a man supposedly robbed and murdered during the 1880s. Details of this crime are few; in fact, the lore was probably based on a quarrel that ended in a bloody fight, but not in death. According to this tale, Sylvester Scott and a neighbor, McClemmy, were feuding over a fenceline. McClemmy threatened to shoot Scott, who decided to go up to McClemmy's claim and settle the matter for good. When Scott arrived, he found McClemmy lying in a pool of blood, the aftermath of a crooked poker game with another neighbor. At the time, and with good reason, Scott feared that he would be charged with murder; luckily, however, his neighbor recovered and told the story (10).

Big Foot Canyon, to the north of the study area, is another place name connected with local lore. To many, the name "Big Foot" conjures up a legendary man-beast, also known as yeti or the abominable snowman, rumored to inhabit certain backwoods areas of the globe, including northern California. In this case, however, the name does not relate to the sighting of any large, hairy, manlike creature, but to the activities of an all-too-mortal stagecoach robber. According to locals, Lodie Brown was graced with unusually small feet, a sorry circumstance for an outlaw not wishing to be identified and tracked. To confuse any pursuers, Lodie wore extra large boots and became known as "Big Foot" Lodie Brown. Around 1870 Big Foot Lodie and his gang held out in a cave in a rugged portion of the George J. Matthews Ranch. The gang killed Matthews' cattle for food and robbed the Cloverdale-to-Fort Bragg stage until they were finally captured and tried for murder in the summer of 1871. Their hideout area is still known as Big Foot Canyon.

Only fragments survive of the rich and complex belief system that once formed an essential part of local Native American life. One fragment of what may have been the creation story of the Makahmo, or Cloverdale, Pomo describes a great deluge and world flood, culminating in a speech by Coyote from the top of the three highest mountains in the area: St. Helena, Konocti, and a mountain north of Ukiah. The Makahmo recognized two creators: one a master planner, the other an active creator, Coyote. Before he began human creation, Coyote peopled the world with human-like beings, or "animal people," whom he endowed with certain human characteristics, most notably speech. These "animal people" were the forerunners of human beings; they encountered many of the same problems and experiences, and possessed the same goals. A rich oral tradition, recounting the adventures of these "first people," was passed on from generation to generation and provided the Makahmo with models of solutions to problems and the consequences of certain activities. Members of



Euroamerican place names in the Lake Sonoma Area (map by Adrian Praetzellis)

this group, young and old, were reminded of these stories and the morals they contained by just looking at the landscape (11).

Within a belief structure emphasizing the prevention and cure of illness and the acquisition of power or luck, the Southern Pomo considered certain sites to be sacred. These places were believed to be imbued with power, both malevolent and benevolent. As all sacred sites could possess negative powers, they had to be approached with caution and used with respect to avoid evil consequences. Sacred places were often the source of certain powerful plants, rocks, and songs, all of which could be used for protection from other supernatural forces and for good luck in activities such as hunting and gambling. Some sites, however, possessed only malevolent forces and were avoided whenever possible. Among these were lakes and bodies of water believed to be inhabited by supernatural beings in the form of snakes. These serpents were particularly dangerous to menstruating women and to anyone traveling with them; the serpents' appearance caused serious illness, and possibly death, to viewers.

A pond on the north side of the Cordova Place, a ranch where many Dry Creek Pomo lived around 1900, is said to have been such a place. Children were cautioned never to go near the pond:

> It was the place Mary Warn went six or seven months after she had a baby. Mary Warn was feeling very low because of her father's recent death. Mary Warn saw something at the pond that scared her . . . this is thought to have been something which came out of the water—'big snake or something . . . like that.' She soon became ill and died shortly thereafter (12).

A dangerous place for Kashaya traveling along Skaggs Springs Road was the Twin Rocks, located a mile or so from the confluence of Warm Springs and Rancheria creeks. It is believed that the two rocks, located on opposite sides of the road, are male and female twin spirits. The female spirit is a long feathered serpent; the male spirit is said to be a "large buck," who lives on the rock adjacent to an old camp site (CA-Son-553). The serpent is said to stretch across the road between the rocks. Both spirits are very dangerous to young girls and menstruating women, who may become very sick, or even die, if they do not take appropriate precautions. When traveling in this area, Kashaya followed strict rules. Susceptible women avoided the place if possible; if not, they covered their faces and were carried in the old times, when people traveled on foot. Special songs were sung and offerings made when passing by the Twin Rocks. One Kashaya elder recalled that she had doubted the spirit as a young girl. She peeked out from under her blanket and saw the buck. If it had not been for the songs that Annie Jarvis, a powerful doctor, had been singing for her, she would have died. After that, the woman never doubted the spirit again. Five Kashaya place names refer to the Twin Rocks (13).

Petroglyphs, rocks whose surfaces have been pecked and occasionally ground to form designs, are an example of sacred places created and perpetuated by former inhabitants of the Lake Sonoma Area. Numerous petroglyphs, varying in size and design, are found along the area's creeks. Use of these petroglyph rocks appears to date from as early as 3000 B.C. to the 19th century A.D. Archaeologists now generally agree that hunting and gathering peoples produced this form of rock art primarily in a ritual "quest for supernatural power" (14). Ethnographic accounts describe a more specific use of petroglyphs as "fertility rocks" or "baby rocks." In one account, a woman would decorate her body with dust ground out of a baby rock and ask for a child as part of a prescribed ritual. Petroglyphs remain sacred to some contemporary Indian people as a source of spiritual power to make a person sick or well, and as bestowers of songs of power and luck. Some of these petroglyph rocks were moved out of the area to be flooded by Lake Sonoma, for their protection and to provide inspiration to both Indian and non-Indian visitors to the project.

Cultural Landscape

Certain landscapes can be thought of as material manifestations of cultural values. These landscapes display the results of people shaping their environment according to culturally directed plans. An important aspect of studying the cultural landscape involves rediscovering the plans that created the visible form—namely, patterns of natural resource use, technological development, land modification, and settlement.

Euroamerican settlers brought with them familiar patterns of building construction, farmstead layout, and community design. These they adapted to local topographic and climatic conditions—in this case, a

Nineteenth-century ranch house in the Dry Creek uplands (from GM collection)

rugged, mountainous region with steep-walled canyons and only small areas of flat, arable bottomland, characterized by a fairly mild, Mediterranean climate.

The first building constructed in Dry Creek Valley, the Peña adobe, is still standing just southeast of the Lake Sonoma Area. The earliest structures within the project area were evidently constructed of wood and not the adobe of the Spanish-Mexican tradition. The James Pritchett family home, built in 1862, may have been the first permanent structure in the area. It was described by archaeologists as a "northern adaptation of the Lowland South double-pen plan" house, with the addition of a central chimney. The double-pen house type was once common as plantation quarters along the Mississippi and Red rivers; it is part of the "Pen Tradition" brought by emigrants from the British Isles and modified first to accommodate log construction, and later to use in wood-frame buildings (15). This, like other "folk" houses, was almost certainly designed and built without the benefit of formal plans, but according to the artisan's idea of what a house should look like. Although the study of vernacular architecture, or folk housing, has been pursued in the South and East for a few decades, these often plain and simple structures have only recently attracted attention in California (16).

Other folk buildings certainly were built within the Lake Sonoma Area; some examples were photographed there in 1976. There are currently, however, no recorded folk dwellings on the Corps' property. During the 1940s at Skaggs Springs, and probably elsewhere, abandoned buildings were scavenged for lumber, especially structural members. Some structures were sold by their owners and moved to new locations just previous to the Corps' acquisition; other structures were demolished by the Corps to deter the establishment of a new generation of "squatters" within the area; and some were burned as part of fire-fighting training.

Barns, outbuildings, stock pens and corrals, and other agricultural structures were once common parts of the local landscape. While some of these features remain, many have been lost to time, the elements, and human agents of change and destruction. Sheep fencing is one historic landscape element that still remains throughout the area. This traditional split/rough wood and wire fence type, well suited to its purpose, suggests an element of a folk or regional culture. Slightly to the north, in Mendocino County, this fence type gives way to the "snake fence," a type once found extensively throughout the rural South. The stone-lined "cellar" walls dug into north-facing slopes in the southern portion of the study area may represent another element of regional culture. These

sites were investigated by historical archaeologists, who considered them to be "a local product of self-sufficiency in labor, materials and food storage needs" (17).

Most permanent 19th- and 20th-century residents planted orchards, vegetable and flower gardens, and other exotic species near their homes. Many of these still flower and bear fruit in testimony to the individuals and families who nurtured them. Thus, scattered agricultural features, domestic trees and other plants, crude sheep fencing, and farm roads covered much of the Lake Sonoma Area's land, creating a cohesive landscape and a sense of the elements of the local culture (18).

Emotional responses to a landscape's aesthetic qualities can be studied at an individual and/or cultural level. The cultural landscape has symbolic meaning within the context of the particular society which creates it. As people use the earth, they inevitably change it. Whether this occurs subtly or dramatically, creating an aesthetically pleasing effect or an eyesore, the modifications alter humans' perceptions of the environment. As human activities alter an area, the landscape may acquire new symbolic meanings, interpreted by members of society in varying forms and degrees of culturally defined messages. Features may also have historical associations to particular individuals, events, or processes. The power of any cultural landscape is therefore dependent as much on an individual's background as on the remains themselves. Yi-Fu Tuan, a cultural geographer, has coined the phrase "topophilia" to describe this mixture of sentiment and place (19).

"Every mature nation has its symbolic landscapes" (20), and those that arose in western North America were seen to represent staunch individualism and the frontier. The project area contained many elements of the "classic" American landscape. During the 19th century, the image of the brave, hardworking pioneer family was a dominant emblem of national character and aspirations, while the farm symbolized the good life and epitomized "pure America." By the end of that century, this image of national virtue was exemplified by rugged landscapes, in which a small corner was tamed for human use. As growing urbanization and industrial development highlighted the contrast between civilization and nature, more and more people were inspired by the spiritual power of the wilderness (21). Writers influenced by this perspective often got quite carried away in their descriptions of scenic beauty. Wilderness, according to Tuan,

> stood for the sublime and called man to contemplation; in its solitude one drifted into higher thoughts away from the temptations of Mammon; it has come to be associated with the frontier and pioneer past, and so with qualities that were thought to be characteristically American; and it was an environment that prompted toughness and virility (22).

In keeping with this sentiment, the wonders of Skaggs Springs inspired S.P. Mead, a midwestern newspaper correspondent and guest in the summer of 1871, to muse as follows:

> For whose eyes have all these beauties been spread where age after age human footsteps never came? There is an untold pleasure in seeking out those places where God only is to study the beauty and realize his goodness. The immensity of the view, its charming variety, its lovely lights and shades, all in connection with the soft blue sky, all first brought a feeling of joy, then sadness, as I seemed to lose my identity in pleasure all too great for my grasps. . . . Such a scene, once looked upon, is a feast for the memory ever after. The pure air, clear sky, angel whisperings among the leaves, suggest to the mind a 'love of earth and a great deal of credit to Heaven' (23).

Four decades later, in 1911, a young high school student from San Francisco expressed a similar sentiment toward the Dry Creek uplands—straightforwardly and without the literary contrivances: "I just can't wait for summer to come. I think I am still uncivilized because that wild life up there appeals to me in a very strange manner" (24). On another occasion, she wrote that:

> My composition work always seems to be connected with the ranch in someway or the other. The other day we had to write a sketch of a field or grave. I wrote a description of your alfalfa field and came out ahead of the whole class. I described it at night and the scenery was quite wonderful when I finished. Nothing ever came so natural to me before for

Redwood Canyon, Skaggs Hot Springs, circa 1910 (courtesy of Ed Mannion)

> I could just picture the whole thing as fast as my pen could write (25).

Wilderness as a landscape symbol was revitalized and widely defended in the 1970s by groups in opposition to construction of the Warm Springs Dam. One group in particular, the Friends of Sonoma Hot Springs, also called the Warm Springs Guardians, sought to save Kahowani, or Skaggs Springs, from inundation. In addition to their specific environmental concerns, they cited the healing powers of the springs' waters and the spiritual quality of the environs as reasons for Kahowani's preservation.

Supporters presented their values as sharply contrasting with the "temptations of Mammon," or, in contemporary jargon, the "Great American Pork Barrel"—that is, those persons reaping profit from the dam.

To the Guardians, the hot springs functioned as what geographers have called a ceremonial landscape, communicating both the awe inspiring qualities of nature and the destructive capacity of man. To make a political point, the Guardians held "healing" ceremonies, during which they planted oak trees to replace, at least symbolically, trees destroyed by the Corps of Engineers. The Friends of Sonoma Hot Springs expressed considerable empathy with the Pomoan Indian groups who had used the springs in the past. Believing that the springs had a guardian spirit and that the Pomo were the traditional keepers of the site and protectors of the spirit, the Guardians wished to join with the Pomo in their traditional role. The extent, however, to which Kahowani continued to function as a sacred place to local Indian groups is unclear. One young Pomoan Indian passing by the springs reportedly disagreed with the new guardians regarding the springs' value: "You can't save this place, it's gone. They've already destroyed it" (26).

Ironically, nature, though not exactly wilderness, was a landscape symbol also used by Warm Springs Dam supporters. This group rallied around the cry of "Save Lake Sonoma," images of a sailboat gracefully traversing Lake Sonoma, and a photo of a small boy fishing from a boat—this, at a time when Lake Sonoma existed only on paper and in the minds of supporters and government planners. For both pro- and anti-dam factions, the manipulation of symbols helped to build common allegiance to a simplified set of values embodied in the landscape.

ENVIRONMENTAL PERCEPTION

Environmental perception studies concentrate on the relationship between what people believe to be the characteristics of the natural environment and how they use the land. Successive groups extracted or cultivated particular resources within the Lake Sonoma Area. All of these resources had been inherent within the environment from prehistoric times. Each group, however, made an assessment of the available resources, and chose for selective development those that were best suited to their needs and technology. When geographers study environmental perception, they are concerned with "the complex relationships between perceptions, values, verbalized attitudes, and behavior" (27). With positive and negative consequences, environmental perception influences behavior.

Environmental perception is shaped for a group by cultural and economic factors and augmented by experience at the individual level. Biases in environmental perception can be seen most clearly by comparing the attitudes of persons of different cultural and occupational backgrounds in reference to a new and unknown geographic milieu.

Examples from California

Despite California's early reputation as the nearest thing to the Garden of Eden and the most favorable press ever focused on a frontier region, some new arrivals believed the state to be a desert, unsuited to agricultural pursuits. The early, overwhelmingly enthusiastic descriptions of California as a land of promise were often inaccurate and based on very little data, while appraisals of the state's agricultural potential by actual settlers and government officials were quite mixed. Writing of the Sacramento Valley, Kenneth Thompson quotes a number of conflicting early reports on the area's agricultural resources; these evaluations often reflected the cultural biases and expectations held by the observer. Observers heralding from the humid regions of the eastern United States and northern Europe were troubled by the heat, lack of summer rainfall, and dearth of trees. In the 1840s, these people commonly believed that where trees would not grow, the land was sterile and would not support crops. Settlers from the Midwest, in contrast, painted a much more sanguine picture of the Sacramento Valley's rich agricultural potential. In fact, some became California boosters, preaching to easterners of the valley's boundless fertility and unparalleled productiveness. These boosters envisioned the technological innovations and large-scale irrigation and reclamation projects that have since helped create the Sacramento Valley's rich agricultural domain (28).

The rate and nature of settlement within the project area were influenced by both the general allure of California and by specific perceptions of the potential uses and value of land in the area. Judging from the 1833 report of Baron von Wrangell, the Russians settled at nearby Fort Ross were favorably disposed towards lands in the general vicinity of the study area. In that year, an expedition of 21 men on horseback traveled up the Russian River to Mark West Creek and then northward, probably passing through the Dry Creek Valley. They extolled the area's "immense meadows," "most luxuriant grass," and "most fertile humus soil." Although they journeyed in September, perhaps the driest and least attractive time of year, the area continued to live up to their expectations:

> Nightfall took us unawares in one of those splendid oak groves which here and there shaded the plain. The horses almost disappeared in the high, fragrant grass which covered the meadows. The camp fire blazed up amidst the dark foliage of oaks a century old. Deep silence settled upon this land so richly endowed by nature (29).

It was the abundant grassland which, within a decade, stimulated the establishment of Mexican land grants in the area.

The economy of Mexican California was based primarily on large, free-ranging herds of cattle; their hides formed the area's wealth, means of barter, and, to some degree, its currency. On vast stretches of land, these ranchers limited their cultivation to a few acres of barley, melons, and vegetables. George

Sonoma County pioneer Nicholas Carriger
(from Munro-Fraser's *History of Sonoma County*)

Gibbs, a member of Colonel McKee's 1851 government expedition which was charged with initiating treaties with the Native American population of northwestern California, kept a journal of his observations, including specific references to ranchos in the Russian River Valley. He felt the agricultural potential of much of the area was being neglected due to the ignorance and sloth of its Spanish proprietors and their Indian laborers. He belittled the Spaniard, who,

> grasping such vast possessions, was too indolent to nurture the agricultural wealth of the land, and had too little enterprise even to find the mineral wealth that glittered at its feet (30).

This attitude, characteristic of the period, was unfair in its evaluation of the Mexican economy and of the technological and socioeconomic constraints working upon operators within that system.

Prior to the discovery of gold in 1848 and the almost worldwide stampede of fortune seekers to California, American settlers trickled into California, attracted by the vision of land that was abundant, fertile, and free. Nicholas Carriger, eventually a successful rancher and vineyardist near the city of Sonoma, had just settled in Missouri, built a house, and cleared many an acre, when in April 1846,

> the rumor of the fertility of California, brought on the wings of fame, made me feel displeased with my farm; and without consulting with any person; I sold it to a broker for the paltry sum of five hundred dollars, less than the amount I had invested in lumber for my house (31).

Within the week Carriger set out for California, accompanied by many family members, including his wife and children, parents, and in-laws.

In contrast to the Carriger family, who emigrated as a group in quest of farmland, the Forty-Niners came in partnerships of young men, intent on quickly amassing fortunes and triumphantly returning to their loved ones at home. Even local agriculturalists temporarily abandoned farm and family for the quick riches supposedly waiting in the creeks and rivers of the Sierra Nevada. Few argonauts, however, managed to find and keep the gold they sought. Some entrepreneurs realized that a more secure fortune might be gained through supplying the miners with fresh meat, vegetables, and fruit. Other would-be miners, attracted by California's pleasant climate and fertile soil, abandoned dreams of quick fortune, brought out their families, and sought a place for themselves within the rural, farming community. Numerous Lake Sonoma Area settlers began their California careers in the "Gold Country," including Tennessee Bishop, William Board, Svente and Henrietta Hallengren, Sylvester Scott, George J. Matthews, and James and Elizabeth Pritchett.

Although the number and influence of California agriculturalists grew during the 1850s and 1860s, the state and the world still perceived California's wealth to be in its minerals and not in its agricultural products. Charles Nordhoff, a California booster, noted that in 1872 California was "still, to a great extent, a country in which mining is, as they say, 'played out,' while agriculture has not taken its place" (32).

Misconceptions regarding California's free land generated much confusion and suffering. Although differing in their ideas of land use, Anglo and Californio (Mexican Californians) perceptions of the most favorable land characteristics coincided. Thus potential farmers often found the land they desired to be part of a Mexican land grant and, therefore, closed to settlement. Settlers, frustrated in their efforts to obtain the "good life," squatted upon this private property. Meanwhile, large areas of public land, open for settlement, remained uninhabited due to their presumed or actual inferior quality. It was not until the late 1860s that population pressure, caused by the general exodus from mining regions and an influx of families displaced by the Civil War, prompted large-scale settlement on public land, including land in the Lake Sonoma Area. At the same time, the spread of successful cultivation without irrigation, and of extensive irrigation projects, upgraded the value of some land previously deemed to be unsuited to farming.

The Agricultural Bonanza

Economic incentives may cause abrupt changes in how the resources of a particular area are viewed. Agoston Haraszthy, for example, an important influence in the development of dry-farming techniques, helped revise the prevailing negative environmental perception of large areas of California. In his widely circulated 1858 treatise on grapegrowing and winemaking, Haraszthy provided the novice with sufficient detail to start his own vineyard and with a cost analysis to stimulate his economic interest. To make his point, Haraszthy presented a detailed breakdown of his expenditure in planting and bringing up to bearing a 100-acre vineyard. He then projected his profit on this acreage. The hefty profit margin suggested by Haraszthy was a strong incentive to those seeking a comfortable place in the rural economy. Many persons followed Haraszthy's advice, if not his successful example. This development often took place in the foothills, on cheap land that had been ignored by previous settlers (33).

Numerous other books touting the advantages of California were circulated in the 19th century. Published in 1873, Charles Nordhoff's *California: For Health, Pleasure, and Residence: A Book for Travellers and Settlers* was perhaps the most influential. Although Nordhoff was particularly impressed by southern California, he presented a picture of the state that was fairly balanced. He sought to lure the prosperous easterners away from their complacent superiority and love of home, by reassuring them that Californians were a no less refined and cultured group than they themselves:

> Very few suspect that the Californians have the best of us, and that, so far from living in a kind of rude exile, they enjoy, in fact, the finest climate, the most fertile soil, the loveliest skies, the mildest winter, the most healthful region, in the whole United States. California has long passed with us in the East as a good-enough sort of country for over-adventurous young men; it is, in fact, the best part of the American continent, either for health or for profitable and pleasant living in any industrious pursuit (34).

"First sight of California"

Although Nordhoff, like all California boosters, gave examples of rags-to-riches success stories, careful reading singles out the industrious farmer, possessed of some capital and of the desire for a permanent home, as the target of his guide. Nordhoff believed that speculation was the curse of agriculture in California: the desire for quick profit prompted adventurers who were not farmers to gamble on a wet season, good market, or other, often unpredictable, variable. Such speculative ventures often failed, serving to discredit California agriculture.

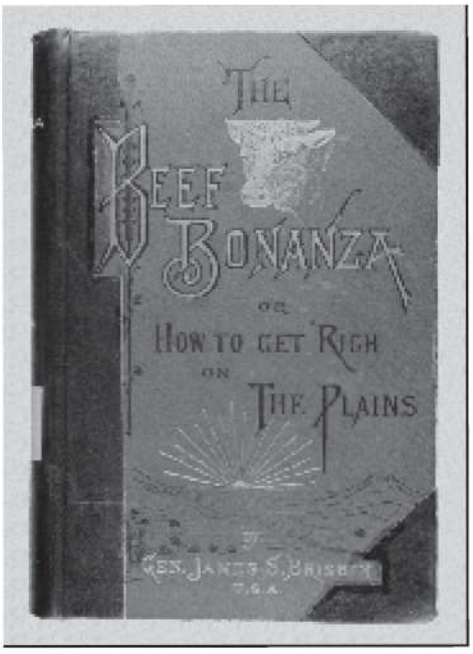
Immigrants lacking capital were usually forced to borrow. Interest rates were high in California: the common annual rate in the early 1870s was ten to twelve percent. In newly settled areas, however, the standard rate was even higher: two percent per month. Thus the farmer with enough capital to get started had a considerable advantage over less affluent settlers who were forced to borrow. Perceived profit margin is an integral part of environmental perception, for it is the difference between expenditure and return that determines whether a particular area is deemed suitable for a particular land use. For example, when the price of grapes is high, the extra investment necessary to bring a marginal grapegrowing parcel into production will be rewarded; but when grapes are cheap, only those parcels requiring little expenditure will net a profit. Farmers or ranchers, producing for a market economy, had to keep abreast of both price and general economic fluctuations if they were to be successful. A period of lag between changes in market conditions, and changes in operators' environmental perception and behavior, could have disastrous environmental and economic repercussions. For example, in 1872 Nordhoff wrote that a "well managed" band of sheep would return 48 percent per annum. This high profit margin would be reduced by half if the operator had secured a loan at 24 percent, by an additional amount if his methods, land, and animals were not up to par, and even further should climatic and/or economic factors prove unfavorable in a given year. Some authors of "how-to" manuals ignored these complexities and created an unsound image of a bountiful environment. Settlers' faith in the California Dream also contributed to this overblown sense of optimism.

One of these overly optimistic tomes, written by "General James S. Brisbin, U.S.A." in 1881 and entitled *The Beef Bonanza; or, How to Get Rich on the Plains: Being a Description of Cattle-growing, Sheep-*

farming, Horse-raising, and Dairying in the West, beckoned to everyone dissatisfied with the decaying East to come to the western states.

> Where myriads of people find homes and wealth; where the poor professional young man, flying from the over-crowded East and the tyranny of a moneyed aristocracy, finds honor and wealth; where the young politician, unoppressed by rings and combinations, relying upon his own abilities, may rise to position and fame; where there are lands for landless, money for the moneyless, briefs for lawyers, patients for doctors, and above all, labor and its reward for every poor man who is willing to work (35).

According to the "General," it did not matter where the emigrant settled, for almost anywhere in the "Mighty West" he would find himself better off than he had been in the East. Ranching, and in particular sheep ranching, was believed to be a lucrative endeavor, requiring little capital investment or previous experience, yet achieving very high profit margins. According to Brisbin, "any large family can become rich by following the herds." At a time when day laborers earned $12 a week and an acre of grazing land cost from $1.50 to $5, all a settler needed was a grubstake of $500 to $1000 and the labor of all family members (36).



The cover of Brisbin's *Beef Bonanza*

Mistaken Environmental Perception

During the 1860s and 1870s, the demands of agriculture put fertile valley land into crop production and forced ranchers to locate in areas not generally suitable for cultivation. Pastoralism shifted to the woodland ranges of the foothills and then to the plateau and mountainous portions of California, where it settled and became stable. By 1880 California's rangelands were fully stocked. This trend can be seen in the North Coast Ranges, where the quantity of livestock created pressure to use all available rangeland (37).

The rangeland may, in fact, have been overstocked. The Sonoma County sheep population peaked in about 1880 and then declined, possibly due to progressively deteriorating rangelands caused by overgrazing. Here, the influence of the pioneer ranchers' perception of local grassland led to destructive grazing practices. Although the ranges of California were not evaluated as different from eastern grazing land, they were in fact significantly so, having lighter coverage than rangelands with summer rainfall. Eastern stocking methods proved to be detrimental to California ranges, which required lighter and more carefully controlled rates of grazing. L.T. Burcham, an expert on California rangelands, described the problem as follows:

> Disturbances of the plant cover, by grazing or other activities, favored vigorous responses of native annual plants of inferior quality—and of introduced grasses and forbs—to a much greater extent than on eastern ranges. Rangelands with these characteristics may deteriorate rapidly under improper grazing practices and are very difficult to restore (38).

Rather than assigning blame, Burcham absolved the pioneer ranchers from reckless disregard of environmental consequences:

> The high rates of stocking and related management practices which apparently were common throughout the entire early period of range livestock grazing in California seem to have been almost wholly honest mistakes of judgment on the part of stockmen (39).

Early stockmen judged the condition of the range by the condition of their livestock; this is now recognized as an unreliable index. The signs that

Sheep grazing on partly cleared range in the Dry Creek uplands, circa 1905 (from GM collection)

pointed to progressive deterioration of the range went largely unnoticed by ranchers because they did not know their meaning until too late. Burcham noted that one California rancher found that his ranges had changed several times during the 27 years he had lived there, with new species arriving, becoming dominant, and then being replaced by others. "These changes were not interpreted correctly as reflecting grazing use; they were believed to be merely another peculiar phenomenon of this strange new country" (40).

Many of the early ranchers in the Dry Creek uplands came from the British Isles, where green hills are equated with good grazing land. This was not always the case locally. Hills that looked green and rich from far away were not always as fine as they appeared. This situation is indicated by a passage written in 1887 by a native of Ireland concerning a Scotsman who owned land in the Dry Creek uplands. She wrote that William "hud" (Hood) was disgusted with the "fine counterey"; he had lost a great many cattle and complained that people were starving on hills that looked green from far away (41).

The combination of the closing of the range and its deterioration sparked two new developments: the initiation of more appropriate land-management techniques and the entrance of speculators into rural real estate.

Differences in Perception: Ranchers and Farmers

Differences between the raising of livestock and the raising of crops are among the factors that may lead to cultural differences in environmental perception, values, and behavior. Many of these differences have been widely recognized, as in the musical "Oklahoma." Writing of a rural area in Saskatchewan, Canada, John W. Bennett described the differing "cultural styles" of ranchers and farmers and the relationship of these styles to their respective modes of economic production. The rancher, with his extensive land-use pattern, and the farmer, with his intensive land use, each exhibited different styles, values, and perceptions of the environment. While the rancher felt himself, regardless of his practices, to be a part of "unspoiled" nature, the farmer saw nature as something to compete with and to tame. The rancher had a concept of "the wild," while the farmer thought of nature as "wilderness." Both groups, however, ultimately took a utilitarian approach toward nature; natural resources were eyed with a view to their most efficient and economically productive use. It was the requirements of the different uses to which farmers and ranchers submitted their land that shaped, in part, their attitudes toward nature. According to Bennett,

the "great open spaces" provide an important symbol to ranchers:

> To the rancher, natural resources were part of the unspoiled natural wilderness in which man and his domestic animals lived, using the resources sparingly and tolerating wild species so long as they do not hinder economic pursuits (42).

Grazing lands—the "great open spaces"—are, of course, the rancher's primary asset. Thus, ranchers viewed the efforts of farmers to transform these open areas with both disdain and apprehension. Successful cultivation, on the other hand, had certain requirements: farmers must disturb wild species and the soil to plant their crops, and they must eliminate destructive insects and other pests. The basic difference between the two modes was, to quote Bennett, that "the rancher's ideas were based on his minimal disturbance of nature, the farmer's on a more extensive manipulation of resources" (43).

Only limited evidence is available supporting the existence of this cultural dichotomy between ranchers and farmers in the Lake Sonoma Area during the 19th century. To our knowledge, direct expressions of the values of pioneer settlers have not survived in written form, and their ideals must be reconstructed from their behavior as recorded in documentary sources and upon the cultural landscape. Oral history provides an additional source in the study area. According to one old timer, "the mountain people never did bother the hawks or other wild species." He used the term "mountain people" to emphasize the special and superior cultural distinctiveness of the old sheep ranchers: "they lived off the land, killing deer for meat, but never abusing the game." Many present-day landowners around Lake Sonoma espouse an attitude toward nature and land paralleling that of Bennett's ranchers. They value the isolation and privacy provided by the surrounding rugged, open spaces, the physical and psychological benefits of closeness to nature, and a conservationist attitude toward the land (44).

Hunting for pleasure is another area in which Bennett's ranchers and farmers differed, and one for which an equivalent pattern may be reconstructed locally. Farmers, according to Bennett, did their best to eradicate wild species that they regarded as pests, but most did not go hunting. Ranchers, on the other hand, tolerated wild animals as long as they did not perpetuate economic losses beyond a certain limit, but they enjoyed hunting as a common pastime. During the 19th century, several famous hunters owned ranches in the project area, and visitors came from as far away as Europe to hunt with these men. Hunting clubs, run by area ranchers, brought many visitors to the area and supplied capital for property development. The persistence of hunting clubs and the importance of the sport remain a factor to the present and, in instances of trespass and poaching, have become a problem. Although unique in many respects, landowner Orville Baldwin may have shared the local ranchers' attitude toward nature in general and wild animals in particular. In response to his father's chiding for allowing the deer to get the best of his sheep feed, Baldwin replied, "The deer were here first" (45).

LAND MANAGEMENT

Beliefs, Goals, and Management

While beliefs are among the forces influencing the way people manage natural resources, the resource base and use strategies of a group may also influence their religious practices. Ceremonies were one way that Pomoans codified information about their environment and perpetuated instructions for its management.

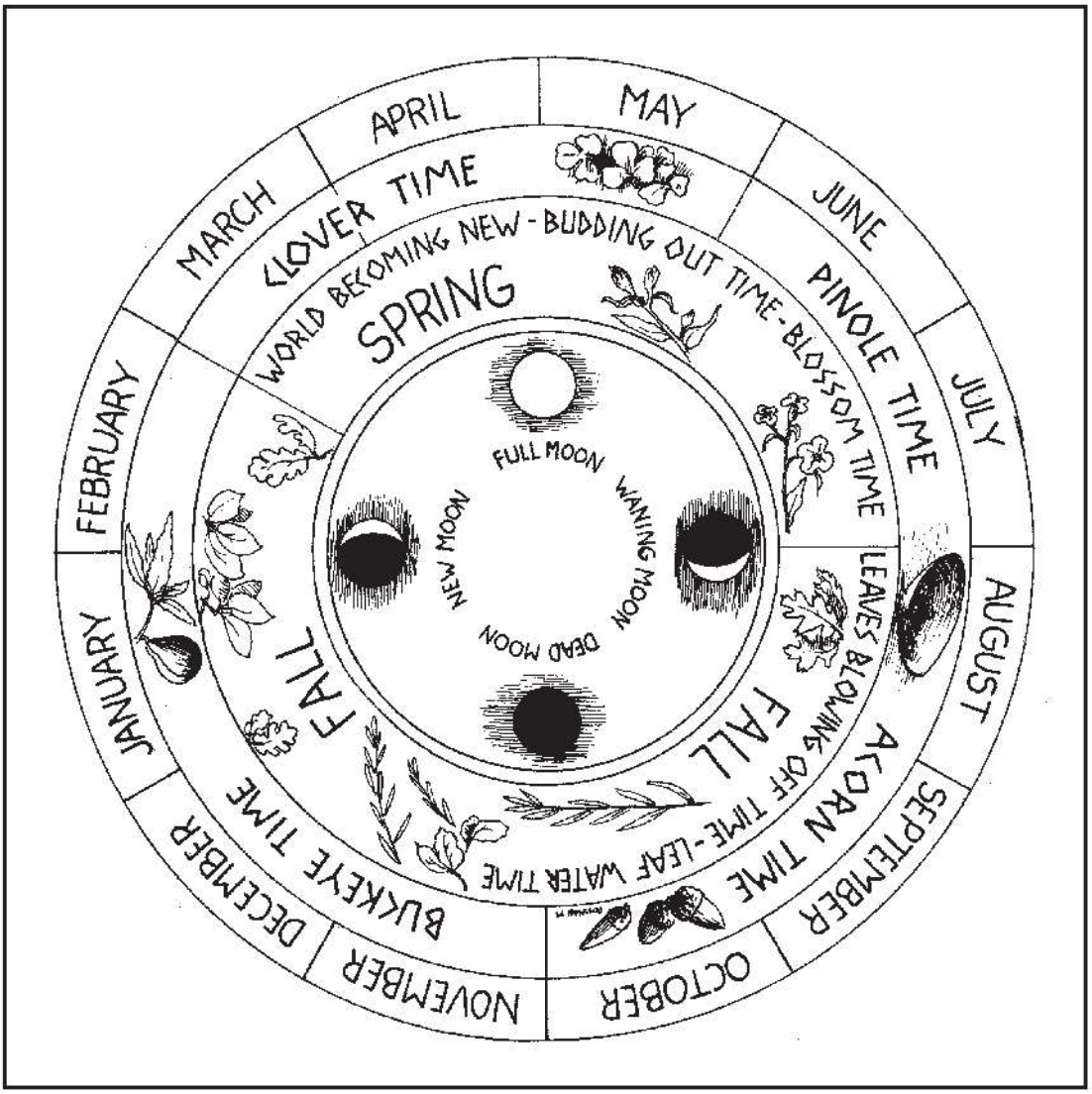
Goals, whether these be short or long range, have a powerful effect on land-management practices. The result of the single-purpose pursuit of hydraulic miners is a good example of the effect of short-range goals. These men sought quick fortune in the gold-rich Sierra Nevada, a region in which they anticipated no further connection and saw no other value. In their hurry, the miners changed the face of the landscape, buried productive farmland, and washed both valuable topsoil and a fortune in gold dust into the San Francisco Bay. In contrast, the pursuit of long-range goals often involves the extraction of more than one resource from an area. Many former mining regions are now part of National Forests, where professional land-management planners attempt to maintain recreational and landscape values while harvesting and replenishing the timber and grazing resources to supply both present and future needs.

The influence of perception on land management is discussed above in relation to the destruction of California rangelands. Perception, like goals and beliefs, changes through time. Experience, cycles of economic and environmental change, and, in more

recent times, technical information and government regulations, all impinge upon the land-management decisions of individuals and groups.

There was a close relationship between Mihilakawna beliefs and practices concerning the supernatural and the cycles of nature. The Mihilakawna annually held at least five First Fruits ceremonies, each heralding the beginning of a particular harvest season, while honoring and giving thanks for the plant. Thus in spring, ceremonial rites were held first in honor of the appearance of clover and somewhat later for the "Indian potato" (the succulent bulb of plants of the lily family). A First Fruits celebration was held in summer for wild tobacco, in fall for the new crop of acorns, and in early winter for buckeye nuts. Strict prohibitions against collecting the honored plant were in effect prior to the observance. In this way, religious beliefs and practices functioned to assure the plants' further productivity. The largest First Fruits ceremonies were held in spring, when offerings were made to insure an ample food supply throughout the entire year. Residents of other villages were invited to participate in these observances. After the acorn harvest in the fall, the Mihilakawna held a festival; here, ceremonially prepared acorn mush was offered in thanksgiving, followed by a dance and a ritual feast (46).

Ceremonial leaders decided exactly when these events were to be held. In the 1970s, in the active



Pomoan year (from *The Makahmo Pomo*, 1985)

Indian community of Kashaya near Stewart's Point, the First Fruits ceremony of the Strawberry Festival was held annually. Despite the fact that scores of people from other Indian groups and their guests came from long distances to celebrate the event, the date of the festival was not announced until a short time before, based on the careful observations made by the Kashaya ceremonial leader.

Two noted anthropologists have described the result of Native American land-management practices as follows:

> The Indian preservation of the land and its products for the ten thousand or more years of their undisputed occupancy was such that the White invaders wrested from them a garden, not the wilderness it salved their consciences to call it (47).

The Mihilakawna and Makahmo used a variety of plant-management techniques, which both deliberately and indirectly affected the quality of local resources and the overall composition of their environment. The aim of these techniques was to obtain an adequate plant supply for the group, while maintaining the plant's continued viability. Based on an understanding of the plants and their reproductive requirements, these Pomoan groups employed various collection strategies to achieve their dual goals and meet their present and future needs. Their plant-management techniques included pruning, cultivation, weeding and clearing, selective harvesting, and controlled burning. Adherence to these practices was extensively regulated by social sanctions and religious taboos. One Makahmo elder expressed her view of the relationship between the human and plant worlds as follows:

> When people don't use the plants they get scarce. You must use them so they will come up again. All plants are like that. If they're not gathered from, or talked to and cared about, they'll die (48).

Ritual observances and restrictions on collection reduced harvesting pressures upon certain species, while making the collectors acutely aware of their use of and dependence upon these resources. For example, menstruating women and their men did not gather sedge; violation of this prohibition might result in sickness, rattlesnake bites, or other repercussions. In addition, basketry roots were collected only during daylight hours due to a belief that roots dug after dark would turn black. Hunting was also regulated by strict rules. Before a hunt, men kept away from their women for four days: sexual activity was believed not only to cause poor luck in hunting, but also, at times, punishment by the supernatural. Men whose women were menstruating refrained from hunting for fear of the same consequences. Some individuals possessed special songs to bring them luck in their collecting and hunting activities. Special songs were, in fact, required for protection in order to collect certain medicinally important or poisonous plants. This restriction served not only to enhance the importance of the collector and the power of the potion, but also to preserve rare plants and to protect the uninitiated from misuse of dangerous species (49).

Range Management

The relative value of trees and grasses has alternated over the years. Prior to the post-World War II building boom, most local ranchers viewed trees, especially the abundant fir, as an economic lability. As trees are natural competitors with grasses, land clearing was practiced extensively in the study area to increase the forage. Through controlled burning and tree girdling, these ranchers increased the extent of grasslands at the expense of woodland, forest, and chaparral plant communities. According to a local rancher, "the old-timers in this country girdled enough timber to build a bridge from here to Los Angeles." Eventually, with the increased value of timber, trees were no longer girdled. Girdling removed large areas of timber from the area—forests, which, due to the current value of timber, are presently being replanted (50).

Controlled burning was used in association with and in addition to tree girdling to improve and increase the forage. The grasslands had been enlarged and maintained, in part, by the efforts of Native Californians to increase the forage for deer. This practice was disapproved of by the Mexican authorities in Upper California. One of the articles in General Vallejo's treaty with several local Indian groups in 1836 stipulated that "the fields shall not be burned at time of drought on any pretext" (51). Later in the 19th century, most ranchers in the area practiced controlled burning. Although the practice was discouraged during much of the 20th century, by the 1980s many ranchers were again burning portions of their acreage.

The constructive use of fire has not always been a recognized principle or a respectable practice. In his recent history of *Fire in America*, Stephen Pyne relates the development of wildland fire protection to the industrial revolution and the rise of large-scale commercial forestry. Coincidentally, one of the first advocates of "light burning" to appear in print in the 19th century in California was Joaquin Miller, a sentimentalist poet and relative of Dry Creek uplands settler Malinda Miller Scott. Miller, who advocated burning as a return to the "Indian way" of land management, found agreement among many pioneer settlers, stockmen in particular. One early Dry Creek homesteader, George C. Matthews, was an acknowledged authority on controlled burning techniques, and ranchers from all over the state sought his advice. According to local people, Matthews, who "burned a sheep range out of a chemise patch," ranks as one of the few men ever to make a tremendous success in sheep ranching. Many old timers recalled that Matthews would burn a twisted piece of paper to test the humidity and to make sure the conditions were just right for a burn.

Following the turn of the century, these techniques came into conflict with the newly established Bureau of Forestry and, within a few decades, controlled burning was generally condemned by government technical advisors. Burning on state and federal lands had been illegal since the 1870s, and the penalties increased in 1901. Regardless of its illegality and despite warnings and complaints, many old-time ranchers in the North Coast Ranges and elsewhere continued to burn the range periodically. Even with the consent of neighbors, ranchers often had to burn on the sly, as suggested by the following letter written to a Dry Creek upland rancher in 1903:

> While I was in town to day your friend Walgamot came in and said you had set the whole country on fire he claims to have tracked your horse he is going to telephone to Santa Rosa to day I told him he could not do any thing for he never seen you set the fire be careful as They are watching you (52).

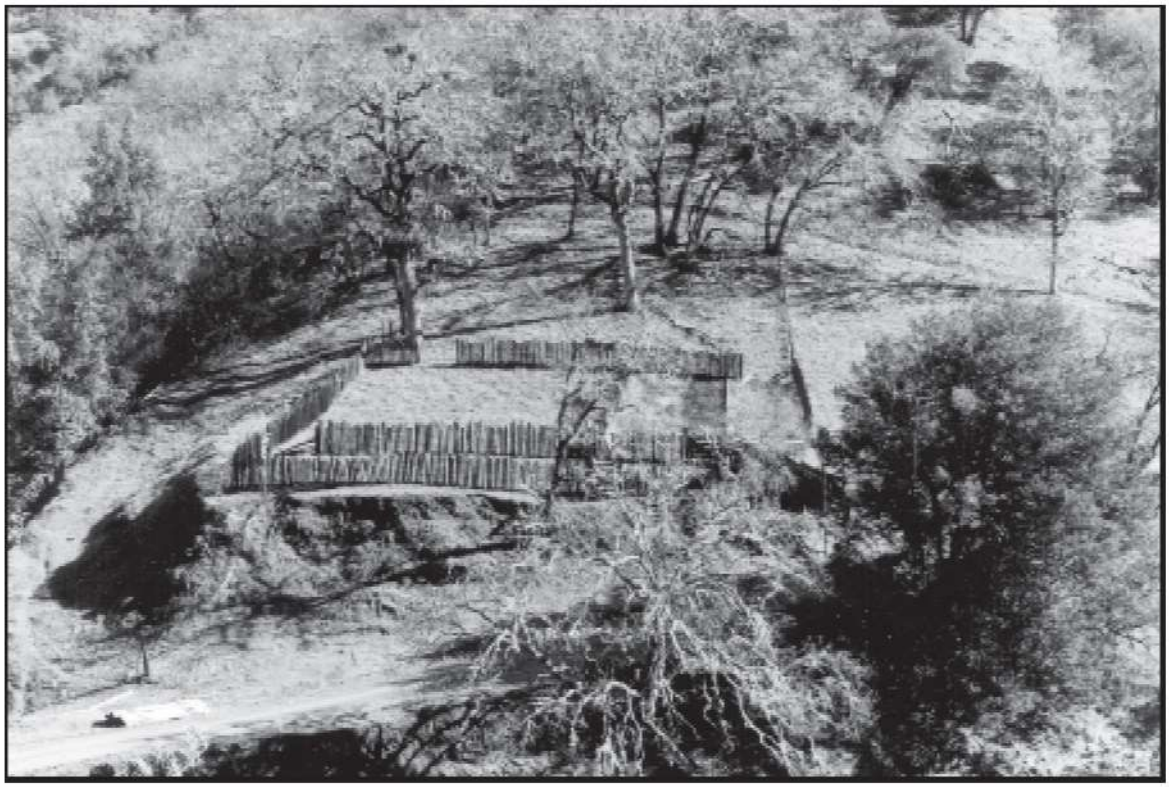
The rancher's view eventually prevailed, and controlled burning is now perceived by the government as an effective fire-prevention technique and an appropriate land-management tool. Pyne summarizes the history of modern fire protection as, basically,

> the story of how one fire regime, that of frontier economics, was replaced by another, that of an industrial state. Not until the 1940s did the Indian practices preserved in western reservations and the frontier habits perpetuated in the piney woods of the South work out a modus vivendi with modern forestry (53).

After more than a half a century of covert burning, in 1965, George Matthews received the California Wool Growers Association's highest award in recognition of his contribution to the sheep industry. The award describes Matthews as:

> A true and living pioneer of California's North Coast sheep industry, whose unquenchable spirit sustained his hand against all manner of predators— bear, panthers, and coyotes—; showed others the way to conquer wild fires; demonstrated how to reclaim the wilderness, make pastures out of brushland; adapted himself to changes spanning nearly a century close to Nature and Man—all of which mark him as a man of character, acumen and as a benefactor to his neighbor and his industry (54).

Rancher George Matthews (from GM collection)



Historic Sheep Fencing in the Dry Creek Uplands

One reason for the desired expansion of grassland may have been the reduced capacity of the existing range. It was not until 1895 that declining range conditions in the West generally prompted the Department of Agriculture to begin scientific research on methods for the restoration and improvement of grazing land, thus initiating the science of "range management." Progress, however, was not immediate; as late as 1912, there was not even a semi-technical book on the subject of range management to aid the rancher. Still, some aspects of these new practices were probably attempted locally to enhance the productivity of ranches in the early 20th century. Eventually, range-management classes were taught at the University of California, Berkeley, beginning in 1922 (55).

Lake Sonoma as a Land-Management Decision

The source of land-management decisions has changed dramatically over the years. The local Pomoan Indians maintained a state of near equilibrium through powerful social sanctions and ritual observances that controlled most aspects of their use of the resource base. The settlers who displaced them practiced a variety of intensive uses of the land, some of which were ultimately destructive. Around the turn of the century, dwindling natural resources and the settlement of the vast majority of the agricultural frontier sparked a new federal land policy and the eventual withdrawal of public domain from private claim.

Federal land policy has steadily increased in scope, influence, and authority. Current land-management goals are different from those of the past, and, in same cases, seek the reversal of changes brought about by earlier practices. The perceived value of the Lake Sonoma Area no longer rests in its agricultural worth to individual settlers or in its development potential to real-estate speculators. The land-management objectives are now viewed as furthering regional and national goals, carefully conceived and regulated by government specialists. Thus, historic land-management decisions have passed from many individuals each controlling a small area, to a small number of bureaucracies controlling vast areas. The range of these decisions has grown from basic and few in number, to a broadly defined base including environmental considerations and the long human history of the area.

From the overlook above soon-to-be Lake Sonoma, 7-year-old Maria Praetzellis looks toward Pritchett Peaks (photo by Adrian Praetzellis)

Renowned basketmaker Laura Somersal weaving a twined basket (photo by Scott Patterson)

CHAPTER 4

USE OF THE LAND

INTRODUCTION

Use of the Lake Sonoma Area has changed radically during its five thousand years of occupation. What had been major resources often became unimportant, while new sources of sustenance or income were recognized and emphasized. Timber, now a major resource of the North Coast Ranges, was virtually ignored by Indian people, while early White settlers destroyed trees to increase grazing land. The sedge beds of Warm Springs and Dry creeks, which have produced roots greatly valued by Pomoan basketmakers, had become overgrown and tangled from years of disuse by Euroamerican settlers. Geographer Carl Sauer described the phenomenon succinctly: "Natural resources are in fact cultural appraisals" (1).

Although resources were continually being redefined, one attribute—diversity—characterized the area through the centuries. There were some important specialists among the Dry Creek Pomo, but most individuals developed all their skills to get as much as possible from the land. The average Mihilakawna man was a hunter, toolmaker, housebuilder, fisherman, trap builder, and maker of sturdy baskets, and he knew when and where to direct his attention as the seasons shifted. Diversity was also the hallmark of the early subsistence years of historic-period occupation, when new settlers were trying out a variety of means to stay alive while slowly building up their new holdings.

By the 1880s, two main emphases had developed along geographic lines: stockraising (primarily sheep) in the Dry Creek uplands and grapegrowing at the head of the valley. But even with these specialties, landowners always viewed their land as a multiple resource. Thus the uplands rancher raised not only sheep or cattle, but also a variety of barnyard stock. He hunted in the mountains to rid his rangeland of pests, to collect valuable hides to sell, and to bring variety to the table. He also cut and sold his timber and his tanbark, explored the potential in his mineral springs and attempted to tap into the chromium, mercury, or manganese beneath his soil. The valley farmer may have emphasized fruit, but he also kept stock to feed his family and even raised sizable herds where grazing land was available.

One year a landowner might list himself in a local directory as grapegrower; in another he chose to be known simply as a farmer, or as a stockraiser, a winemaker, or even a blacksmith. These changes in occupational title rarely represented actual change in activities. Instead, they reflected the diversity that typified the Lake Sonoma Area until well into the 20th century. As corporate ownership increased, diversity declined. The area has been returned to diversity more recently; government plans are characterized by their variety, providing for public recreational facilities, education, hydroelectric power, flood control, and fish and wildlife maintenance.

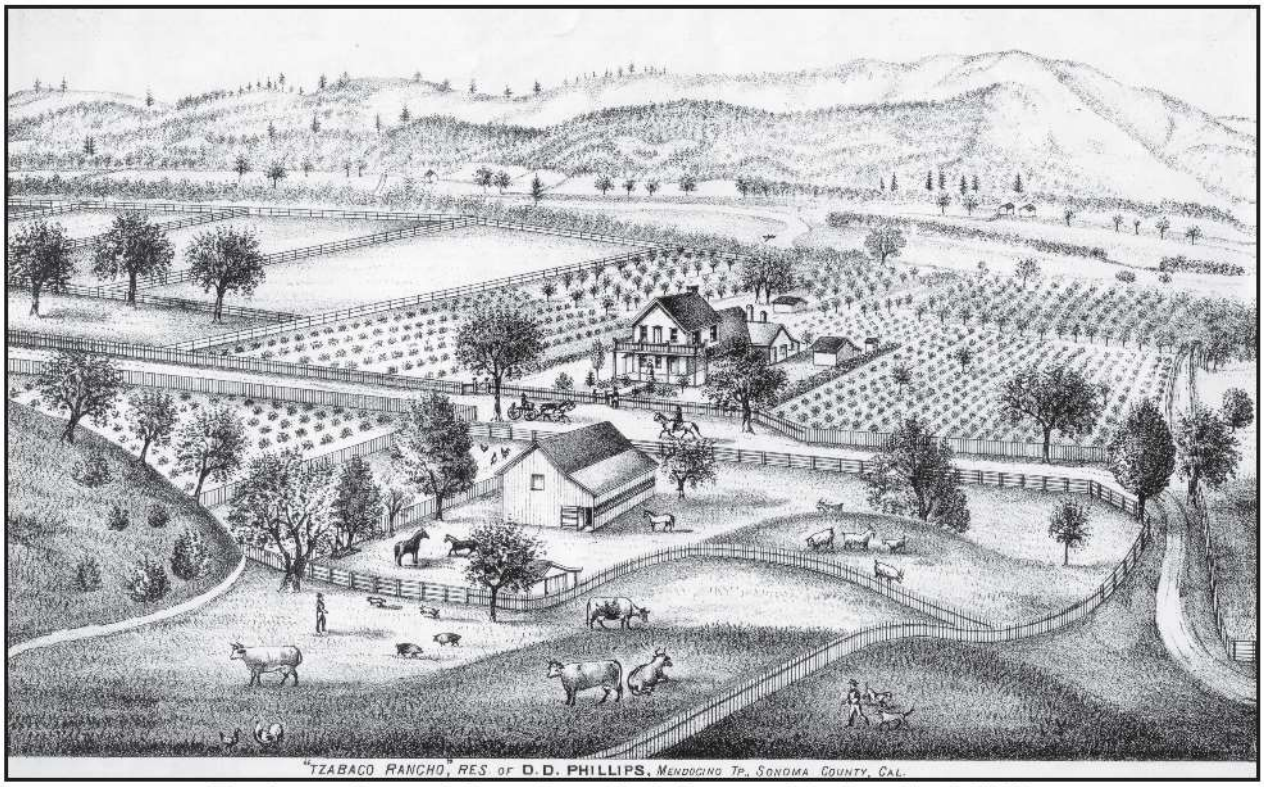
The changing resources of the area are described here under four categories: minerals, native plants and animals, domestic plants, and domestic animals. Although the resources are discussed separately, it is important to remember while reading this chapter that rarely was only one resource exploited at any time.

MINERALS

Water

North Coast archaeologists have studied prehistoric living sites to learn why they were placed in their locations. Water and slope of land were the major factors; villages were almost always on level terrain one quarter mile or less from a water source. In the project area, living sites are generally found on the second terrace, out of the flood plain, next to major creeks. Water was no less important for historic-period settlers. Their more sedentary living, in fact, made them even more dependent on a nearby water source. All the earliest homesteads were along the area's major creeks, usually at their confluences with other streams, or near year-round springs.

Lush spots could be found throughout California in the wet winter and spring, but the dry summer rendered many lands marginal—to the surprise of early Euroamerican settlers. E.L. Chernyk, the Russian agriculturalist who farmed near Fort Ross in



The former Peña adobe: a diversified farmstead in Dry Creek Valley
(from Thompson's *Historical Atlas Map of Sonoma County*, 1877)

the 1830s, was one of the first to remark on the peculiarities of California's seasons: "The entire year here can be divided into the rainy and the rainless; the first is called winter, and the second summer . . . July, August, and September present an appearance similar to our winter" (2). The Spanish and Mexican rancheros, already acquainted with a two-season year, used deep plowing to retain moisture, allowing crops throughout the dry summer. Chernyk claimed that unplowed land dried to a depth of two or two-and-a-half feet, but "just dig up some deeply plowed ground, and it will surprise you to see that dry soil is only 1 to 2 inches deep from the surface" (3).

California's dry summer presented conditions which completely overturned all the habits and ideas of eastern and midwestern farmers. Many of them held the rancheros in contempt, and, rather than emulating their successful techniques, they kept doggedly to their old practices. They attempted to sow in May or June when the rains were over, getting "no more return than if they had planted corn in Illinois in August" (4). Others simply turned back when they saw the desertlike conditions. But, according to California boosters, a dry summer had immense advantages. The whole harvest season, being without rain, was unhurried. Grain could be threshed, bagged, and left in the fields or along the railroad tracks without fear of injury from exposure. Hay could be stacked in the field and potatoes left in the ground until wanted; there was no need for costly granaries or barns. Fewer hands were needed for the harvest due to the more leisurely pace. And the wet winters with their green forbs and grasses meant that there was little need to put away feed for the winter. Only work horses were fed; all other livestock lived on the natural pasture (5).

In some areas of California, such a paradise was not obtainable without irrigation. But in the North Coast Ranges, with its greater rainfall, summer fogs, and numerous springs and small streams, irrigation was considered unnecessary—even undesirable. Sonoma County enthusiasts stated that the "heaven watered" lands of the county were worth more than were artificially irrigated fields. Nonirrigated lands, it was claimed, required less work, were more healthful, and did not leave the farmer at the mercy of an irrigation company which might fail him (6). Following the dry summer came the heavy rains,

which often backed up the waters of Dry Creek and the Russian River over agricultural fields. Farmers found the seasonal inundation valuable, fertilizing the fields and adding topsoil to the land.

After the first years of experimentation, farmers and stockmen in the area settled on operations that required little water; grapes fare better without irrigation, and sheep require far less water than cattle. The numerous springs and creeks were ample for drinking water and the kitchen garden. Historical archaeologists found spring houses and other water installations at nine sites in the project area. The homesite was usually placed well below the spring, so that gravity brought water to the door. Early pipes may have been little more than a series of connected wooden troughs; such systems were crude, but they were preferable to the alternative of hauling buckets from the spring (7).

The mineral springs in the project area were major resources throughout its occupation. At least three important mineral springs were present, and one (Kahowani, later Skaggs Springs) drew outsiders to the area for centuries. Because these springs figured significantly in many aspects of life in the Lake Sonoma Area, they are discussed in several places in this volume (8).

Chert Quarries

Franciscan chert, a fine-grained rock that can be broken along predictable planes, was once a major resource in the Lake Sonoma Area. Here two chert quarries (CA-Son-584 and CA-Son-554/H) contain evidence of thousands of years of use. One of the local quarries (CA-Son-554/H), named the "Warm Springs Lapidary Center" by archaeologists who first recorded it, was carved by toolmakers from a narrow, wooded terrace on a tributary of Warm Springs Creek. It contains two sources of chert, one an amphitheatre-like depression of nearly 2000 square meters (9).

Chert is thought of as common in the North Coast Ranges, yet it constitutes less than half a percent of the area's dominant geological formation, known as the Franciscan assemblage. Chert is more resistant to erosion than most Franciscan rocks, however, leaving it generally well exposed; in many places, chert forms the only outcrops on otherwise smooth, grass-covered slopes. There are a number of Franciscan cherts, but all are fine-grained, hard, highly siliceous rocks of a variety of colors (10). The colors at CA-Son-554/H are grey green and red brown, with occasional bands of green and light yellow. A collection of well-made tools from varying colored cherts has strong aesthetic appeal; it seems likely that color affected the toolmaker's choice of which chert to use.

Don Crabtree, a stone tool expert who has quarried and worked chert for decades, describes chert mining as an exacting and hazardous job. Considerable strength is needed to pry loose large blocks of stone, and the worker is often struck by sharp flakes flying through the air.

> The stone must be removed in large enough blocks to produce artifacts of adequate size and must not be subjected to battering and bruising by indiscriminate pounding. Cracked, bruised, and weakened stone is not usable for the manufacture of artifacts and most quarries give mute evidence of poorly mined and rejected material (11).

At most quarries, there is little evidence of tool manufacturing. Instead, the toolmaker roughed out blanks and preforms to be finished under the more comfortable conditions of the campsite. Such a pattern apparently prevailed near Warm Springs Creek, where a long-used habitation site was located nearby. For men who lived in local villages, chert quarrying may have been an occasional afternoon activity. Other men must have traveled some distance to the quarry, in small groups or with their families, collecting enough material so they had only to make infrequent visits.

Chert was the dominant stone tool material in the area until about 1000 B.C. As trade increased within the North Coast Ranges, the better working qualities and perhaps the greater prestige of obsidian, available only outside the area, were recognized. At project-area sites away from chert quarries, obsidian gradually became the tool material of preference. People at the small villages and campsites near the two quarries, however, continued using chert almost exclusively.

The Copper Rush

A flurry of mining activity in the early 1860s brought promise of lucrative prospects and intensive settlement of the Dry Creek uplands, but the excitement died as abruptly as it had started. Details on the Dry Creek mining rush are few, as the information on this event is limited to newspaper

An early California prospector (from Marryat's *Mountains and Molehills*, 1856)

articles (12). That mining fever prevailed—on a far smaller scale than in the Sierras, but every bit as intense—is shown by an 1863 newspaper entry:

> Some are so intent on finding their fortunes they don't stop to exchange the usual salutation with a fellow prospector. Every man you meet is hurrying to or from the Recorder's office and each has a new lead to prospect.

On the same day, the paper reported:

> Parties are daily arriving at the mines from Napa, Contra Costa, Sacramento, San Francisco and other points. The country for many miles is staked off and duly recorded, and in several instances claimed by two or more parties—the system of "jumping claims" being freely indulged in. It is almost useless for us to attempt to caution people against the danger of getting unnecessarily excited on the subject (13).

Exactly what was found and where it was located is unclear. The metal prospected was often identified as copper, sometimes silver, and, rarely, gold. Copper may well have been the primary target. Perhaps spurred by the requirements of the Civil War, copper was at a higher value and rate of production in 1863-64 than it would be again until the 1890s.

In April of 1863, the newspaper reported, "We learn the ground is claimed for twenty-five miles in length and several miles in width." The mines were referred to as "The Healdsburg Mines" in one issue and as being "on Dry Creek near Healdsburg" in another; companies in the "Peña Creek section" are also mentioned. Other claims were reported in "Gold Canyon," identified to be about 10 miles northwest of Healdsburg, placing it within or near the Lake Sonoma Area. Some of the greatest activity was just outside the project area, 10 miles northwest of the Warm Springs/Dry Creek confluence on the divide between the Gualala River and Dry Creek, perhaps at the location of Grouse Camp, shown on Bowers' map compiled in 1863 (see Chapter 3). The Derrick district, whose location was not given, was said to contain about 50 ledges, with 1000 claims recorded. This wide-ranging activity throughout the Dry Creek drainage, taking place over a period of a few months, gives the impression of feverish probing in all possible places.

Prospecting in the Gualala/Dry Creek divide was sufficient to inspire two men, Gurlock and Groves, to purchase 320 acres of land, enclose it, and name it the new town of Monte Cristo. Town lots, they announced in the newspaper, would be given to any party who would build on them. Expectations were clearly high: one writer from the mines, who signed himself "Prospector," ended his letter with, "Yours, very respectfully, and decidedly coppery." According to the newspaper, however, the town "exists on paper, and in the imagination of its inhabitants." Reports of the yields were optimistic, and the editor pronounced the copper sample he saw to be "simon pure." Throughout the winter of 1863, news of the mines was reported: more shafts and tunnels were sunk in the mountains, and stock in new companies was regularly put up for sale. So much trading was occurring in Healdsburg in March of 1864, that "the town looked like Montgomery Street" in San Francisco's financial district. But a newspaper article published in May of 1864 was the last mention of mining in the area (14).

What happened that turned hundreds of men back from their prospects? One answer might be that the claims were overrated; only superior quality ore could have offset the high cost of transportation. Mining expenses became even greater in the spring of 1864, when the federal government legislated scores of new taxes to finance the Civil War. Miners were to pay five percent on gross proceeds, in addition to a five-dollar permit prior to prospecting. The tax would close down many mines, the newspaper predicted, "since few small operators make 5% profit" (15). More important was the fall of the copper industry itself. California production began to crash in late 1864, falling from an output of more than 2000 short tons in that year to around 150 tons by 1870 (16).

Direct involvement in the Copper Rush by families in the Lake Sonoma Area is not recorded. Since the area had not yet been surveyed, this was still government land, with unoccupied areas open to prospecting. Prospectors may have been working on unclaimed acreage alongside the resident farmers and stockmen; indeed, residents themselves may have been prospecting on their possessory claims. Local settlers were no strangers to mining; more than half a dozen Lake Sonoma Area residents are known to have had their introduction to California in the Sierra goldfields. Whatever their involvement, residents were clearly aware of the mining, since many prospectors working claims west of Dry Creek passed through the area. The route recommended by the newspaper was to travel up Dry Creek Road and stop "at the last farm in the valley," just upstream from where the Warm Springs Dam is now located. This was the home of one of the area's earliest resident families, the Pritchetts. "Mr. Pritchett's good lady, for a very reasonable compensation, will furnish the anxious prospector with a square meal—an indispensable luxury before taking to the hills" (17). Pritchett was taxed by the Internal Revenue Service in 1863 for an eighth-class hotel. That operation apparently closed the following year, along with the mines themselves. Skaggs Springs, then an undeveloped tent resort, was also rated eighth class in 1863. Perhaps it also served the mining community initially, but by the following year Skaggs was improving the property to appeal to a more discriminating clientele.

Quicksilver Mines

After government surveys opened the land to purchase and homesteading, prospecting by outsiders was probably rarely attempted. Instead, landowners tested their own mineral resources. Mining was usually undertaken only as an adjunct to ranching activity, although some settlers may have hoped to find their fortune underground. On a Dry Creek uplands homestead in the late 1880s, for example, a man named Cassidy struck a gold claim rumored to be worth $10,000. He reportedly waited some weeks—with 40 feet of mining boxes constructed and ready—for the rains to come and signal the start of work. Perhaps the weather failed him or other events intervened, but Cassidy's claim was closed shortly thereafter (18). Such attempts may have been common in this geologically diverse area, at a time when industry was continually finding new uses for minerals. The mineral requirements of the First World War spurred new prospecting. Chromium and manganese mines were developed in the Lake Sonoma Area between 1916 and 1918, but no croppings were rich enough to warrant long-term exploitation.

The longest lived, and perhaps the most lucrative, mining in the Lake Sonoma Area occurred during the 1930s and 1940s at the then-failing Skaggs Hot Springs resort. In the mid-1920s, Leo Curtis, owner and operator of the resort, discovered an unfamiliar yellow mineral in fractures of the sandstone outcrops near the springs. The crystals were identified to be a new hydrocarbon mineral, subsequently named

Foundations of the Skaggs Springs quicksilver mine, 1976

curtisite after its discoverer. Of more economic value, the specimens contained a considerable amount of metacinnabar, the black sulfide of mercury.

Mercury, also called quicksilver, is a critical element in hundreds of industrial processes, and satisfactory substitutes are generally unavailable, even with late 20th-century technology. While the United States uses about one quarter of the world's supply, the country produces as little as 21 percent of its own requirements, most of this coming from California. Prices skyrocket in times of war, when access to foreign mines is limited at the same time that mercury is in high demand for manufacturing explosives; once peace has resumed, the market becomes glutted and prices become greatly depressed. This situation results in wider price fluctuations for mercury than for most other commodities, and mercury mining has the reputation of being a high-risk industry (19).

Curtis' Skaggs Springs mine was marginal, yielding over a short period some encouraging profits but never competing with some of the state's larger operations. Curtis' find came at the wrong time. Even with the low-yield ore at Skaggs, profits would have been higher had he discovered his mine during the First World War. Fifteen years later, he would have seen profits as well. Instead, Curtis leased the property to various operators until 1934, when he began commercial mining himself. During a three-month period, he recovered 42 flasks (3292 pounds) of quicksilver.

Despite that high figure, at 1934 prices he profited little from the yield. After a brief leasing period to another operator, the mine lay idle until 1939, to be leased again for a short time.

The greatest activity at the mine occurred under the management of Star Springs Mercury, Inc., of Hollywood, whose principal investors were actors Frank Morgan, Randolph Scott, and Reginald Owen. The mine shafts were greatly expanded, and a reduction plant capable of processing 20 tons daily was erected in June 1941. The high price of mercury during the Second World War warranted intensive operations: the mine was worked 16 hours per day, and the plant ran unceasingly. Fifteen people were employed, making this the only operation in the area to equal the number employed by the resort itself. Whether any of the area's residents worked at the mine was not learned, but the industrial bustle surely affected the rural setting.

Geologists from the California Division of Mines mapped the expanded workings in the meticulous detail that this agency accords even the smallest operations. The maps and their accompanying descriptions depict 1825 feet of workings, with five

levels extending to a depth of 135 feet below the opening of the main, inclined shaft. Although the extensive Star Springs operations yielded 250 flasks (19,000 pounds) of quicksilver from September 1941 to September 1942, one ton of ore had to be processed for every three to four pounds of quicksilver. Even at high wartime prices, the mine could not be run profitably, and Star Springs Mercury, Inc., was liquidated in September 1942. A one-month operation by another lessee ended the use of the mine (20).

It is not surprising to learn that Skaggs Hot Springs resort finally closed in the summer of 1942. Other factors figured more importantly in the resort's demise (see Chapter 10), but surely ore-processing machinery operating 24 hours a day, along with the scarred ground inevitable in most mining operations, would have been incompatible with a woodland retreat!

NATIVE PLANTS AND ANIMALS

The topographic variety of the Lake Sonoma Area, with its densely wooded ravines, open stream terraces, grassy ridgetops, and narrow valleys, resulted in an environment with numerous and diverse plants and a variety of animals. This local diversity supported people in the area for thousands of years, requiring relatively few imports. Even after new settlers introduced domestic plants and animals, native flora and fauna were economically important for market hunting, logging, and tanbarking.

Native American Seasonal Round

The oldest tribal scholars, several generations removed from the traditional Southern Pomo lifestyle, recall a wealth of information on precontact plant and animal use. Lake Sonoma project ethnographers listed 81 plants which these elders identified (21). Knowledge of the plants' uses, up to seven per species, has been passed down through oral tradition, and many are still used in the same ways.

While some unusually reliable and nutritious foods were staples appearing in the daily diet, a wide assortment of other plants was also important. Many types of seeds and nuts, as well as a wide range of edible bulbs and corns, roots and tubers, fungi, greens, and berries, added variety and essential nutrients to the diet and could bridge the gap when the staples' reliability faltered. Anthropologist Alfred Kroeber remarked that California Indian food resources were

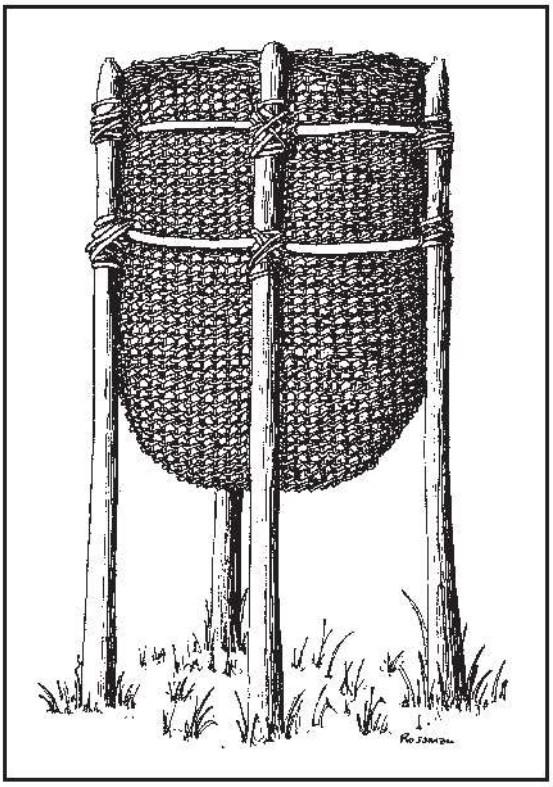
> bountiful in their variety rather than in their overwhelming abundance along special lines. If one supply failed, there were a hundred others to fall back upon (22).

Even the primary staple, acorns, came in many varieties. There were two genera: *Lithocarpus* (the tan oak) and *Quercus*. Within the latter genus, there were four species of major importance and an equal number of others that, although not preferred, were edible. Since each species has slightly differing environmental requirements, some flourish at times or in places where others fail, assuring at least a minimal crop each year.

Most plants and animals had a variety of uses. Deer was taken primarily for food, but its hide was also used for a variety of purposes, including clothing and containers; in addition, antlers and long bones were made into tools, and knuckle bones were used as gambling pieces. Berries of the manzanita were eaten fresh, or they were dried and ground into a flour or made into a drink; manzanita leaves were used to treat diarrhea and stomach trouble, or they could be made into a solution and used externally to treat poison oak. The tough manzanita wood could be fashioned into a simple club, a bullroarer, a double-pointed fishhook, the toggle head of the salmon harpoon, or a sinew-backed bow.

While plant foods were the mainstay of the Indian diet, a variety of meats provided a necessary supplement of nutrients and protein throughout the year. Rabbits, squirrels, pigeons, quail, and other small game were sought whenever meat was wanted. Rather than stalking these animals with bow and arrow, the hunter set intricate woven willow traps to catch the prey, allowing himself time to pursue other activities. Deer, taken throughout the year, were hunted more during late summer and early fall, when does and bucks were thinned from the herds and the meat dried for winter storage. Some fishing occurred year round, but the seasonal migration of steelhead and Coho salmon up Dry Creek dictated an emphasis on fishing during spring and from late fall to early winter. Migratory waterfowl also appeared for only brief periods, focusing some hunting activity during that season in the marshy bottomlands while other men fished in the upland streams.

The seasonal availability of plants required an even more careful scheduling of activities, particularly at times when an important crop was



Summer Acorn Granary (drawing by Rusty Rossman)

ripening in the hills while another was ready in the creek bottoms. Some crops, such as acorns, had a relatively long season of a month or two during which they could be gathered, while others had an optimum period of only a few days or weeks. To determine the most efficient use of all the people in the tribelet, food-gathering activities were regulated by the headman or the shaman, one of whose major duties was to observe the particular variations of each year. People shifted residence several times during the year, from winter towns to summer villages and camps, in order to make best use of their territory's resources. These movements, and the settlement pattern that resulted from them, are discussed in Chapter 6. Seasonal forays often took people into other territories as well, in order to gather or trade for geographically limited foods (see Chapter 10).

Historic Market Hunting

In the early days of subsistence farming, before large livestock herds were amassed, hunting was of vital importance to settlers. Even after stringent restrictions on deer hunting were enforced around the turn of the century, many farmers and ranchers continued to get much of their table meat from the hills. As one old timer described it:

> They lived off the land, killing deer for meat, but never abusing the game. There were game wardens in those days who rode the hills looking for poachers. The game wardens would eat supper with local families. Often they were served deer meat. The families knew the wardens knew they hunted only for subsistence (23).

Hunting was also important for its recreational value. Since the 1870s, men came to hunt in the Dry Creek uplands from as near as Healdsburg and Santa Rosa, and as far away as Europe. Information on hunting clubs can be found in Chapter 9, which describes social networks extending beyond the local community.

Distinct from hunting for subsistence or recreation, some hunting was geared toward supplying wild game for city and town markets. Taking game for profit may have been one of the first Euroamerican uses of the area. One account of the origin of the town of Healdsburg claims that Harmon Heald opened a trading post there in 1846 to serve the hunters and trappers in the area (24). By the mid-1850s, the area was known for its prolific game: an

1857 newspaper reported that two men in one day caught 15 dozen quail, one dozen wood duck, and 14 hare in the valley around Healdsburg, bringing them to market in Santa Rosa (25). The Dry Creek drainage would surely have attracted such men, and the major Indian trails through the uplands to the coast might well have been used. Clearly fur animals were plentiful in the area, if we can believe even part of rancher Sylvester Scott's exaggerated claim that, in the 1860s and 1870s, he caught a bear and a panther for every day in the year (26). The mountains near the headwaters of the Gualala River, just west of Dry Creek, were recommended for hunting trips in an 1873 history and guidebook, but with the following warning:

> If a venture is made off here, the heart must be nerved to the possibility of a tussle with a bear, or a jaguar. All through this section of country, deer, brown or cinnamon bear abound, grizzleys are frequently found, the jaguar, or California lion, the wild cat, and other animals are frequently met with (27).

In the early years of market hunting, mammals were taken primarily for their pelts, which continued as salable items into the 20th century. At first, market hunters were specialists, usually single, landless men who could move where the game led then. Later, hunting for fur-bearing animals became an adjunct to ranching. In the Dry Creek uplands, young boys and teenagers were often the main market hunters, and the hunt itself may have given as much pleasure as the money it brought in. For the older rancher there was an additional benefit: the animals sought—wildcat, skunk, mink, fox, and raccoon—were all predators of young livestock or poultry, and their numbers had to be contained. Prices for pelts from the uplands varied according to their condition: from 10 to 35 cents for a raccoon and as much as 45 cents for a fox in 1894 (28). In 1909 considerably more was paid for these products: Orville Baldwin relates that the boys at his ranch received as much as $2.00 per pelt in that year. The big jump in prices suggests that these animals were becoming more valuable as they were hunted out. It also reflects the growing popularity of inexpensive furs: skunk fur was quite fashionable around 1910, and raccoon coats grew in popularity to become the hallmark of the younger generation 15 years later.

As California's population grew and transportation improved, market hunting for meat became increasingly important. Selling wild game in markets was common in the late-19th century; although domestic beef, pork, and mutton were generally available, venison was often sold as a novelty. George C. Matthews, later to become one of

Firewood, the most necessary of all native plants (from GM Collection)

the area's most successful ranchers, paid his way through college by hunting deer in the uplands near his parents' home. During one summer prior to 1887, he shipped 63 bucks to the city market.

In the 1890s, a new law made all selling of wild game a misdemeanor, but this rarely stopped either the hunter or the butcher. Occasionally the game inspector caught wind of the transaction, and the evidence had to be disposed of quickly, as happened to a shipment of "veal" sent by Matthews to a San Francisco market in 1894. Illegal sales were a high-risk business; one could lose everything and be stuck with freight expenses, or make a good profit if all went well. The San Francisco butcher had planned to sell Matthews' venison for 25 cents per pound at a time when beef could be had for five cents less; instead, with the inspector on his tracks, he gave it away as quickly as possible (29). Some 20 years later, hunters in the Dry Creek uplands reportedly made venison jerky and sold it to the saloons around the Healdsburg Plaza for $1.00 per pound; the saloonkeepers made a handsome profit, selling the jerky to their customers for two-and-a-half times that amount (30).

Euroamerican Native Plant Use

Ethnographers have compiled a list of the numerous uses to which native plants were put by White settlers in the area (31). Some of the plant uses described continue today, such as gathering wild blackberries or elderberries for fresh fruit or jams, collecting California bay laurel leaves for seasoning, and picking lupin and California poppies for decoration. Other familiar uses on the list include gathering mistletoe and toyon berries, tying them in bunches with homemade ribbons, and selling them in San Francisco during the Christmas season. Various trees were appraised for their value as firewood: owners of fireplaces or woodburners today will agree that valley oak is too punky, that douglas fir is good for woodstoves but pops too much for fireplaces due to moisture, and that black oak is excellent wood for fireplaces and stoves, providing constant heat.

Other plant uses, however, take us back to a period when people made do with what they had on the land, rather than being dependent on the hardware or dry goods store for their every need. The list includes extracting a dark blue dye for woolens from deadly nightshade (*Solanum* spp.), and carving gunstocks, pistol handles, pitchfork tines, and teeth for rakes from buckeye or madrone. The listed uses for alder (*Alnus* spp.) include fashioning its bark into soles for shoes.

Some readers may be familiar with medicines that come from the garden or the woods, but native plant remedies are generally rare today. Among the remedies of the area's 19th-century settlers was cascara bark tea, a powerful laxative that had to be carefully administered; dandelion leaves for kidney ailments; and douglas fir and digger pine pitch used as a dressing for cuts. The pitch kept the cut clean, sealed it from air, and was said to aid healing. There was even a salve made from sheep's sorrel and tanbark that was believed to control skin cancer. Gradually these home remedies gave way to commercial medicines, mirroring other changes in the project area which marked the shift from self-sufficiency to reliance on the outside.

Tanbark

While people in the Russian River Valley were exploiting local timber for construction in the growing towns, a different tree crop was gaining importance in the Lake Sonoma Area. The tan oak (*Lithocarpus densiflora*), an acorn-producing tree highly regarded by Indian people, became the most economically significant native plant for settlers. Unlike the timber industry, which could not be successful in this rugged country until roads were put in, tanbarking required only narrow trails, which could go deep into the woods. Throughout the coastal mountains for several decades around the turn of the century, settlers stripped the bark of the tan oak and shipped it to tanneries, receiving a major part of their annual income for this seasonal work.

The Russians at Fort Ross were probably the first to use tanbark in the Sonoma County area for tanning leather. A tannery was located on Fitch Mountain in Healdsburg in 1840 by the manager of Fitch's Sotoyome land grant, Cyrus Alexander, and several more tanneries were established in the area by 1861. By the mid-1860s, however, the closest operations to the Lake Sonoma area were in Santa Rosa. The difficulties of transporting this awkward load a distance of some 40 miles may have precluded taking full advantage of the rich groves of tan oak in the area. With the establishment of the railroad in 1872, the process was simplified and the industry grew quickly. For example, only 80,000 pounds of tanbark were shipped by railroad from Healdsburg in 1876; harvesting had increased tremendously by 1903, when a single Dry Creek uplands rancher sold more than

A load of tanbark in the town of Geyserville, circa 1910 (photo courtesy of Obed Bosworth)

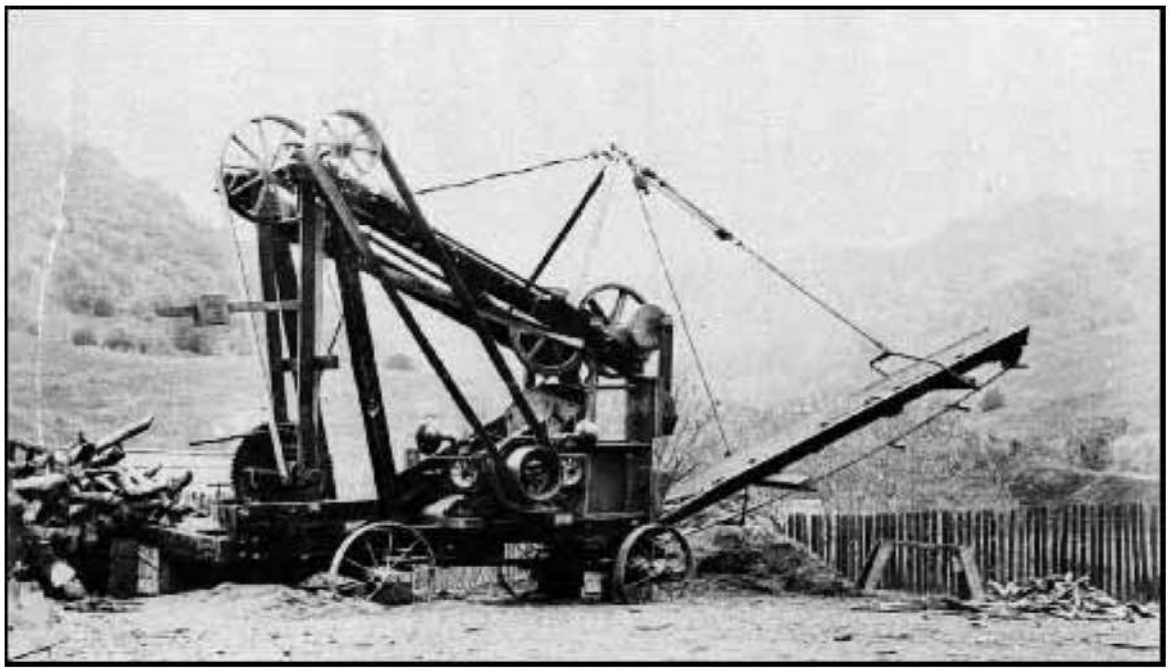
86,000 pounds of tanbark to a dealer in Cloverdale (32).

The tanbark industry was organized in a variety of ways: some landowners harvested their bark themselves, often aided by their wives and children; some hired transient laborers to do the job; and others leased harvesting rights to neighbors or outsiders. Often landowners cut their own bark but left the laborious hauling to professional mule handlers. According to an historian of nearby Gualala:

> It was big Company business; it was also small family survival. For many not so big landowners, the peeling, selling and hauling of tanbark was a staple among the resources their land could provide. Unlike the big timber, it was accessible to most settlers, with few tools or specialized paraphernalia (33).

Stripping the bark began in mid-May and continued through the early summer. The bark was commonly harvested by peeling it from the standing tree. First, bark was measured off in four-foot rings and each ring was cutting an axe; then a swathe was split from ring to ring, and a sharp rap on the tree jarred the tanbark curl loose. By this method two curls could be taken from each tree. If oaks were felled, as many as 20 curls could be harvested. This greater yield did not always offset the logistical problems of working in an area cluttered with felled trees, and harvesting standing trees was the more common method. Standing oaks died within a few years and fell to the ground. Thus whichever method was used, the end result was the same: the slopes of northwestern Sonoma County were littered with dead trees for decades, in many cases leaving scars that were still not healed more than 50 years later. Some landowners, desirous of more grazing land, burned off the dead oaks. This set the stage for another problem: severe erosion on the steep, open slopes.

When companies ran the harvest, the business could be complex. Bark contractors would "spot out" tan-oak groves throughout an area, then negotiate leases with the owners. Contractors had to estimate the potential yield, determine packing costs, and find the best places to set up camp. A crew was hired to peel the bark for the season, with a few men retained until September to stack the dried curled coils and pack then out for market. Mules were loaded with three bark coils to a side, each coil weighing about 100 pounds. Sturdy, well-trained animals were necessary to negotiate steep trails under such loads. Training the mules took time and patience, but according to Mark Walker, veteran Mendocino



"Harry's Wood-cutting Machine," circa 1900 (from GM collection)

County barkpeeler: "The mule gets so he knows more about packin' bark than you do" (34).

Tanbark harvests continued in the Lake Sonoma Area through the Second World War, but they were much less frequent than before the 1920s, and the profits were small. Tan oaks had been eliminated in the more accessible areas, and the mules had to be driven further and further into the woods. Gradually, tanbarking ceased altogether. Increased shipping and labor costs, and the decreasing importance of leather as synthetic products were developed, made the harvesting of the few remaining stands uneconomical. Even though harvests had stopped decades before, only a few scattered tan oaks could be found in the 1960s, when the U.S. Government acquired the lands for Lake Sonoma.

Timber

Compared with today's industry, timber was unimportant in the Lake Sonoma Area during the 19th century. It is unlikely that the area's timber was significantly tapped during the early years. José German Peña, like most other rancheros, constructed his buildings from adobe, continuing a tradition from a less wooded homeland. Commercial timber cutting did occur on the Rancho Sotoyome in the 1840s (35), but the timber boom that was to deforest much of the Russian River Valley and its surrounding slopes did not occur until the growth of towns in the 1850s. In the remote Lake Sonoma Area, however, nearly a century passed before large-scale commercial logging took place.

Prior to government survey, it was illegal to remove trees from federal land, but such activity surely went unnoticed in the remote country of the uplands. In fact, a state forester reported in 1886 that illegal cutting on government land in Sonoma County had formerly been "immense" but had ceased at the time of his writing. Residents of the area would have used timber from their claims to build their homes, primarily redwood, which was considered far superior to fir. Several of the area's first homesteads are shown on early maps adjacent to redwood groves, a practical way to eliminate transporting building materials.

A few ranchers did turn their trees into commercial lumber or sold timber rights to others. But transporting timber requires either broad, stable roads or a deep, strong river. The Lake Sonoma Area had neither, and the operations remained small. Rather than trucking logs down to the towns and cities, portable sawmills were frequently set up in the forest; when nearby timber was exhausted, the mill was moved. Thompson's 1877 map shows a mill in the Warm Springs Creek area, and many more may have been established within the Dry Creek drainage.

A more common use of the area's redwoods was for manufacturing "split stuff": posts, shakes, stakes, and shingles. Once a tree was felled, the work could be done in spare time throughout the year, the product could be transported in manageable loads, and it was always in ready demand. The homesteader with a few redwoods on an otherwise poor claim might earn much of his living from this activity. On more prosperous holdings, fashioning split stuff was a chore for ranchhands, often Native Americans, who were said to excel at the work. The production of split stuff was one of the longest-lasting Euroamerican economic activities in the area, beginning with the first settlers and continuing well into the 20th century.

Douglas fir, much more abundant in the area than redwood, was considered of little value until the Second World War. In the 1920s, according to the nephew of one turn-of-the-century rancher, "You couldn't give fir timber away. It wasn't worth chopping down" (36). Instead, ranchers cut down or girdled the fir, burning downed wood and opening up grazing land.

The post-war building boom dramatically increased the market for timber, and new roads—most notably Kelly Road, which crossed a portion of the northern project area—were constructed to gain access to previously untouched stands. A newspaper article in 1953 reflected the local excitement:

> The bonanza is timber—an estimated billion feet of virgin redwood, douglas fir and sugar pine in a vast area whose accessibility has padlocked it for a century against exploitation (37).

Outside logging operations bought timber rights and moved into the area, gaining access to virgin stands by the new road. County tax assessors were quick to note this new source of revenue. Beginning in the early 1950s, property assessments included the market value of timber, even in areas where trees were not being harvested. The tax could be devastating, with some local landowners taxed in excess of their gross income from sheep ranching. Ranchers were given little choice, and they began systematically cutting off huge tracts of timber. Some ranchers in the Lake Sonoma Area were known to give timber away in order to avoid paying these taxes. The effect on the environment was severe:

> [The tax] discouraged conservation by pressuring owners into premature logging ... the tax forced some timber owners to sell more of their trees than was wise practice, not only so that they could pay the tax; but, in some cases, to get rid of 70% of all trees larger than 16 inches in diameter and thus win exemption for at least some of the remaining growth (38).

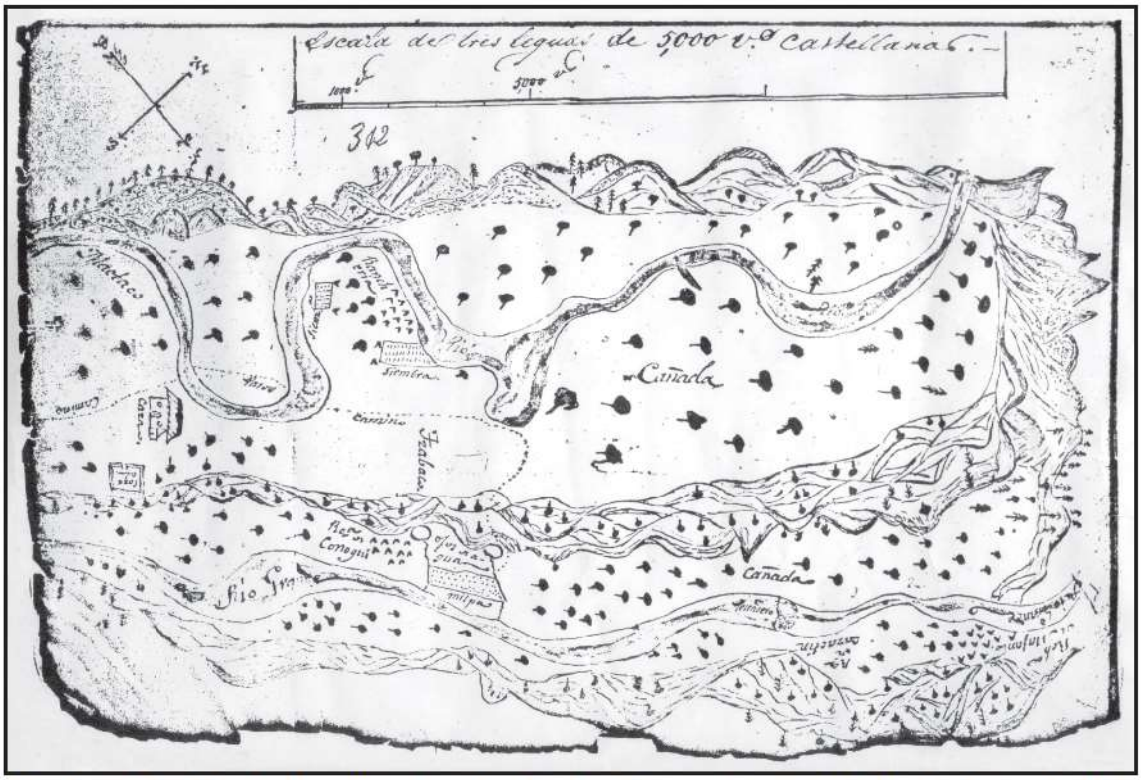
The law was finally rescinded in 1976, and trees were then taxed only upon harvesting. For the large timber operations, the period during which the tax was levied was one of high economic excitement. For many Dry Creek uplands landowners, however, the logging of the 1950s was an assault on the land that robbed much of the pleasure of ranching life (39).

DOMESTIC PLANTS

Native American Garden

Native Californians neither plowed the soil nor planted seeds until some of them were forced into agricultural work at the missions or ranchos. New settlers pointed to this lack of formal agriculture as support for their own "right" to the land. Indians, they reasoned, wasted the land's potential. The settlers were unaware, however, of the complex techniques California Indians used to maintain their environment. Native people had consciously manipulated plant habitats, growing patterns, and life cycles for generations.

The techniques used by California Indians probably had their origins thousands of years ago. By the time of historic contact, according to anthropologists T. Kroeber and R.F. Heizer, California had become a garden (40). To reap from a wilderness, one simply takes and moves on. To maintain a garden, the future health and productivity of the plants are as important as today's harvest. Pruning, root-crop cultivation, weeding and clearing, selective harvesting, and controlled burning were all practiced to improve the land as a human habitat. Plants were stimulated to grow in patterns that would provide the best fruit, the finest building materials, or the richest greens, while the soil's nutrients were replenished through burning and cultivating. Burning also encouraged the growth of green shoots on trees and shrubs, providing a superior forage for deer and other game animals.



The diseño for the Tzabaco Rancho: "siembre" and "milpa" indicate wheat and corn fields; inverted Vs represent an Indian rancheria

One of the most important and carefully tended local plants—the basket sedge, *Carex barbarae*—received new attention during the building of the Warm Springs Dam. Many central California groups developed basketmaking to a fine art, but Pomoan basketry has been singled out as exceptional. Several types of fibers can be used in weaving baskets, including switches of willow, hazel, and redbud. The roots of the basket sedge, however, have been identified with the unusually delicate work of Pomoan weavers, because the woody fibers can be stripped down to the diameter of a fine thread (41).

Sedge is prolific and widespread, but few beds produce good roots for weaving. Ideal beds are on primary creek terraces, on sandy rises and banks away from flowing water. Ample ground water must be present to feed the roots, and seasonal floods are necessary to add nutrients to the soil. Of equal importance, beds must be well maintained. When unused, the soil becomes compacted, roots are short, brown, and dry, and the bed becomes choked with weeds. Ideally, the bed is carefully cultivated every few years, allowing a fallow season or two for the roots to be replenished. In well-cultivated beds, roots may grow as long as six feet, but in poor areas they often only reach a few stunted inches. First the bed is raked clean of debris and weeds are removed. Then the roots are sought in the sandy soil, a process which stirs nutrients into the earth and maintains the loose, moisture-holding soil structure. The length of the root is carefully followed out, while avoiding damage to neighboring roots; then it is cut from the parent plant, encouraging new root growth. Any plants accidentally dislodged are replanted, to be harvested from in another season.

Older basketmakers remember important sites throughout the county where their mothers and grandmothers collected roots. Early in the industrial growth of the area, sedge beds on the Russian River and lower Dry Creek were destroyed by gravel operations, bridge construction, and agricultural activities, while access to the few remaining beds was often denied. By the 1970s, the sites along Warm Springs and Dry creeks came to be the major sources of basket materials, not just for local weavers but for basketmakers from throughout the region. Indian weavers identified 16 basket-sedge sites within the future Lake Sonoma reservoir. Some of these sites,

located near the archaeological remains of old villages, must have been used for hundreds of years; oral tradition regarding them goes back to the 1850s, when Indians living on local ranches still had access to the beds. Other sites were new, discovered after the Corps's purchase of the property. Regardless of the sites' legal owners—be they private ranchers and farmers or the federal government—differing kinds of ownership were recognized among the basketweavers. Some beds were common property, open to weavers throughout northern California; others were private property, used exclusively by weavers of local descent; while some were kept secret for use by a few individuals (42).

All of the sedge sites were to be inundated by the creation of Lake Sonoma, and basketweavers were vocal about their concern over the loss of these important cultural and economic resources. The Corps's response to their concern resulted in an unprecedented project: the removal and transportation of thousands of sedge plants to new beds downstream of the dam (see Chapter 1).

Early Crops in the Lake Sonoma Area

In the 1840s, rancheros in the Alexander and Dry Creek valleys brought agriculture to the area. The Peñas' agricultural activities were typical of the primarily ranching economy: some corn and grain fields and a small vineyard. A small garden for melons, squash, tomatoes, and other vegetables was usually also planted, but the Mexican Californian diet consisted primarily of corn, beans, and beef. The Peñas, like other rancheros, kept a large number of Indian people on their land, with a village directly adjacent to their fields. When the seasonal chores of planting were completed, the mere presence of people near the fields served a purpose. In 1851 George Gibbs described "swarms of Indians, idling about, or perched on high platforms of poles and bush," whose job it was to protect nearby San Miguel Rancho crops from flocks of crows (43). Indians served as virtually free labor, although some payment was usually made in the form of beef and clothing.

As squatters began settling the Tzabaco land grant, a variety of subsistence crops must have sprung up throughout the Dry Creek lowlands.

Most important to the local economy were the fields of wheat, planted long before farmers gained legal title to the land. In contrast to orchards or vineyards, wheat could be planted with low investment, especially if no land payments were necessary. By the time the land had been subdivided and sold in the late 1850s and 1860s, wheat was the principal crop in Dry Creek Valley, as it was in Sonoma County generally.

The 1860 U.S. Agricultural Census provides some information on three of the earliest settler families—the Boards, Bishops, and Pritchetts—a few years after they first arrived. At that time these families emphasized livestock, not the large herds of the rancheros or of later years, but a sampling of various farmyard species. Only Pritchett is shown as raising crops: he grew a modest amount of wheat, Indian corn, and oats, and a considerably larger crop of barley.

By the time the 1880 census was taken, there was greater, commercial-sized, production among some settlers (44). The Hallengrens, with ample arable land near the Warm Springs/Dry Creek confluence on land they purchased from the Bishops, grew 40 acres of barley the Boards had 16 acres of wheat, while the Pritchetts had 10. Most of the settlers for whom we have information grew apples (from 15 to 200 trees). Several vineyards—from one to three acres each—had been planted, and some were already bearing well.

Not included in the agricultural census were home gardens. As much as a day's round-trip from the markets and the truck gardens surrounding the towns, every farm or ranch would have had a garden providing the family's daily needs. Since most of the families had many children—Sylvester and Malinda Scott had at least 20—some of these gardens must have been extensive.

Differences between crops in the uplands and the upper Dry Creek Valley were not marked during the early decades, but as holdings expanded, land use within the two areas diverged. While sheep ranching became the main economic focus in the uplands, crops in that area remained essentially the same: a family orchard, a kitchen garden, a small field of potatoes, and a few acres of grain raised primarily for livestock. At the head of the valley, however, what was to become the agricultural rage of the North Bay area took hold—the vineyard.

Grapegrowing

Wine grapes arrived in California along with the first Europeans. Due to the sacramental use of wine, a vineyard was a component of every mission. Mission

grape vines were robust growers and good producers, but wines made from them were often said to be dull and heavy. Cuts from these same vines were the ones grown on rancho lands, where wine was a popular drink for all occasions. Few efforts were made to improve strains or techniques of growing and winemaking during the first years of American settlement, until Agoston Haraszthy took up the cause in the mid-1850s.

Haraszthy's widespread proselytizing spurred the planting of grapes on even the smallest parcels. Excited by an agricultural product which could withstand the transportation difficulties of early California, inexperienced men joined the grape bandwagon, and wines were usually mediocre. Grapes were gathered before fully ripe, and green and rotten berries were not picked out; cleanliness was not observed, and the wine was often fermented in barrels which had been used for other purposes and not cleaned; fermentation was not properly supervised; and the wine was hurried to market too early. To bolster the alcoholic content, brandy was often added (45). By the end of the 1850s, the growing United States market for California wines was due more to the low cost of the product than its quality.

When Haraszthy began his experiment in 1856, there were about one-and-a-half million vines in California; nearly half of these grew in irrigated vineyards at the missions and ranchos, the rest in the area of Los Angeles. By 1862, 20 million vines were growing throughout the state. To encourage Californian agriculture as mining activity waned in the gold fields, taxes were removed from wines in 1866; this act brought enthusiastic response, and hundreds more vineyards were planted. In the mid-1870s, a California booster stated that California grapegrowing was "still in its infancy, with the demand increasing every year faster than the population. The planting of vineyards goes on steadily" (46).

The fertile slopes and terraces of the upper Dry Creek Valley were ideal for the grape. First, the red clay soils of the foothills were not only acceptable but ideal and, in contrast to field crops, grapes did better on slopes than on level bottomland. Further, the climate was tailor-made for grapegrowing. For full maturity, varietal grapes require separate seasons of long, warm, dry days and cool nights, followed by sustained rainy weather with some freezing but no temperatures below 10 degrees—a fairly precise

Vineyard in Dry Creek Valley (photo by Adrian Praetzellis)

description of the climate of the Lake Sonoma Area. Many early planters were hesitant to grow grapes without irrigation, but Haraszthy and other early agricultural leaders proved that nonirrigated grapes, grown by "using the plow instead of water," were not only possible but preferable (47). By stirring the ground repeatedly during summer months, moisture was drawn from the atmosphere and experimental plantings flourished in the loose soil. When these vines bore fruit, it was pronounced finer and sweeter than that of irrigated fields.

In the 1860s, just when the North Bay wine industry was accelerating, phylloxera began devastating vineyards throughout the wine region, threatening these new investments. The insect's effects were first noted at Haraszthy's Buena Vista vineyards, where vines exhibited short growth, small and colorless fruit, prematurely yellow leaves, and decayed roots. An attack on the problem was begun years before the exact cause was understood. From the list of remedies tried, it is clear why one wine historian stated that "all resources and stamina were tested" (48):

> coal tar, coal tar and gas lime mixed, carbolic acid, concentrated glycerine, bisulphide of carbon and manure mixed, sulphuric acid and water, J.O. Weatherby's remedy, guano, Hoffman's remedy, Dr. E.J. Fraser's remedy, liquid from tanned skins, liquid from cow and other manure, Deschues rohart, whale oil and copperas (49).

At first it was uncertain whether phylloxera was a disease, a fungus, or an insect. Once the insect was identified, it was recognized that it had been imported along with European vines.

The mid-1870s—a period of general depression for the whole country—were particularly harsh on the California wine industry, resulting in many grapegrowers giving up their vineyards rather than attempting to check phylloxera. But phylloxera did not have the long-term effects on the grape industry that were originally feared; the pest was found to be a wingless variety, and thus geographically contained. Through manuring, continued use of increasingly sophisticated insecticides, and grafting imported varieties onto hardy American roots, the threat had passed by. Although scores of vineyards in Sonoma Valley were afflicted, no phylloxera was officially reported in the Lake Sonoma Area. Grapegrowing within the project area continued to accelerate: the climate was excellent; the vineyards were phylloxera-free; and the grapegrowers were sober, hardworking settlers, rather than short-term investors. In addition, the area's economy had become stimulated when Cloverdale became the terminus of the railroad in the early 1870s, and rapid, inexpensive transportation for agricultural products was now available.

On the 1880 agricultural census, three of the area's residents—Board, Hallengren, and Yordi—reported good yields from their one- to two-acre plantings. These small vineyards of the late 1870s expanded and multiplied by 1893, when the State Viticultural Commission made an inventory of Sonoma County growers. In that year, seven settlers in the Lake Sonoma Area were listed as "winegrowers, " with vineyards from 8 to 20 acres. Contrasting the figures from these two inventories shows the increase clearly:

	1879	1893
Board	1	8
Ferry	0	18
Hallengren	1	20
Hendricks	0	14
Pritchett	0	10
Thomsen	-	15
Yordi	2	17
	4	102

The 1893 report provides the first information on the Thomsen Brothers Winery at the head of Dry Creek Valley; in that year, Nicolai and Johann Thomsen had 10,000 gallons on hand, "all sold but not delivered" (50). That year marked the Hallengrens' first yield from their grapes. A few years later, they ran a winery at the confluence of Warm Springs and Dry creeks (where the dam was completed nearly 90 years later), crushing several tons of grapes at harvest time and hauling out their wine in the spring. By 1911 they had 140 acres in grapes, one of the project area's largest vineyards, and the vines were still in production at the time the federal government purchased the property in the late 1960s.

The greatest threat to the grapegrowing region was Prohibition, which reduced the number of

wineries in California from 700 in 1914 to 100 during the 1920s (51). Most of the failed wineries were small, family operations like those in the Lake Sonoma Area. Although wineries suffered from the Noble Experiment, there were loopholes that allowed grapegrowers to continue while other elements of the industry folded. Home production of up to 200 gallons per family each year was legal: thus many of the state's vineyards were maintained to supply this vast, nation-wide market for fresh wine grapes, which had been created almost overnight, and the price of wine grapes rose to unprecedented levels. Dry laws also permitted the production of wines for medicinal, sacramental, and cooking use, enabling part of the commercial wine industry to remain alive. Medical prescriptions for wine increased tremendously, as a Napa County resident reported: "The doctors in the wine country did their part to help out the industry. You'd be amazed at how many diseases require the treatment of wine" (52). Grapegrowers even experienced a boom for a while, with Sonoma County vineyards increasing from 23,816 acres in 1919 to 28,361 in 1929 (53). As in the early years of the California grape industry, the boom attracted investors whose goal was immediate profit, rather than a superior product. Planting poor varieties in unsuitable areas, these new growers demoralized the industry, sending it into a slump from which it could not recover until after the Second World War.

How Lake Sonoma Area landowners fared through Prohibition is poorly documented. Albert Pritchett switched from grapes to prunes, as many others must have. Will Richards, whose parents had pioneered the area which is now directly beneath the Warm Springs Dam, left a record of his shift in emphasis to prunes during the Prohibition years; prunes and grapes provided an equal income in 1919, but a few years later grapes became incidental, after new prune trees were purchased and set out. The Thomsen winery may have continued producing through the early years of Prohibition, but it had been abandoned, with all equipment still intact, by 1928 (54).

The slow process of legislating Prohibition had allowed affected industries to plan ahead. In fact, some wineries anticipated the end of Prohibition before it had begun: the *Santa Rosa Press Democrat* in June 1919 reported that some Sonoma County winemakers were sending cases of wines, addressed to themselves, to warehouses throughout the country. While some of these stockpiles may have suffered through the 12-year wait, it is likely that many of these wines received premium prices when the amendment was finally repealed. In 1932, when repeal was imminent, wineries began building up stock again, and grapegrowers began planting new vineyards and replanting old. Because many vineyards continued producing through the dry years and 100 wineries remained operating in the state, wine production resumed full scale almost immediately upon repeal.

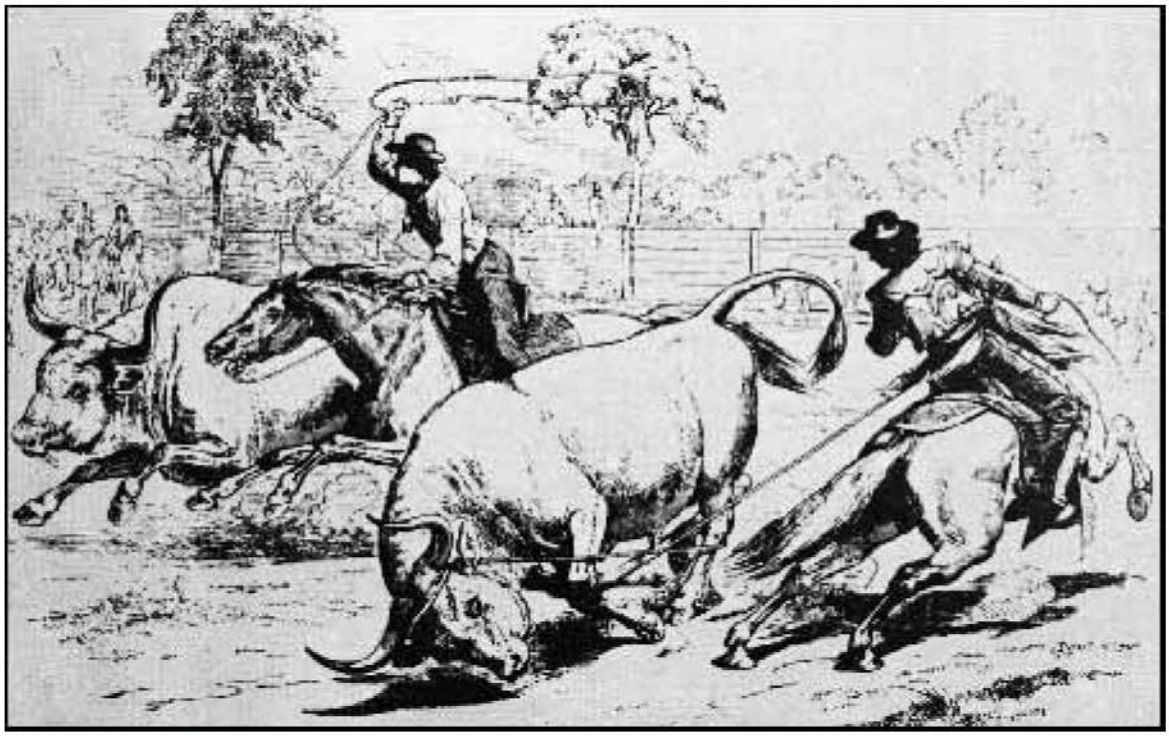
The depression of the 1930s struck a blow to all agricultural pursuits, but grapes and wine—frivolous commodities during such hard times—were especially hard hit. Not until the Second World War and the post-war boom was grapegrowing again a profitable activity. In the 1980s, with more wineries than any grapegrowing area in the state, and with the climate to produce fine varieties not possible in other areas, Sonoma County had became internationally known for its wines, and Dry Creek Valley was well established as a major area of wine-grape production.

DOMESTIC ANIMALS

First Herds

The only animal regularly kept by Native Californians was the dog. In southern California, dogs were often raised for food, but the Mihilakawna and Makahmo had small, prick-eared animals who aided in hunting and provided companionship. Occasionally other animals were kept; there are reports, for example, of caged condors and immature bears. For the most part, however, there was no role for domesticated animals in native California.

With the advent of the missions, livestock began to populate the California landscape. Every mission had its herds of cattle and sheep, along with a few pigs and horses. At first, livestock was raised primarily for the missions' own use. Meat fed the fathers and the mission Indians; hides furnished material for clothing, harness, shoes, rope making, and innumerable other uses, while tallow went into soap and candles and was used as a lubricant (55). Then, in the 1820s, firms from Boston and Britain became aware of the wealth of cattle accumulating at the missions and contracted with the mission fathers for their hides and tallow, thus beginning the trade that was to become the major enterprise of Mexican California. After secularization of the missions in 1834, when Mexican land grants sprang up throughout



Vaqueros rounding up cattle on a California rancho (from R.R. Olmsted's *Scenes of Wonder and Curiosity from Hutchings' California Magazine: 1856-1861*, 1962)

the valleys and along the coast, sheep declined in importance, and cattle herds dominated the landscape.

The huge herds of the ranchos were made possible by the enormous size of the land grants and the minimal requirements of herd maintenance. Land grants ranged from around 1000 to more than 50,000 acres, providing ample grazing. It was not even necessary to confine a herd within these large tracts, since livestock were branded and then allowed to roam free. In place of fencing—requiring a tremendous expenditure in later years under fence laws—the rancheros held round-ups, or rodeos, at which the cattle of different herds were separated out. The Mexican government required that rodeos be held annually; the ranchero was to give his neighboring ranchers four days' notice of the time and place. As a matter of convenience, rodeos were usually held twice a year: one at the end of the dry season for branding and counting young stock, and one in late spring prior to slaughtering animals for hide and tallow as well as some meat (56).

The Peña family clearly kept livestock on Tzabaco, but we have no account of the size of their herds. On the 50,000 acre Sotoyome Rancho immediately east of Tzabaco, Fitch had only 3000 head of cattle in 1846, or one head per 17 acres—a far lighter stocking of the range than was to occur in later years.

The rancho longhorn has been praised for only one attribute—its toughness, which enabled it to survive with virtually no maintenance. With meat of minor importance, the breed's endurance outweighed its tendency to gaunt bodies and unwieldy limbs. The herds were essentially wild and extremely dangerous, one reason given for the ubiquitous horse on rancho lands; it was contended that a person would not survive long going among the cattle on foot. While cattle provided the economic mainstay of the ranchos, horses are said to have been the rancheros' passion, and the reported inseparability of the ranchero and his horse was not based on safety alone. He was said to mount upon leaving his door and was rarely seen on foot, even in pueblos or elsewhere away from herds. Spanish horses, descended from Arabian stock, were described as exceptional animals—tractable, yet high spirited, and with unusual endurance.

With the discovery of gold in the Sierra foothills, the non-Indian population of California leaped from 15,000 in 1846 to 160,000 by 1850. The meat of cattle, which had previously been left for scavengers once the hide and tallow were taken, was suddenly in

extraordinary demand. While the hide and tallow trade had brought only $5.00 per head, it was common to receive $50 to $100 per animal at the gold diggings and, in time of scarcity, as much as $500 per head. Rancheros responded by increasing their herds, while many outsiders drove herds of cattle and sheep—almost worthless back home—from Mexico, Texas, and the Midwest. William Board, who later became a pioneer of the Lake Sonoma Area, was among those enterprising men, driving cattle across the plains from Missouri in the 1850s. From the estimated 300,000 cattle in California at the time gold was discovered, California herds had risen to the 1,234,000 head reported in the 1860 census or, more likely, to as many as three million (57).

Early Settlers' Livestock

Profits from livestock sales to the mines decreased with the growing supply, but the trade remained brisk for some time, and 1850-1860 has been referred to as the Age of Cattle in California. Due to the high prices in the West, most of the new settlers brought their livestock with them over the plains. An 1857 Santa Rosa newspaper remarked on the new immigrants:

> Almost every day, we notice more or less immigrants or recent arrivals, passing through our place on their way to the Russian River Valley. A large number of cattle have been brought in by them, which will add largely to the wealth of our county (58).

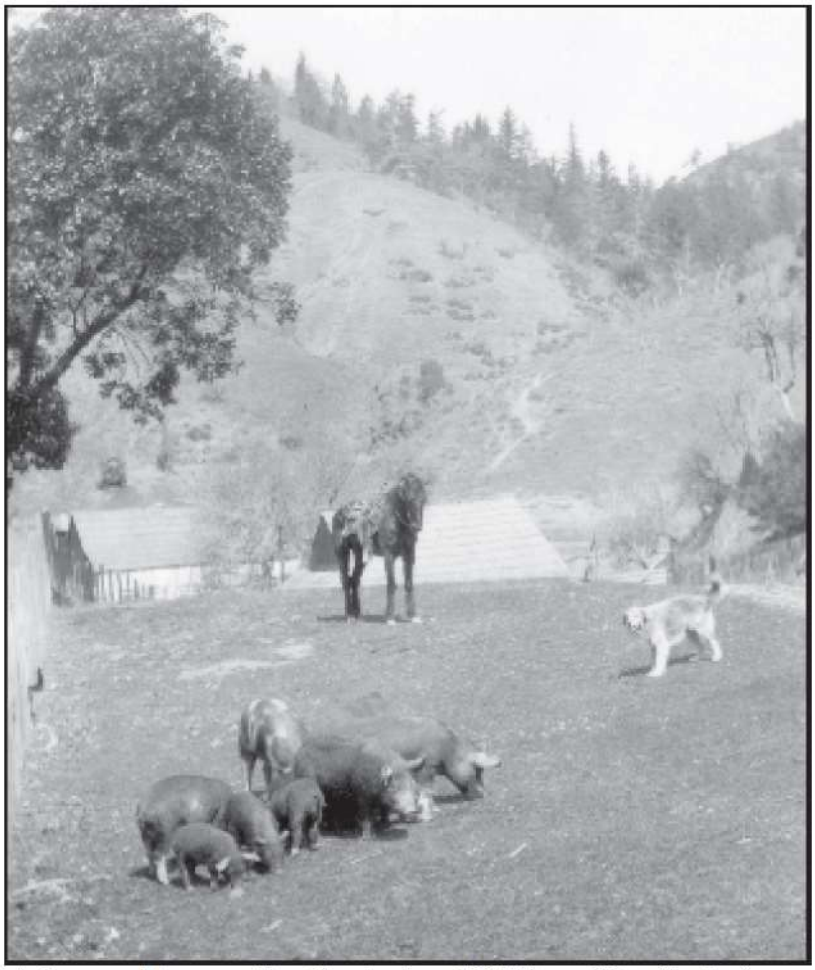
During the early settlement of the Lake Sonoma Area, however, domestic animals were rarely accumulated into large herds. Instead, family needs were met and, in a few cases, small commercial herds were kept. The following figures, extracted from the agricultural census of 1860, show a fairly wide range of livestock for the three known early Lake Sonoma Area settlers:

	HORSES	MULES	COWS	OXEN	CATTLE	SHEEP	SWINE
BOARD	8	1	45	-	100	3	15
						VALUEOFSTOCK	$3707
BISHOP	2	-	27	2	33	-	12
						VALUEOFSTOCK	$2495
PRITCHETT	2	-	6	-	13	3	60
						VALUEOFSTOCK	$855

The large numbers of milk cows kept by Board and Bishop, both living near the Warm Springs/Dry Creek confluence where level pasture was available, would suggest that they ran small dairies. Board, with his cattle, and Pritchett, with his swine, must have been supplying meat for sale. The rest of the animals probably represent varied subsistence farming. These enterprises were typical of the general area: only slightly more than 2000 beef cattle were reported for the whole Mendocino Township (taking in Healdsburg and Dry Creek Valley) in 1860, and the total sheep population numbered less than 900 (400 owned by one rancher). The most popular farm animal in the township was the hog, which numbered nearly 4000 head in that year.

The cattle industry of California soon suffered a devastating setback. Beginning with a drought in 1859-1860, there followed the record floods of 1861 and 1862, which drowned or starved whole herds of cattle. The severe drought of 1862-1864 took the final toll. Altogether, 200,000 to 1,000,000 head had died, as much as a third of the state's beef cattle, and hundreds of ranchers were bankrupt. California stockraisers had not been prepared for the disaster, partly due to promoters' claims that cattle in this part of the country needed little maintenance. Many ranchers found themselves without a bale of hay or a barrel of water in reserve to save their herds. Most valley ranchers became farmers, joining the California wheat boom, while livestock raising was pushed to the foothills. In the uplands of the Lake Sonoma Area, however, ranchers may have actually benefited from the drought. Residents of Cloverdale Township (including the Dry Creek uplands), where ranching dominated, gained considerably in personal wealth between 1862 and 1865, while the residents of the farming community in Mendocino Township suffered economically. The well-watered, still pristine grazing land in the uplands may have encouraged a rapid increase in herds at a time when meat was selling at premium prices (59).

Little is known of this experimental period in the history of Lake Sonoma Area ranching. While bottomland farmers, such as Board and Pritchett, carried out the diversified regime of the Midwest, some of the upland settlers, like John Ferry, had begun to accumulate cattle. But by the early 1870s, sheep had became the dominant livestock; the Mendocino Township sheep population had soared from 900 head in 1860 to 3657 sheep 10 years later. In contrast, only slightly more than 600 range cattle



A farmyard in upper Dry Creek, circa 1900 (from GM collection)

remained in the township. Were the Township's cattle the victims of drought, with nearly three-quarters of the stock dying from lack of food or water? Or did ranchers willingly and gradually reduce their herds, slowly replacing their numbers with sheep? No records for individual ranchers exist for this period, and we have no account of how the rangeland came to be dominated by sheep.

The Dominant Sheep

Although a few ranchers in the uplands, such as Sylvester Scott and John Ferry, continued with herds of cattle. Most of the Lake Sonoma Area was becoming sheep country. The change may have been gradual, but lack of documentation makes it appear abrupt: there is a jump from the 1860 count of three head each for Board and Pritchett to a few hundred sheep on most ranches in the mid-1870s (60). By 1880, even John Ferry, the cattle raiser, had more than 1000 sheep.

It is not surprising that sheep became the preferred livestock here and throughout the North Coast Ranges. Sheep require a lower investment per head than cattle, and twinning is more common in sheep, so that flocks quickly multiply. Sheep also need less water, a lesson learned from the drought of the 1860s; they require fewer, less sturdy, fences; and they take well to the rugged terrain of the area. In fact, nonirrigated, upland pasture is particularly desirable, because sheep are liable to parasites and foot rot on poorly draining soils. This is "short-grass country," according to one local rancher, and therefore not good for cattle. While sheep require only four pounds of fodder a day, a cow needs three times that amount; in order to survive on short-grass country, cattle must move constantly in search of food, burning off the calories they consume.

The general economy also dictated the shift to sheep. Mutton had a ready market at the Sierra mines through the 1850s, but the demand for food at the

diggings had plummeted before the end of the decade. Although California towns and cities were growing, the population failed to increase at a rate that would warrant large-scale food production. There was always some market for slaughtering sheep for food, but mutton—not lamb—was preferred. Archaeological investigations at the Skaggs Hot Springs Hotel indicate that leg of mutton was consumed nearly as often as beef. Even at the homes of Lake Sonoma Area ranchers investigated by archaeologists, no lamb bones were found, but mutton was represented in the remains (61). With the preference of mutton, meat was only a by-product of the sheep industry, a result of culling herds. Since wool was the primary product, sheep ranchers were generally referred to as woolgrowers.

The Civil War gave sheep raisers a new market, and the number of sheep rose rapidly. The war had deprived the Union states of southern cotton and created a demand on both sides for low-grade wool for blankets and uniforms. So many ranchers had joined the woolgrowing boom, both in the United States and abroad, that the end of the war brought glutted markets and depressed prices. Then a tariff imposed in 1867 stifled foreign competition, and flocks continued to expand. There seemed no end to the amount of wool the country could consume. The per capita consumption of wool was high in the 1870s and 1880s, when voluminous skirts and sleeves were in vogue. Before central heating and enclosed automobiles woolen underwear, socks, overcoats, mufflers, mittens, and wool buggy robes were necessities, while men's broadcloth had to be made from the fine wool of the Merino sheep.

Despite the demand for fine wool, early California sheep raisers were often more intent on increasing wool yield than wool quality, and many of the early clips were inferior. In fact, one critic in 1862 stated that, despite improvements, the condition of many California wool clips indicated "either culpable negligence or intended fraud. The time has gone by when the sweepings of the corral or the barnyard can be sold for wool" (62).

Ranchers in the Lake Sonoma Area appear not to have made an effort to improve stock in the first years of woolgrowing: all tax assessments in the area until 1880 were made on common sheep. Sylvester Scott, who showed an interest in upgrading cattle and horses, was also the first settler reported to own improved breeds. He bred 10 imported sheep in 1880 to his band of common ewes, resulting in 1100 graded sheep three years later. Later records do not discriminate between graded and common, but local ranchers recall that upgrading with strains of Merino sheep became common in later years. Animals of this breed not only produced exceptional wool, but their hardiness was particularly well suited to the North Coast Ranges, and the flocks prospered.

Problems with wool quality were not limited to choice of breed. Californians' rather lax attitude toward cattle extended to sheep, who were rarely husbanded with the care administered in other states. Elsewhere, herds were fed hay during winter, and shepherds lived with the flock, giving care when needed. In California, the herds were expected to subsist on natural vegetation whatever the food value, despite the fact that the leanest season—from July to January—coincides with the period of breeding and gestation. As early as 1863, the State Agricultural Commission was pleading with woolgrowers to provide some supplemental feed during these crucial months, to rotate stock within enclosed tracts, and to break up large flocks and distribute them among more diversified farmers. Just 25 cents per head could bring the flock through a severe winter, ranchers were advised. But ranchers did not take heed: more and more sheep were put to increasingly deteriorated rangeland. Lands originally stocked at 5 acres per head required 10, 12, and even 20 acres per head within a few years.

As rangeland quality decreased, more and more land owners in the Lake Sonoma Area sought to increase their holdings. Before buying up new tracts, the rancher's first task was to clear as much of his initial acreage as possible. This he did by cutting or girdling trees in much of his forested holdings. Controlled burning, a more beneficial method of increasing grazing land, was also practiced; but burning was dangerous and illegal, and an expert was required (63).

During the peak years of the 1880s, sheep ranching was a profitable business. Expenses ran less than 50 cents per head, while fleeces sold for $1.50, and additional income came from the occasional sale of mutton. Woolgrowers were confident, and herds were expanded. But a significant financial setback could come unexpectedly through loss of stock from "stress of weather": in 1879, some ranchers in the Dry Creek uplands reported losing more than 50 percent of their flocks from this cause. Lambing

Hauling sacks of wool in Cloverdale, 1913 (photo courtesy of the Sonoma County Room, Sonoma County Public Library, Santa Rosa)

season, according to rancher Orville Baldwin, was "filled with anxiety and sometimes crowded with tragedy" (64). Lambs were born between January and early March, when near freezing wind and rain were not uncommon. Storms frightened the flock, scattering the sheep; some lambs were trampled to death in the stampede, while others were permanently separated from their mothers. When flocks were well tended, such losses could be reduced; many ranchers kept a constant watch on the range, gathered up ewes in bad weather, and sheltered them during lambing.

The only detailed record of 19th-century ranching practices in the Lake Sonoma Area is a calendar-diary kept by George C. Matthews during the first seven months of 1896 (65). "Went over range" is a weekly notation on the calendar in the winter months, while "went after sheep"—presumably those who had strayed off the property—is a recurring entry. At the beginning of March, Matthews' sheep were gathered up; the ewes and lambs were separated, and 400 lambs were "Marked" at the beginning of April. Sheep shearing occurred in June, when Matthews and a hired hand sheared more than 500 head over a three-week period, bagging the wool and hauling it to Cloverdale at the end of the month. When the sheep were put back to pasture, "went over range" again appears on the calendar. In the years when flocks and ranges were relatively small and labor was provided by the family or a low-paid ranch hand, the careful tending exhibited by Matthews may have been the rule. As operations grew, more hands were required to cover the range and maintain the sheep. When labor costs rose, shortcuts were taken. On many large ranches, the sheep were only seen when marking lambs and shearing wool. Reduced care resulted in large lamb losses, which in turn required ever larger flocks to maintain profitability.

Adding to this circular problem was the rise of predators in the Lake Sonoma Area. The large number of predators in the area when Euroamerican settlers first arrived were quickly reduced through the rancher's pleasure in the hunt. Holding the population of predators in check was serious business, but it was also a time to experience the excitement of the chase, to test the skills of prized hunting dogs, and to appreciate the habits and intelligence of wild animals. Signs of predators were watched for and quickly responded to. Neighboring ranchers joined in the

hunt, which could continue for several days. With the advent of larger ranges, predators often went unnoticed, leaving behind the carcasses of slaughtered lambs. By the turn of the century, coyotes had become a serious problem. Ranchers in Cloverdale Township banded together to create a coyote bounty fund; the ranchers were to pay trappers for each coyote killed on members' land, but disputes sometimes arose, and payments were slow. A rancher in charge of administering the fund wrote that it was easier to kill the coyote than to collect the payment (66). An all-out, government-sponsored attack was instituted in 1919, but coyotes showed remarkable resilience to the program; as one rancher described it, the attempt to exterminate the coyote was like "digging a hole in the ocean."

Several problems in the sheep industry caused the decline of sheep in the Lake Sonoma Area: wildly fluctuating wool prices due, in part, to tariff changes; a general depression in the 1890s; deteriorated rangeland which required greater acreage for the same sized flocks; and reduced maintenance which resulted in loss of lambs.

After a severe slump that saw several Lake Sonoma Area ranchers bankrupt (see Chapter 8), a revitalization of the sheep industry occurred in the late 1920s, when a change in American tastes made lamb an important item on the table: now wool, not meat, became a by-product of sheep ranching. Ranchers in the 1930s responded to the new market by shifting from raising three- to four-year-olds primarily for wool, to selling four-to six-month-old milk lambs for meat. California had a competitive advantage; because the relatively mild winters allowed early lambing, meat could be shipped to eastern markets in early spring. The war years saw a drop in sheep population, but by 1950 Sonoma County sheep production had surpassed the 1880 peak. The following figures, extracted from U.S. Census records, demonstrate the dramatic rise and fall of the sheep population in Sonoma County:

1860	35,589	**1910**	65,315
1870	58,387	**1920**	62,846
1880	156,554	**1930**	147,916
1890	74,604	**1940**	84,921
1900	49,126	**1950**	158,393

The years from the turn of the century through the 1950s marked the era of the huge sheep ranches, run by corporations, which covered much of northwestern Sonoma County. The corporations justified the large spreads on economic grounds. Casper Ornbaun, chief investor in the Rockpile Ranch Corporation, described the reasoning:

> One thing that may impress you is the fact that all of those purchases consisted of large ranches. This is one of the reasons that our operations were successful. One of my reasons for purchasing ranches of the size of these was to cut down expenses. I found that two good men could handle two or three thousand sheep almost as cheaply as they could handle one thousand or fifteen hundred. And it was my idea to run on each ranch the maximum number that could be handled (67).

Some small-scale ranchers held out; to these men, breaking even was sufficient. More important than profit was knowing the land, the stock, and the sheep dogs that were a part of every operation. Asked why he chose sheep ranching, one former owner of a ranch near Skaggs Springs stated: "Darn if I know. I always liked sheep. Some years they was good and some years they wasn't. Some years I had to cut wood to earn a living" (68). But even this simple lifestyle could not be maintained by the 1960s and 1970s. Despite rising wool and lamb prices, most sheep ranches could not be operated at a profit, and the county's sheep population fell below that of 1900. At the time the federal government purchased land for Lake Sonoma, sheep raising was the major economic activity in the uplands, although most operations were said to be running at a loss. Families could not live on the income from sheep ranching; instead, ranchers made their living from a variety of other activities in San Francisco or nearby Sonoma County towns. Some ranchers experimented with a return to the area's original range animal, beef cattle, which had a better chance of surviving predators. Even after Warm Springs Dam was completed and Lake Sonoma formed, private land bordering government property still included a few large sheep ranches.

Coyote carcass displayed on fence as a warning to others of its kind (photo by Karana Hattersley-Drayton).

Before Lake Sonoma–the upper Dry Creek Valley prior to the construction of Warm Springs Dam

CHAPTER 5

A HOLD ON THE LAND

INTRODUCTION

On the signing of the Treaty of Guadalupe Hidalgo in 1848, all undeeded land in California became part of the public domain of the United States. More than a century later, from 1967 to 1973, the upper Dry Creek Valley and surrounding hills became government property once more, purchased by the U.S. Army Corps of Engineers for the Warm Springs Dam-Lake Sonoma project. Between these periods of government ownership, and long before there was a U.S. Government, other groups used the area, claiming various portions of it according to their diverse customs. We do not know how the first Southern Pomo groups gained ownership, but for an unknown length of time those people held the land and its resources communally. In the 1840s, Mexican citizens who sought official title to grants of land began the relatively brief process of dispossessing the local Indians. In the following decade, squatters, including many disenchanted miners, descended on the area fired by their Jeffersonian belief that every man was entitled to his own piece of land. Soon the more desirable sections were parceled out by the government, leaving much of the hill country to unsanctioned use by local ranchers until the first decades of the 20th century. With hard economic times and the ascendancy of large-scale commercial agriculture, many small operations were bought out. Throughout this process, the area's family farms became conglomerated into a few huge ranches that were themselves eventually swallowed up by an even greater force—the U.S. Government.

To understand the systems of land tenure that existed in the Lake Sonoma Area, we must look in detail at two aspects: the idea of land tenure itself—how it was conceived of by succeeding waves of settlers—and what these people believed to be the bases of individual and group rights to the land. Since the story of California's settlement often involved the forcible displacement of one group by the next, it is revealing to look at the beliefs that allowed these people to rationalize their behavior. These questions are closely associated; in fact it is the link between belief and behavior that is the underlying subject of this chapter.

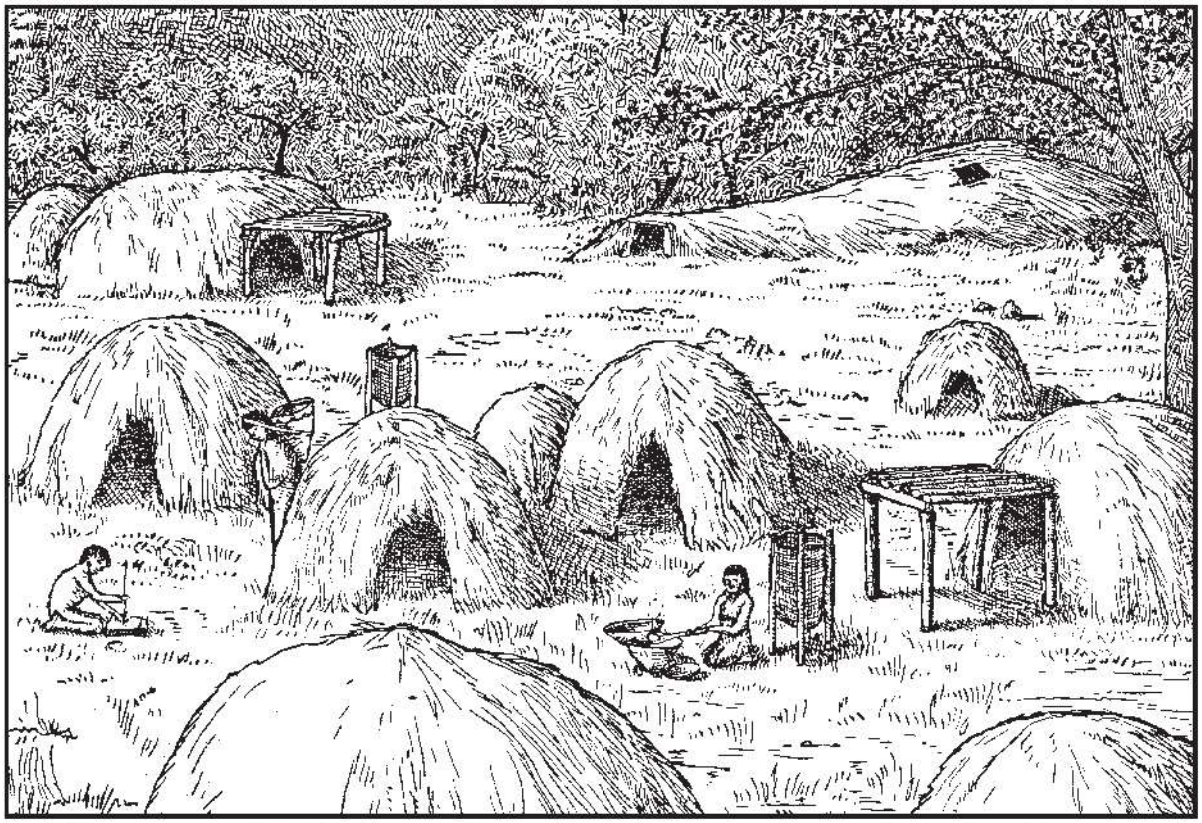
INDIAN LAND

Before the coming of the Spanish, aboriginal California was a particularly densely populated region of North America, its people numbering an estimated 150,000 to 300,000. As many as 100 languages were spoken by the numerous groups that occupied the territory. Some neighbors spoke mutually intelligible dialects of the same language; other groups shared borders with peoples whose speech was entirely different from their own.

California was as diverse culturally as it was linguistically. These differences in group values and organization were reflected in the variety of native beliefs about property and the concept of land ownership. Anthropologist Alfred Kroeber wrote extensively on the political organization of various California Indian groups. One of the most important differences that he noted between them was the relative degree of individuality or, conversely, community identity felt by members of different groups (1).

Among northern California groups such as the Yurok, the ethic of individuality was very strong, and its effects could be seen in many aspects of society. They recognized or admitted duty to no group larger than their immediate kin. Kroeber succinctly described the Yurok community as "an aggregation of individuals," having few of the characteristics of a "society" (2). Under this atomistic system, the community held no claim to the land. Property rights were held exclusively by individuals and families and could be bought and sold for sums of general-purpose money in the form of strings of dentalium shells. The land itself, stream frontage, and the right to collect animal and plant resources, including productive acorn and seed tracts, could be disposed of in this way.

This social system contrasted markedly with that of Pomoan groups, including those who occupied the project area. These people were organized in political units called tribelets, each of which consisted of several villages and a principal town. Village



Artist's impression of a Lake Sonoma Area village; the ceremonial roundhouse is at the upper right (drawing by David Hjul)

residents recognized both their local "headman" and a "captain," who, in council with the local leaders, had limited authority over the entire group. In their attitude toward the land and its bounty can be found an even greater expression of the Pomoan feeling of community, for within community boundaries all members had access to hunting, gathering, and fishing areas, although some choice spots were controlled by families and individuals. The tribelet's land was considered to be the exclusive property of the group and was actively defended from trespass.

MISSIONS AND RANCHOS

In the mid-1700s, Spanish missionaries began their 60-year crusade, which was to climax in the construction of 21 missions reaching from San Diego to Sonoma (3). Under Spain, California was divided into four districts, each of which had its own administrative, judicial, and military center, the presidio. On arrival in an area to be missionized, the priests, backed by soldiers from the presidio, rounded up the local Indians and proceeded to instruct then in the Christian religion and set them to work on construction and agricultural projects. Under Spanish colonization laws, the church could not claim ownership of the land it controlled, since the missions were not officially viewed as permanent establishments. As neophytes, the Indians were not full citizens and consequently they too had no right to own land. Theoretically, it was the job of the priests to Christianize the Indians and educate them in the ways of "civilized"—that is, European—life so that within a few years they could assume the position of colonial citizens. It was expected that Indians would adopt a southern European-style, village-based way of life on becoming citizens, and so become incorporated into the economic system of the Spanish colonial world. In reality, the missions controlled, in effective ownership, vast tracts of land along the California coast, the sphere of influence of one mission extending as far as that of the next. Although the program of economic transformation and Christianiziation of California's Indians was, for the most part, a miserable failure, the missions themselves thrived and became wealthy, while the neophytes fared poorly.

Plans to secularize the missions were begun after the Mexican Revolution of 1821 but were not carried out until 1833-34. Despite the revolution, Mexican law pertaining to colonization remained largely as it had been under Spain. The mission system was still viewed as a temporary condition, lasting only until the natives could take their place in the new religious and economic order of things; then the land would be declared public domain and conversion to private ownership could begin. To accomplish the latter goal, beginning in 1835, the Mexican governor of California radically stepped up the distribution of large grants of land, known as "ranchos," to eligible persons who would cultivate and occupy them. Between 1833 and 1842, over 300 ranchos were granted. During this same period after secularization, the number of mission-living Indians was reduced considerably, as many of the former mission dwellers returned to their traditional lands. Others went or were taken to work for the rancheros (4).

In one such land grant, awarded in 1843 and known as the Rancho Tzabaco, José German Peña, a Mexican ex-soldier, received much of the Dry Creek Valley. Peña's "diseño"—the map filed with his petition to Mexican Governor Micheltorena—shows the limits of his rancho (see Chapter 4). There is little doubt that Peña made use of the entire Dry Creek Valley for grazing land for his cattle and horses, although during the 1850s a U.S. commission declared that the grant ended at the junction of Warm Springs and Dry creeks. Peña's diseño also depicts several features, including a representation of what may have been the native village of Ahkamodot, indicating that members of the lower Dry Creek Pomo still occupied a principal village, in spite of the expropriation of their land.

THE AMERICAN SQUATTERS

At the close of the Mexican War in 1848, the Treaty of Guadalupe Hidalgo officially ceded California to the United States. Under these terms, the status of privately owned tracts of land was to be similar to that within the Louisiana Purchase: the rights of landowners were to be respected and their titles confirmed, but undeeded property became part of the public domain.

With the discovery of gold came a massive increase in California's population. The western half of the state was deserted almost overnight as would-be miners flocked to the gold fields of the Sierra Nevada. But the period of easy and profitable mining was short lived. By the early or mid-1850s, many people had begun to turn their attention from the elusive rewards of gold mining to agriculture. To their dismay, however, these new settlers did not find California untouched—or unoccupied. Writing in the early 1850s, sometime Sonoma County visitor Frank Marryat explained what they found:

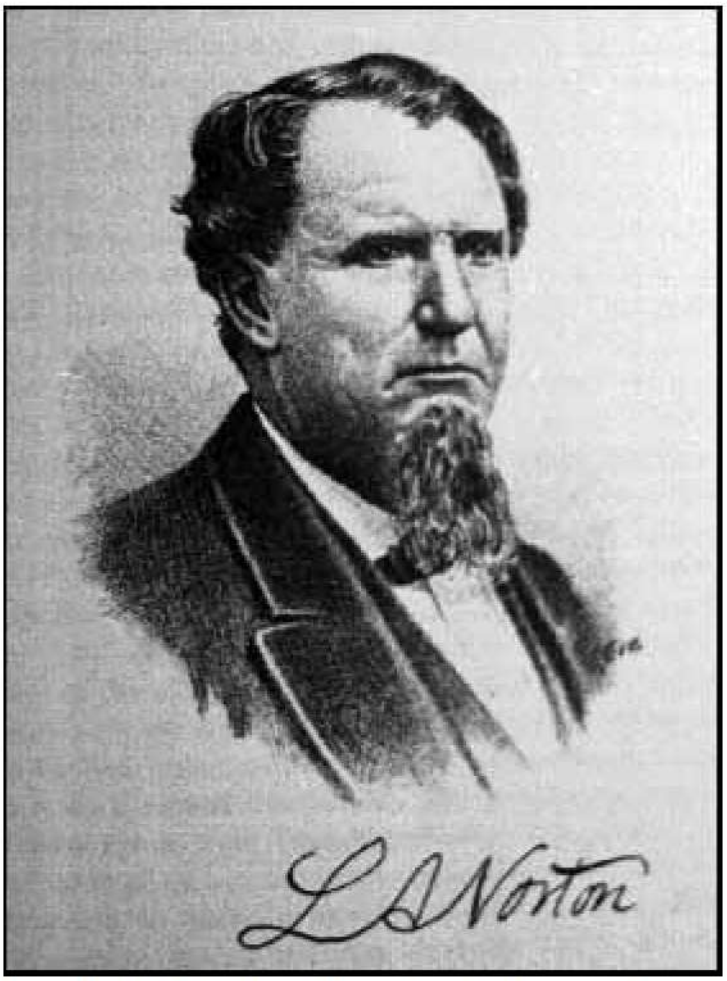
> The Americans, on their arrival in the country, had the mortification to discover that nearly every foot of arable land was private property, and that there remained nothing but barren hills and swamps to settle on (5).

The obstacle in their way was the ranchos. The rancheros' extensive holdings did not conflict with alternative uses of the land when the state's population was relatively small; but the situation changed with the influx of land-hungry Americans, who were angered by the unequal distribution of land.

For the would-be settlers, hope arrived with the establishment in 1851 of the U.S. Land Commission. The commission's function was to examine the title to all Spanish and Mexican deeded land in California and to determine which of these claims were valid and which lands would be opened for settlement. It was several years before the commission ruled on all 813 cases that were brought before it; of these, 604 were confirmed and the rest either denied or withdrawn. Yet even the commission's binding decisions did not end legal challenges to those who based their claim on Spanish or Mexican grants (6).

These cases often dragged on for many years, eventually bankrupting the landholders; they could not sell their land while its title was contested, yet they had to pay for years of legal fees. In 1858, Peña's heirs sold most of the rancho, which had been confirmed by the Land Commission, to a real-estate agent. It is likely that the Mexicans felt that selling out was their wisest course, as the alternative was probably to have the land overrun by squatters.

The popular response to the validity of the rancheros' claim was rapid and unequivocal. According to Marryat, the Americans "squatted where they pleased on the Spanish ranches under the plea that the land commissioners might decide the grant on which they were to be illegal" (7). The squatters righteously justified their claim to the land over that of the rancheros, whose feudal-like system,



Land attorney L.A. Norton (from Munro-Fraser's *History of Sonoma County*)

they protested, was entirely incompatible with the democratic tradition of the United States. Many claimed that their right to the land was assured under the 1841 federal law that allowed settlers to occupy as yet unsurveyed portions of the public domain and gave them first refusal on its purchase. Although the law, in fact, gave them no such privileges on land grants, many felt that their occupation was still morally justifiable, in spite of being legally dubious. L.A. Norton, a Healdsburg attorney who made his reputation settling disputes between squatters and landowners, defended the squatters:

> Most of them, in my judgement, were honest in their convictions that the claimants either had no title to the lands, or if they had a title it was fraudulent, and that many of them today [1880] are among our most respected and prominent citizens (8).

When Norton opened his Sonoma County office in 1857, squatters were occupying most of the Russian River and Dry Creek valleys, including Peña's Tzabaco grant, despite its confirmation by the Land Commission. Norton soon discovered that squatters did not recognize legal decisions made by officials in San Francisco when these decisions went against their interests. On one occasion, in about 1857, when Norton called out the militia to enforce eviction, the soldiers found themselves confronted by a party of either 1000 or 2000 armed squatters—the account is unclear as to the exact number. Fortunately, both sides withdrew without injury. Norton's next attempt to displace these people was more subtle; seeing that direct force was not the answer, he "went to work hauling off the fencing from the farms on the west side of Dry Creek, thus rendering the land useless" (9). Happily, Norton was able to negotiate a mutually acceptable deal with the squatters, who ended up purchasing "their" land from its legal owners.

The briefness of the squatters' reign in Sonoma County, as well as its illegality, resulted in an ambivalence toward the study of this phenomenon by some historians during the 19th century. Squatterism, and the organization it involved, was taken to be a mere historical aberration, a fleeting lawless phase in the settlement of the West with no lasting practical significance. Others engaged in extensive research to show that squatters' organizations

> stand for the beginnings of Western local political institutions. They were the first government of the pioneer. They are fountains of that spirit of Western democracy that permeates the social and political life of America during the nineteenth century (10).

Squatters' associations, or land-claim clubs, were common features of the 19th-century western frontier. They are known to have existed in several midwestern states as well as among squatters on California ranchos, including the Bodega and probably the Sotoyome ranchos in Sonoma County. The associations evolved in the absence of governmental regulating agencies in order to uphold the bona fide settlers' rights to their land without the necessity of legally accepted title. Far from being a lawless mob, the association members themselves were often representatives of the law. The membership of one such organization in Iowa included a territorial governor, a delegate to the state legislature (subsequently chief justice of Iowa and California), and a judge; in Sonoma County, one Healdsburg squatter was also a justice of the peace.

The clubs were highly structured, having a variety of elected officers and formal constitutions. Their aims were quite standardized: that settlers could buy the farms they had established on government land without threat of being outbid by speculators or claim jumpers. The rules of the association specified the amount of land to which each claimant was entitled and the improvements and residence requirements necessary to hold a claim. Association "judges" settled disputes between settlers and regulated the buying and selling of claims. Court judgments were said to be "final, fatal, and eternal" (11). Those who did not abide by the associations' rules were socially ostracized. This could be quite serious for the violator, for in those times people often had to rely on their neighbors rather than on government agencies or other organizations when they needed help. Bidding against the occupant of a parcel at the government land sale could be dangerous. The following dialogue indicates the power of the land club:

> "But if [an outsider] buys your claim, what will you do?"
>
> "Why, I'll kill him; and, by agreement of the settlers, I am to be protected, and if tried, no settler dare, if on the jury, to find a verdict against me" (12).

In comparison with the midwestern clubs, very little is known of the structure or organization of squatters' associations in Sonoma County (13). Although newspapers from the 1850s and early 1860s report the ouster of illegal settlers from private land, squatters are represented in a biased light, and it is difficult to determine the groups' resemblance to those of the Midwest. The evidence of the county's squatters that survives indicates that their "secret leagues" were widespread. The reportedly secret nature of the local associations is an interesting contrast to those of the Midwest, which published their proceedings openly. This is most likely due to the differing legal status of the land they claimed, for while the settlers of Iowa and Illinois took government land, many of California's squatters occupied the ranchos. L.A. Norton provides evidence for the existence of a squatters court in his reference to "Judge" Forsee, an acknowledged squatter leader; Forsee was neither a county judge nor justice of the peace. Contemporary newspaper articles mention the "Chairman" of the Bodega Rancho "Settlers League," indicating that this league had a hierarchy similar to that of the midwestern prototypes. This reference suggests that Sonoma County's squatters were organized by rancho for the purpose of supporting members' rights against individual grant owners. Both the numerical strength and level of organization of the county's squatter organizations are most dramatically shown in Norton's account of the mustering of 1000 or 2000 squatters to oppose a mass eviction. Considering that the total population of Sonoma County at that time was well under 12,000, and even granting Norton a liberal margin of exaggeration, it is clear that the squatters constituted a sizable proportion of the county's residents (14).

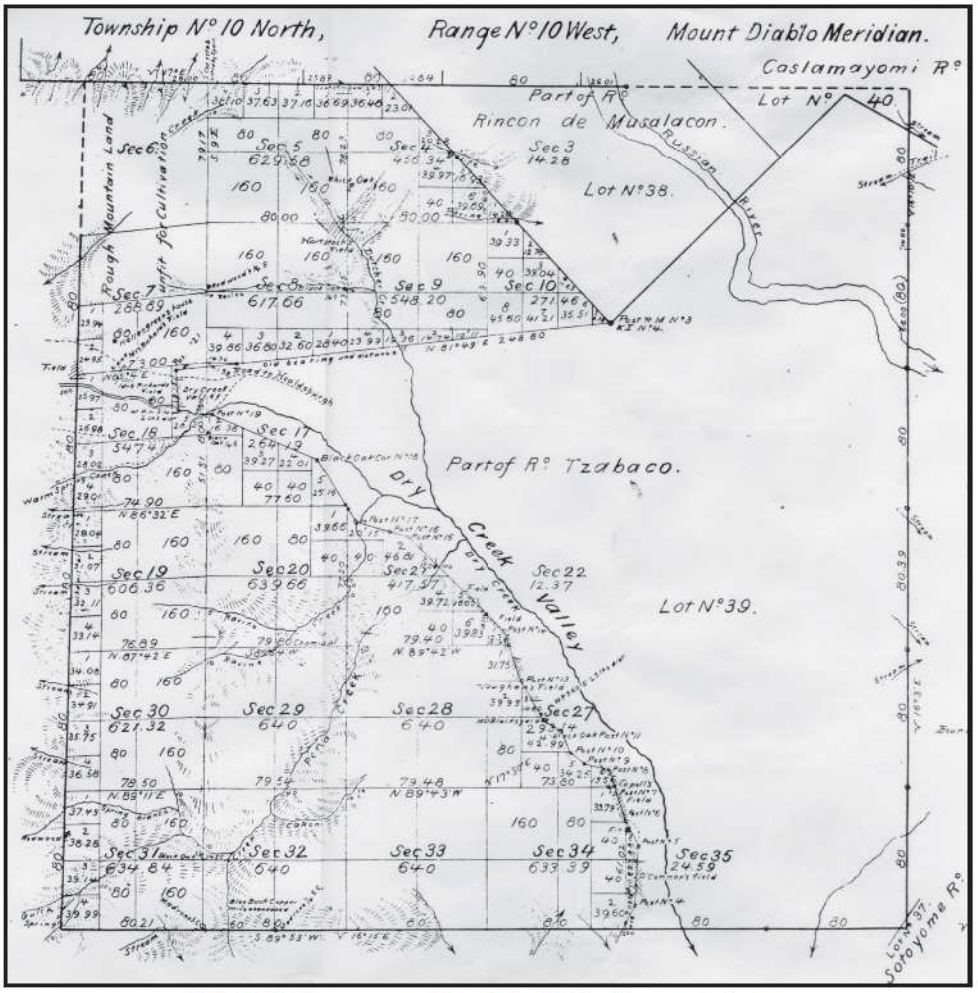
SETTLING THE PUBLIC DOMAIN

In contrast to the confusion surrounding the ownership of rancho land, for a would-be settler to gain title to government land in the Lake Sonoma

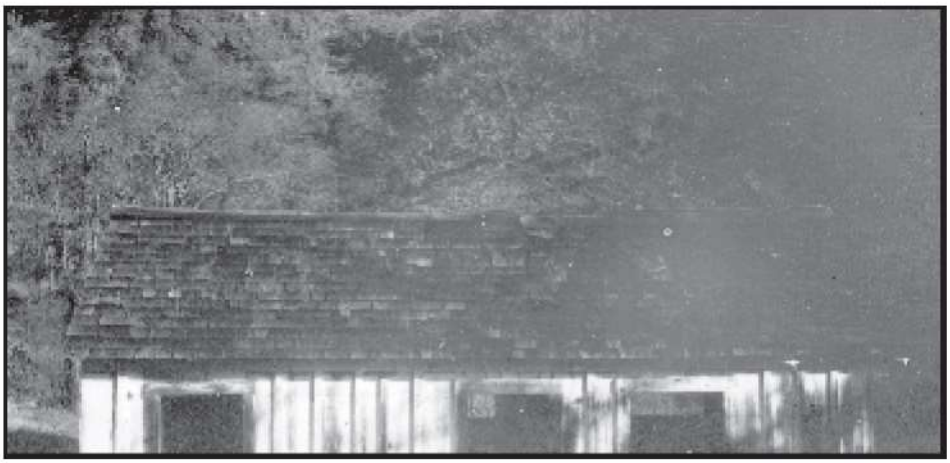
Area during the 1850s and 1860s the procedure was clear: under the law of preemption, settlers could legally occupy up to 160 acres of land, which they could later purchase at $1.25 per acre (15). The passage of the 1862 Homestead Act allowed settlers to take up 160 acres of public land, which, after five years' residence and cultivation, would be deeded to them at no charge. But before public land could be purchased or even homesteaded under the 1862 act, it had to be surveyed.

The immense job of generating subdivision maps of the public domain, thereby providing the basis for legal title by private parties, was undertaken by the General Land Office (GLO). Surveyors contracted by the GLO used the U.S. Rectangular Survey System, under which land is divided into six-mile-square townships (not to be confused with political townships), which contain 36 one-mile-square sections. Sections are divided into quarter-sections, and these in turn into quarters. Thus the smallest identifiable parcel under this system is the quarter-quarter or 40-acre subdivision. Until 1912 four quarter-quarters, or 160 acres, was the maximum and standard parcel size that could be obtained at any one time from the GLO. The GLO surveys were not intended to provide topographic descriptions of the land but to create legal boundaries. These boundaries are the basis for land titles and cannot be changed, even if found to be technically incorrect (16). Thus some township sections are not and never will be one-mile square, due to the difficulty of surveying rugged terrain.

Most of the legal problems facing settlers of the public land arose out of the size limit imposed on their claims by the Preemption and Homestead acts and the tenuous ownership rights to their land improvements.



1874 GLO survey plat of the Lake Sonoma Area



A "homestead" cabin in the Dry Creek uplands (from GM collection)

While 160 acres of well-watered eastern agricultural land or even prime Dry Creek Valley bottomland was adequate for the support of a farming family, in much of the arid West larger holdings were needed. The problem was especially acute in the hills surrounding the Dry Creek Valley, where successful cultivation would have been possible only with irrigation. Cattle and sheep raising were the only potentially viable forms of agricultural production, yet they required several acres per animal, and profitable operation was not possible on a mere 160 acres.

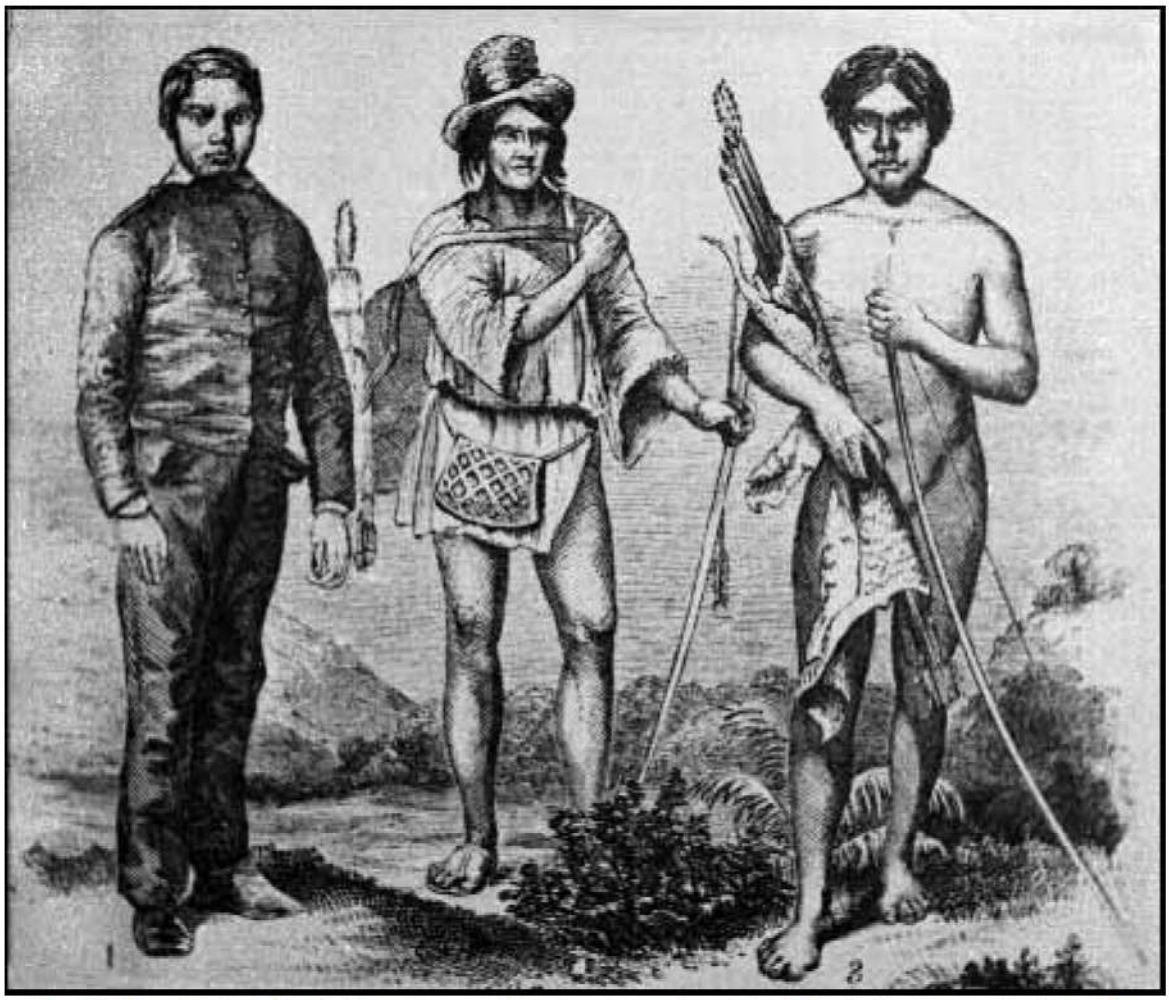
In response to this situation, the hill country ranchers simply claimed, ostensibly under the Preemption Act, tracts that were much in excess of the legal limit; some considered the acreage their own to the point of paying tax on it. Although these people held no legal claim whatever to "their" land at a time when the county was overrun with squatters, they were nonetheless able to maintain control over large tracts. It is clear that land was held by the rights of possession and use, which were morally binding considerations despite their dubious legal status. These rights were supported by the implicit agreement of local landholders in much the same way that squatters on the ranchos upheld each other's claims. The ranchers used the widespread confusion over the Preemption Act to discourage other claimants and to assert the legality of their own claims. With many deeds not officially recorded, it was advantageous that one's title to certain land be kept ambiguous.

In addition to the rights to occupy and use land that were supported by this system of mutual recognition, the effective sale of government land was freely engaged in. The purchase, for substantial sum, of what amounted to possessory rights backed only by moral sanction is an excellent indicator of the effectiveness of the local system. Federal law, it must be emphasized, was very clear on these kinds of transactions: possessory titles were not salable, and claims resulting from these sales had no legal status (17). One such sale occurred in 1870, when rancher John Ferry paid $7000 for a possessory claim adjacent to Dry Creek (18). Like the many others who purchased these claims, Ferry ended up buying the land twice: the first time from its "possessor" and the second from the U.S. Government!

INDIAN LAND RIGHTS UNDER THE AMERICANS

The 20 years following the declaration of California's statehood in 1850 saw the virtual elimination of the Indians' title based on their prior possession. Historian and legal scholar John Dwinelle obviously considered the process complete when, writing in 1866 on the United States' legal right to California, he omitted mention of the Indians' claim entirely. According to Dwinelle, "Our title to California is therefore deduced from the grant by the Pope to Spain, from Spain by the revolution to Mexico, from Mexico by conquest and treaty to the United States" (19).

At this time, the regulations that governed relations between California Indians and the rest of the state's residents were confused. While paying lip service to Indian occupation rights, the 1850 California "Act for the Government and Protection of Indians" effectively denied legal means of securing them. Provisions of the act admonished the owners of land occupied by Indians



"1. *Wahla*, chief of the Yuba tribe—civilized and employed by Mr. S. Brannan. 2. A partly civilized Indian. 3. A Wild Indian." Nineteenth-century impressions of California Indians (from *The Annals of San Francisco*, by Frank Soulé, John H. Gihon, and James Nisbet, 1855)

to "permit such Indians peaceably to reside on such lands"; yet the same act stated "in no case shall a white man be convicted of any offence on the testimony of an Indian," thus giving Indians no recourse in the case of eviction (20). Although not legally barred from presenting claims to the Land Commission, most Indians were effectively excluded from doing so because of their almost universal illiteracy and unfamiliarity with the American legal system.

In 1851 and 1852, federal commissioners traveled throughout California, met with over 400 Indian leaders, and entered into 18 treaties with them. The treaties certified the U.S. Government's sovereignty over all land in the state, while setting aside tracts of land for Indians' sole use and occupancy "forever." The validity of these agreements, however, has been called into question by researchers Robert Heizer and Alan Almquist. They point out that, as the customary authority of California Indian leaders was very limited, it is doubtful that they had the right to sign away their people's land. Of this, Heizer and Almquist say,

> It would be difficult to find an example of treaty-making in which so few persons without any power to act were assumed to have released control of so much land that did not belong to them (21).

The lands chosen for the Indians had been considered useless, but a committee of the California legislature assessed them, found them to contain

mineral deposits, and filed resolutions against the proposed treaties. The committee stated that

> [The miners] would be forced to shoulder their picks and shovels and seek new fields for the exercise of their enterprise and valor in the unexplored recesses of the mountains. The only plea for the necessity of which is to make room for the introduction of a few tribes of ignorant barbarians (22).

As a result of this outcry from California, the treaties were rejected by Congress in secret and remained classified for 50 years, forgotten by all but the Indians until they were made public in 1905.

Although this problem stemmed largely from undisguised racism, it was partly the result of the new Californians' lack of understanding of the native system of land use, wherein much of a group's territory was occupied only seasonally. In the words of one California Indian Agent, the Indians

> have not any particular boundaries or fixed homes for any great length of time together, but change their locations as taste or their necessities may require. Yet they all have an undistinct and undefined idea of their right to the soil, the trees and the streams (23).

Such intermittent use of the land, which was understood by bordering native groups, appeared to be mere random wandering to the newcomers and to their government, and the claims of native individuals or groups to any particular tract were not viewed as legitimate. It was inconceivable, under the American system of law, for a group to hold undivided title to the land and to expect to maintain its claim by such sporadic and seemingly arbitrary practices. As a result, the expropriation of land was easily rationalized, and the Indians' claim extinguished, effectively forever, with no existing legal recourse.

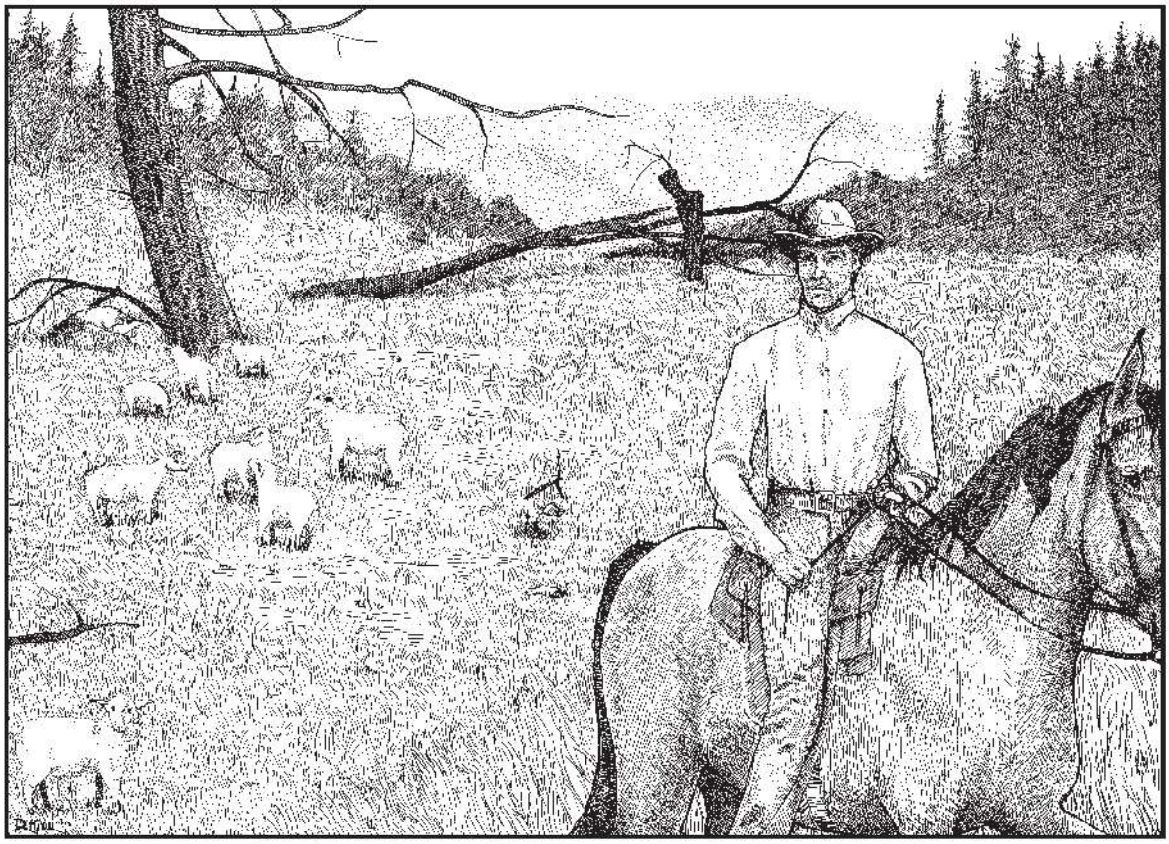
Shortly after the treaties with California's Indians were rejected, the federal government began to set up reservations to which many Indians were forcibly removed. By the early 20th century, the conditions under which the state's non-reservation Indians lived had become the subject of considerable concern. As a result, a program was instituted to improve the lot of the "landless Indians" by supplying them with homesites. Between 1909 and 1927, the federal government purchased five parcels of land in northern Sonoma County as rancherias for the region's Indians. Of these only two remain: the Stewart's Point and Dry Creek rancherias (24).

MORE ON SETTLERS

The General Land Office surveys of the Lake Sonoma Area opened the land to officially sanctioned settlement and purchase from the government. Despite the government's standards, individual strategies to establish legal title still varied. This diversity can be seen in the ways in which three Dry Creek upland ranch families—Otis, Ferry, and Matthews—accumulated their substantial landholdings during the late 19th and early 20th centuries (25).

During that period, two methods of obtaining title to land in the public domain outstripped all others: "cash entry" and "homestead entry." Under cash-entry regulations, the would-be owner, or "entryman," had merely to pay the set price of $1.25 per acre to receive title. For a homestead, the entryman had to construct a dwelling on the land and live there for five years while cultivating a portion of the land. On completing these conditions, the settler would receive the "patent," or title to the land. Under each system, the maximum holding that any individual could file on was 160 acres; this was a one-time privilege and could not be repeated, even if the entryman sold the original claim.

The Otises were a six-member, extended family. They used their legal right to obtain land at a low price from the government to the fullest, although they began in the area by purchasing a possessory claim. Among their first acts on moving to the area was to file for a homestead claim on the land on which their house and other buildings were located and a cash entry on the 160-acre parcel adjoining it. These were the first of a series of shrewd moves made by the family to maximize its deeded acreage while minimizing financial outlay. Over the next two decades, every member of the Otis family was to file either a homestead claim, a cash entry, or both. Of their eventual holdings of about 1600 deeded acres, which included land taken up by a third generation of Otis patentees, very little was purchased on the open market or from neighbors. Thus because of the size of the family and its willingness to take full advantage of its legal rights, the Otises gradually accumulated substantial holdings at a relatively small cost; in addition, they gained effective control of much



Artist's rendering of John Ferry (drawing by David Hjul)

government land by the careful creation of islands of public land surrounded by their deeded property.

John Ferry filed for his first parcel of land in the study area in 1872 as a cash entry, in spite of the fact that he was living on the tract at the time and consequently could have obtained it as a homestead. Over the next 15 years, he purchased adjacent land and possessory claims until he held deeded title to nearly 2000 acres. To increase his legal holdings in this way, Ferry mortgaged the ranch heavily. Unfortunately, in 1897 he defaulted on a mortgage, losing the entire property. Of all the study-area ranchers, Ferry seems to have been the least content with using government land; he wanted to own the land he used. By attempting to do this, Ferry put himself at the mercy of fluctuations in the national economy and other unpredictable forces. As well as mispredicting the future market for livestock, he may have assigned too much importance to land ownership. He did not foresee that, when handled correctly, possessory rights to public land would continue to be acknowledged well into the 20th century.

The third case study is of rancher George Matthews, whose family settled their farm on the banks of upper Dry Creek in 1870. By the early 1890s, Matthews had taken over the running of the family farm and, during the next 15 years, converted it from a semi-subsistence operation into a highly profitable commercial sheepranch. Unlike his neighbors the Otises, Matthews was a single man at this time and consequently could not expand the ranch's holdings by homesteads taken out by members of his immediate family. Unlike his friend John Ferry, Matthews chose not to put himself heavily into debt to acquire his land solely by cash purchase.

In 1901 Matthews described his holdings as "1762 acres deeded, 640 filed on 1100 Government land within boundary lines, 126 acres fenced with pickets as field and pastures but entire [ranch] is either fenced with barbed [wire] or has natural fence" (26). Fortunately, many of the details of how Matthews was able to accumulate this and his other land, while maintaining control over the undeeded 50 percent of his ranch, have been preserved in a collection of more than 2000 letters written to the

rancher between 1884 and 1915. From this collection of personal correspondence, we can find out about the kinds of activities that, while largely determining the pattern of land-distribution, were covert and consequently not reported in official records or other publicly available documents. The letters provide posterity with insights of rare depth into some little-studied historical processes. It is important to recognize, however, that the behavior revealed in the correspondence was fairly common at the time. While some of Matthews' dealings were technically illegal, many of his contemporaries, including government officials, considered them to be largely justifiable responses to the government's failure to develop an appropriate land-distribution policy.

Matthews' primary strategy for gaining legal title to his ranchland was to have others file homestead applications for him, with the explicit understanding that, when the claim had been "proved up" and the patent awarded, the land would be signed over. Sometimes the land was transferred via a third party, "in order," according to one of these people, "to cover up all tracks" (27). This technique had advantages over the straight cash purchase, as the land could be used legally, exclusively, and tax free by the entryman for the five years prior to the patent award, the homesteader paying only a nominal filing fee.

Matthews had various arrangements with his entrymen. On the most formal level was the homesteader who agreed to take up a claim "If I don't have to come up more than once a year or thereabouts and you put on the necessary improvements" (28). This deal was concluded when, after the mandatory five years of "residence," Matthews paid the entryman $100 for his title. Other claims were filed by Matthews' employees, presumably with similar monetary inducements.

His arrangements made with relatives were of an entirely different character. Their claims were filed, in the words of one such individual, "without any thought of recompense"; all the family members were "glad to do you [Matthews] a favor" (29). Since no money changed hands, Matthews' relatives believed that the "favors" they did for "cousin George" were morally irreproachable. On occasion, it was agreed that the cousin filing the claim retained the right to extract some of the tract's resources, such as part of the timber. Of more importance in the relationship, however, was the notion of reciprocity. Most often this took the form of an understood right of the entrymen and their families to spend the summer on Matthews' ranch. These family summers began in 1900 and developed into a tradition that spanned 20 years. During the height of this period, as many as 20 or 30 people, adults and children alike, would spend up to three months there. Although an element of reciprocity is undeniable, it would be a total misrepresentation to label these gatherings as Matthews' way of paying off his accommodating cousins. It is clear from the correspondence that, as well as being a shrewd businessman, Matthews was very sociable and enjoyed the lively company as much as any of them. Even 75 years later, people who visited as children retained very happy memories of idyllic weeks spent "up at the ranch" (30).

For Matthews' entrymen, their summer visits served a function in addition to the purely social aspects; time spent on their homestead land helped reinforce their claim to it. Under the 1862 Homestead Act, the settler had to erect a dwelling, live on his claim, and cultivate it for five years. Failure to meet these requirements might result in the claim being denied. By the turn of the 20th century, it appears that the residence requirement was not being strictly enforced. One "homesteader," by his own calculation, spent less than nine mouths on his claim during the required five years (31). Yet the entryman had to show his face regularly on the claim or, on proving up, his right to a patent might be challenged by a neighbor who wanted the land for himself. Sometimes the mandatory cabin was erected by Matthews and sometimes by the entryman, who might use it on vacations. There is some indication that Matthews repeatedly used the same structure for this purpose, moving it from claim to claim as necessary; "so long as the house looks habitable," it was good enough, or so wrote a correspondent (32).

Cultivation also seems to have been arranged by Matthews, often taking the form of a plowed alfalfa field, although one man requested that he plant some vines on his claim. These precautions were taken in part to satisfy the government land inspector, who would appear periodically to check up on homestead claims, causing no small anxiety to the "settlers." To lessen the mandatory period of residence, Matthews sometimes used Spanish-American War veterans as entrymen, for these men were allowed to deduct their period of service from the required five years' settlement. One penniless ex-serviceman agreed to take up a claim for the usual $100 fee on the

understanding that he would be allowed to live there and raise "a few chickens."

Theoretically, nothing prevented the old veteran, or any other U.S. citizen, from filing a claim on his own behalf in the Dry Creek uplands. In practice, however, such an attempt would have met substantial obstacles. The Matthews correspondence has shed much light on the ways in which local ranchers controlled who filed on neighboring land. It is clear that these people were involved in a series of tightly woven networks bent on protecting the interests of their members, while as individuals they wished to maximize their own control over land. Consequently, while locals might act together to exclude nonresidents, they might—and frequently did—challenge each others' claims and dispute their boundaries.

The locals' advantages began with the most basic step in homesteading: locating the claim on the ground. At the turn of the century, most isolated and sparsely populated parts of California had not been accurately mapped. In most of these areas, the General Land Office plats, which depicted clusters of individual land claims and therefore did not cover entire townships, were the most complete maps available. As a result, a potential homesteader needed a good personal knowledge of the area in order to be sure of the physical location of his claim. To facilitate their own claims, local ranchers would undertake private surveys of unoccupied land, working out its legal description, in relation to township, range, and section, from fixed points established by previous government surveyors. A good degree of accuracy was essential for the homesteader, who otherwise might find himself the possessor of a barren hillside rather than the valley bottom that he believed he was filing on. Having had some training as a surveyor, George Matthews was particularly well placed to benefit from this situation.

A second way of preventing outsiders from successfully filing a claim was to deny them access to the land by excluding them from private property. In an area as rugged as the Dry Creek uplands, this would have been a very effective technique, for access to the interior was possible only along the ridgetop and creekside trail system, and it was along these trails that settlement was densest. In short, the would-be homesteader could be denied access by the action of any one of several neighbors. Although illegal by about 1900, when Dry Creek and Hot Springs roads became county property, there can be little doubt that this practice did occur at a slightly earlier time. An 1888 letter from Matthews' mother, Eliza, who at that time was living "down" in Healdsburg, warned George that an "Old Buck" was going to take up a claim in an area held by the Matthews family. The "Old Buck" had been foolish enough to discuss his plans openly, and Eliza had soon got wind of it. She advised her son to close their gate and not let the man through (33).

Another way that local landholders might thwart the granting of a patent was to refuse to appear as a witness to the validity of the homestead claim when it came time to prove up. By law, four local residents were required to swear that the homesteader had spent the requisite amount of time living on and cultivating his claim. In such a sparsely settled area, the number of potential witnesses was relatively small, and, as a result, could become a factor in determining whose claims were approved and whose denied. Neighbors apparently cooperated as witnesses to each others' claims and were cautious about witnessing for outsiders. Harry Cook, a neighbor and onetime Matthews foreman, made the following enquiry of him in 1914:

> I got a letter from R.J. Williams asking me to be a witness for him on his homestead, no doubt you know of it, if not and you do not want it to go through let me know (34).

What Mr. Cook did not know was that R.J. Williams was one of Matthews' own entrymen.

As a last resort, homestead claims were contested to the General Land Office on the basis that some requirement had not been met. Over the years, Matthews both contested others' claims and had those of his entrymen challenged. On one occasion, "Old" Chris Tracy, a Spanish-American War veteran who had agreed to file a claim for Matthews under the usual conditions, backed out of his agreement; he then attempted to prove up, with the intention of selling to another person for a higher price. At this, Matthews had the claim contested by Harry Cook. Ironically, the rationalization given for the challenge was that Tracy had illegally entered into an agreement to sell the land as soon as it was his (35). Cook won the case, giving him the legal right to take up the claim himself!

In 1911 Matthews waged a defensive campaign against the Gater family, which was attempting to

George C. Matthews (second from right) with San Francisco cousins, the Dowds
(photo courtesy of Geraldine Von Husen)

obtain, under the provisions of the 1878 Timber and Stone Act, valuable acreage that Matthews considered his own. This law provided for the purchase, at $2.50 per acre, of public land that was unsuitable for cultivation but contained timber or stone resources. The Gaters' position—that the rock in the creekbed was valuable as roadbed material, whereas the remainder of the land was practically useless—was found to have no merit. Once more Matthews, with the help of Jonathan Ackerman, a sharp land attorney, had been successful in defending his boundaries.

A discussion of land rights and practices in the West cannot conclude without some mention of claim jumping. A homestead claim was ripe to be jumped when, by not having been occupied for six months, it was legally considered to be abandoned and thus open for settlement by a new homesteader. Claim jumping was considered a particularly despicable practice. A letter from Eliza Matthews, dated October 1886, informed George that "There is a jumper on the Coyes place [he has taken over] his house and orchard and the best of his land." In November, George's brother Henry reported the surprising conclusion of this brief incident: "The jumper at the Coyes ranch has left, for some coves [i. e., men] I do not know took down his house and sold the lumber" (36).

CORPORATE AND PUBLIC OWNERSHIP

The ascendency of relatively small, family-based ranches in the Lake Sonoma Area paralleled that of the price of wool; both peaked in the early 1880s. Ten years later, an economic downturn caused numerous mortgage foreclosures and forced the sale of many of these small and medium-sized enterprises. With rail transportation nearby, the area was attractive for large-scale commercial agriculture and ranching. The result was the creation of several very extensive, often corporately owned ranches out of what had been numerous family operations.

By the 20th century, legal title to the land became more important. When corporate investment became the dominant factor, only legally acknowledged rights were considered acceptable. Both the casual use of government land and customary possession became outmoded, and formal leasing of grazing rights to this acreage was adopted.

Beginning in 1967, the Corps of Engineers started purchasing title to the land in advance of constructing Warm Springs Dam. Although this step could scarcely be termed an invasion of yet another wave of settlers, we can view it from the same perspective as we have

earlier major ownership changes: this shift, like most of the others, was initiated and enforced by a group from the outside. In this case, all the private land in the study area was obtained by purchase, but the sales were mandatory. The alternative to a freely negotiated sale was for the land to be condemned by the government and then compulsorily purchased by the right of Eminent Domain at a price set by a Federal Court. The legitimacy of this kind of action is based on the principle that, in certain circumstances, the rights of a few may be overruled for the benefit of many.

CONCLUSION

This chapter has focused on two aspects of colonization and settlement—the concepts of the changing basis of land tenure and settlers' ideological rationalizations. The shifting ideas of land tenure reflect how Lake Sonoma Area residents viewed and upheld their rights to the land. For analytical purposes, we can conceive of two systems as having been in operation. For want of better terms, they can be called "legal" and "moral," based on the level of official recognition these arrangements received.

Pomoan groups viewed the land and its resources as community property. Although their custom was not written, it can nonetheless be viewed as a legal phenomenon, as it was recognized as the right way to behave by everyone in the political unit. Both the Spanish missionaries and Mexican rancheros also held their land with legal sanction, although not without some backstage political maneuvering. The Colonization Law provided the authority for settlement and defined citizens' rights over the land or, in the case of the missionaries, over its inhabitants. The situation of the early American squatters, however, was not so clear cut. From the perspective of both the rancheros, whose land they requisitioned, and the federal government, which had agreed to protect the rights of earlier grant holders, the squatters' actions were illegal. Their claims were only valid in the eyes of other squatters; thus their stance was morally sanctioned by a small group, while legally unacceptable to the remainder of society. Yet within this context, quasi-legal organizations evolved that effectively substituted for the more widely recognized legal system, although resembling the official system in structure, function, and powers of enforcement.

Even many legitimate settlers straddled the legally sanctioned system of tenure and a locally recognized system of moral rights. The practices of buying and selling possessory claims, and the customary division of government land among groups of contiguous neighbors who were also accumulating exclusive title to land, are good examples of the simultaneous operation of two different systems. The best documented local examples of this arrangement are the activities of rancher George Matthews, who was as competent dealing in the legal sphere as the moral, and who moved freely between them depending on the need of the moment. With the coming of corporate investment in the early 1900s and the eventual purchase of the area by the Corps of Engineers, land dealings were fully returned to the legal sphere for the first time since 1848.

It is clear that historic land-tenure systems have not followed a linear path toward greater structure. There is no reason to believe that land rights are more strictly recognized by modern residents than they were before the area's native inhabitants had contact with Euroamericans.

Returning briefly to the role of ideology, we find that successive waves of newcomers have used essentially the same formula for rationalizing their takeovers. It consists of a disparaging view of the previous occupants and the attitude that they, the new settlers, are actually entitled to the land because they use more of its productive potential. This approach was applied to the area's original inhabitants first by the Spanish missionaries and, without exception, by the peoples who followed them. It was the attitude of the early squatters toward the feudalistic rancho system, and what was later voiced in the county against the ranchers by landed interests who purchased the large tracts from the Mexican grantees. In the late 19th and early 20th centuries, the concepts of efficiency and cost-benefit entered the scene to subtly change the rationalization. On the authority of these ideas, family farms could be justifiably conglomerated to produce more efficient ranching units, and the worth of the upper Dry Creek Valley objectively measured both as agricultural land and as a site for a reservoir.

"No Trespassing" (photo by Adrian Praetzellis)

Archaeologists at work in the Lake Sonoma Area

CHAPTER 6

PREHISTORIC SETTLEMENT PATTERN: AN ARCHAEOLOGICAL STUDY

INTRODUCTION

People do not usually choose the sites and layouts for their homes, villages, and towns according to momentary, isolated whims. If this were so, every house and city would be entirely different from every other, and the term "settlement pattern" would have no meaning. As it is, both the internal arrangement of individual living areas, camps, or towns, and the geographical arrangement of these units, tend to be highly structured; together they constitute a group's settlement pattern.

In studying the Lake Sonoma Area's pattern of settlement, we are dealing with the product of a variety of influences, natural and cultural, that emanated both from within and outside of the local scene. Some of these influences, notably the natural environment and a group's technology, are more straightforward to document than others. Since these factors—like the settlements themselves—leave material remains that can be interpreted, they have come to be emphasized in settlement pattern analysis. The role of group environmental perception (people's beliefs about their range of options, addressed in Chapter 3), though nonmaterial, is nonetheless an important influence on behavior. Kinship structure, ideology, politics, and numerous other intangible factors also influence how people settle the land.

Archaeologists must take very different approaches when investigating settlement patterns of the historic period and those of groups who left no written record. In prehistoric archaeology, the many possible intangible influences on settlement pattern must be deduced almost solely from physical remains, while the historical archaeologist relies as much on documents and oral history as on material in the ground. This chapter turns to archaeology for a description of settlement pattern during the 5000-year prehistoric occupation of the Lake Sonoma Area. In the following chapter, historic-period occupation is approached from an interdisciplinary perspective.

Settlement Pattern Perspective

During the 1960s and 1970s, archaeologists shifted from a focus on individual prehistoric sites to studies of relationships between sites and areas. This shift resulted from a new interest in ecology, with inter-connections seen not only among plants, animals, and their environment, but also among parts of a site or clusters of sites. This new approach made all archaeological material within an area important. Earlier, archaeologists had focused on large villages. Now, small summer camps, stone quarries, and hunting spots also became of interest. Larger archaeological surveys were conducted, many—such as that of the Lake Sonoma Area—covering thousands of acres. Often, scores of related sites were discovered, many of which would have gone unrecorded only a few years earlier.

Patterns quickly emerge from the distribution of sites in a well-surveyed area. They reveal the relation of camps and villages to streams, vegetation communities, slope of the land, and to each other. But a major factor in such "patterns" is missing—time. The Lake Sonoma Area survey crew, for example, recorded 61 prehistoric sites within the more than 17,000-acre project area. If we assumed that they all had been occupied at the same time, we would have an erroneous picture of the size of the population and the use of the land. On the surface of some sites are artifacts which were used only for a brief time period, and such time markers can lead to a rough estimate of when a site was used. But even when datable artifacts were found on Lake Sonoma Area sites, it would not have been possible in most cases to know how far back a site was used without a look below the surface. Without excavation, the way in which a site was used is also little understood.

California archaeologists rarely excavate more than a very few related sites. Perhaps construction of an apartment complex will destroy a prehistoric village, or a new road will be cut through a hunting camp. Unless a great deal of survey and excavation have occurred nearby, little can be said about settlement pattern, and the sites must be treated in isolation; yet no site existed in isolation during its use. Archaeologists on the Lake Sonoma project had the opportunity to do test excavation at the 61 prehistoric sites, while large-scale excavation was carried out at 20 of them. From the reams of data and

thousands of artifacts resulting from this work, much has been learned about Lake Sonoma Area settlement patterns (1).

Lake Sonoma Area Time Frame

Evidence of the first human occupation of California has been dated to at least 12,000 years ago in a few isolated locales in the Great Valley and at Clear Lake. By 7000 years ago, the human population had grown, and sites dating to that period are found in increasing numbers. While some use of the Lake Sonoma Area probably occurred earlier, there is no evidence of occupation until about 3000 B.C.

This 5000-year occupation has been divided into three major time periods; each has been given a name to represent distinctive cultural features occurring in the area at that time. Cultural patterns are defined by numerous traits, including often subtle changes in styles of projectile points (spear and dart points and arrowheads) and shell beads. The chronology below describes only the broadest and most significant changes in each period—changes which probably occurred about the same time throughout north-central California.

Skaggs Phase, 3000 B.C.-500 B.C.: Lake Sonoma Area sites dating to the Skaggs Phase yielded heavy handstones and millingstones (also called manos and metates), which were probably used for grinding seeds. Very large projectile points from this period indicate use of the spear and atlatl (or dart thrower), rather than the bow and arrow. By the time of the Skaggs Phase, groups in California had become relatively settled; in the Lake Sonoma Area, a few large sites date to this period.

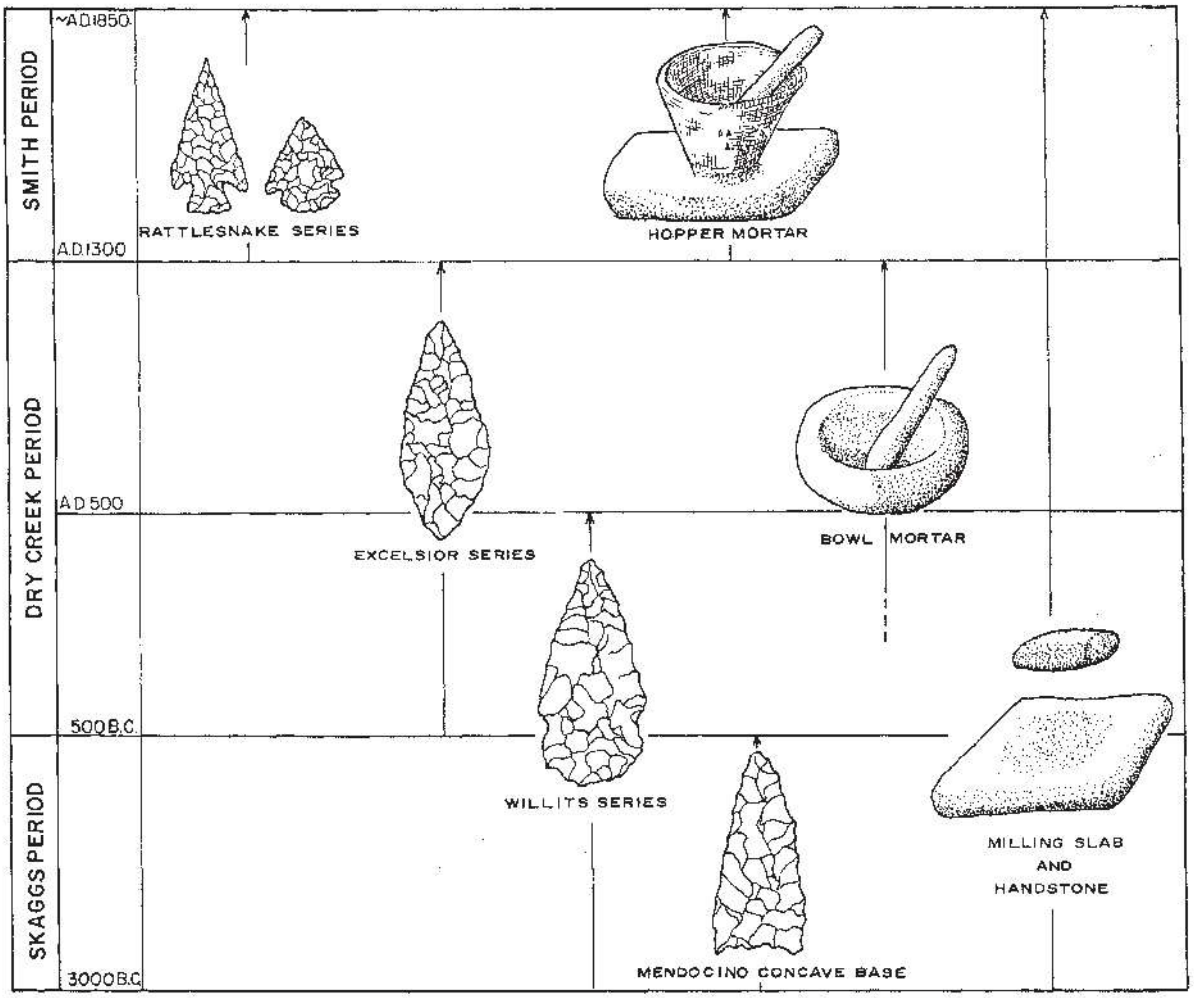
Dry Creek Phase, 500 B.C.-A.D.1300: The greater number of occupation sites dating to this time period suggests a large population increase. The millingstone and handstone were partially replaced by the bowl mortar and pestle, reflecting a shift from seed grinding to acorn processing and indicating that the technique for leaching the tannic acid from these nuts had been discovered. While people of the Skaggs Phase made nearly all their stone tools from locally available chert, points from the Dry Creek Phase are almost all of imported obsidian. This shift represents the beginnings of extensive trade, which must have included exchange of perishable items as well.

Smith Phase, A.D. 1300-early 1800s: The most recent period of prehistoric occupation of the Lake Sonoma area has been named for a prominent local family of Mihilakawna descent (2). Artifacts from the Smith Phase indicate that important aspects of the way of life, which were recorded by ethnographers in the late 1800s, had been established for several hundred years. The first innovation to appear during this period was the bow and arrow, which refined the art of hunting and allowed more accurate, longer-range shooting. Another important introduction was the hopper mortar, which replaced the bowl mortar. A bottomless basket hopper was placed over a flat, stone mortar, and the acorns were pounded within the receptacle—a much more efficient way of processing these nuts. Also first appearing in this period was the clam disc bead, used as a form of currency in north-central California. The presence of these beads indicates that complex, wide-ranging trade networks had become fully established. With material remains so closely resembling those of the early 19th-century contact period, archaeologists assume that many nonmaterial aspects of Smith Phase culture, such as its sociopolitical organization and ceremonial activities, would also have been similar in prehistoric times.

Ethnographic Analogy

Very little of what is known of ancient prehistoric cultures has been discovered by direct observation. The people who made up these societies were long dead before the first ethnographer appeared on the scene. Aspects of their manufacture and use of tools and buildings, as well as intangibles such as their food-gathering practices and social structure, have to be reconstructed indirectly by archaeologists. Reconstruction is done either on the basis of physical remains or from information collected about more recent groups who live, or have lived, under similar conditions.

This latter procedure, known as ethnographic analogy, is based on the observation that groups living in environmentally similar regions, and using similar technology, resemble each other in a variety of other ways. The method can be put to work in order to interpret, for example, how prehistoric artifacts were used. Although the archaeologist would have no direct evidence that what is classified as a "scraper" was actually made or used to prepare the insides of animal hides, knowledge of the use of tools of that shape among living groups would justify such a conclusion. In the same way, archaeologists assume that the way people settled the land, at least during the past few

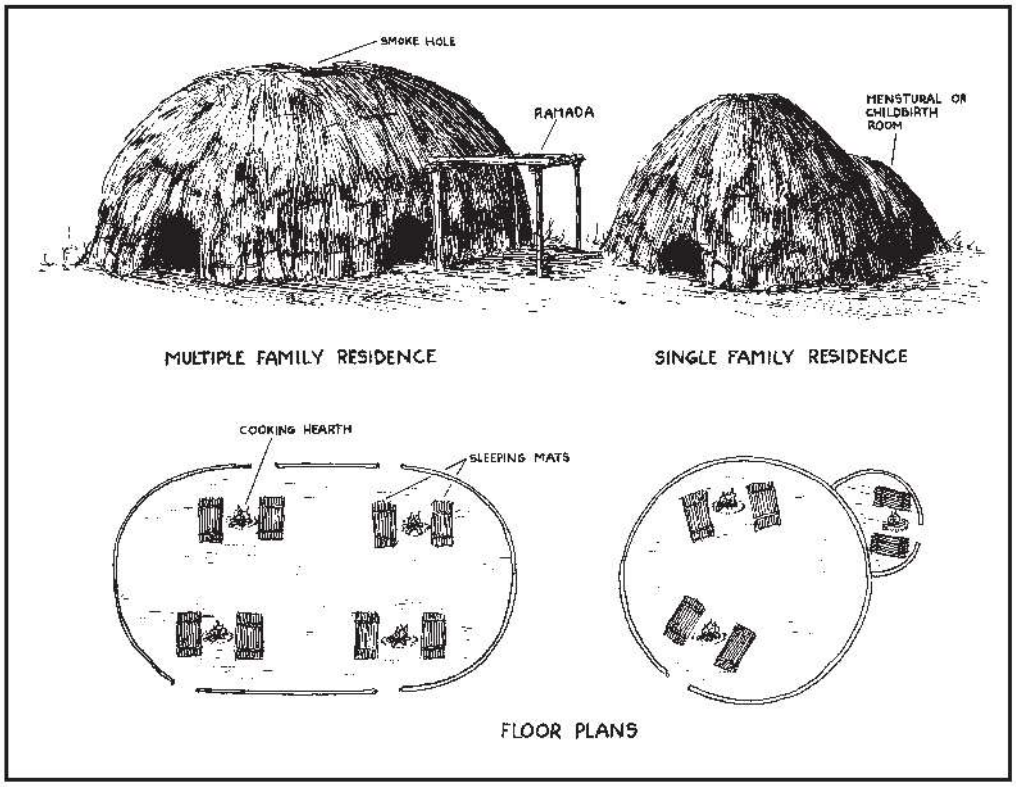


Changes in styles of Lake Sonoma Area artifacts over time (drawing by Nelson Thompson)

centuries, resembled the pattern reported for the Lake Sonoma Area in more recent times.

In order to determine the function of the prehistoric sites, project-area archaeologists compared them with the early settlement pattern recorded by ethnographers. According to ethnographic accounts, local Indian groups such as the Makahmo of Cloverdale and the Mihilakawna of Dry Creek had three basic types of living sites: permanent winter towns, summer towns, and summer campsites. The principal town was the center of politics, ceremony, and trade, often housing several hundred people. Radiating from the main town were hamlets, often called satellite villages, each of which would be home to a large extended family, or kin group. Lacking the amenities of the major town, the residents of these hamlets would have gone to their tribelet seat for community events or spiritual or political advice.

In addition to its large size, the winter town was distinguished by its substantial, semisubterranean assembly house, which functioned as the group's ceremonial center for dances and other ritual performances. The circular assembly house (also called a roundhouse or dancehouse) was by far the largest structure in the town, being as much as 60 feet in diameter and 6 feet deep. The excavation was accomplished by loosening the soil with sharpened digging sticks and shoveling it out to the sides with flat, open-weave baskets. When this was completed, a massive center post some 14 to 16 feet high by 1-1/2 feet thick was erected in the center to support the roof poles, which radiated from the peak. The rafters were covered with layers of twigs and grass matting, and the entire outer surface was spread with earth. The entrance tunnel was east-facing, long, and narrow. Inside, the only permanent fixtures were a firepit, the smoke from which escaped through a strategically



Makahmo Pomo homes (artist's impression by Rusty Rossman)

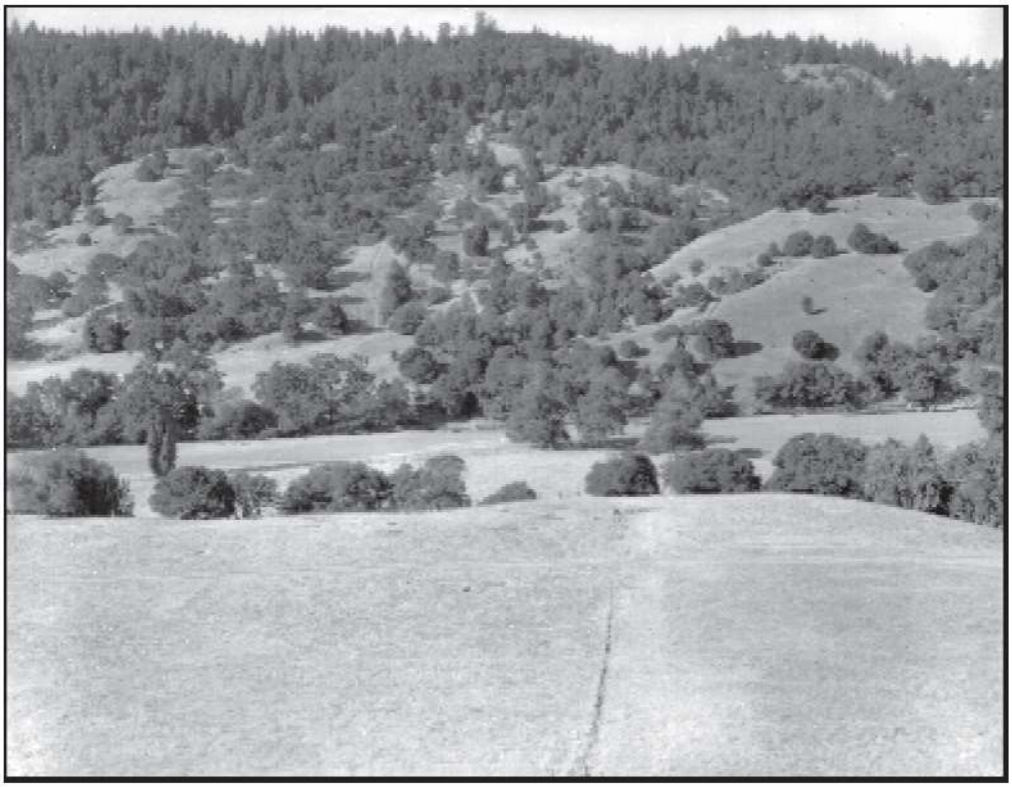
placed hole in the roof, and a partially sunken foot drum situated opposite the entrance way.

In some cases, it appears that the assembly house also functioned as a sweathouse, although smaller, separate buildings were often constructed for this purpose. The sweathouse served social functions as a kind of men's "clubhouse," as well as being the locus of prehunting rituals and curing the sick. It was a simple, wood-framed structure, covered with grass and brush. Unlike the assembly house, which was essentially a public building, access to the sweathouse was generally limited to men.

Individual family dwellings were circular or oval in shape and constructed of a light willow-branch framework, lashed together with plant fibers and thatched with grass. These houses were often home to more than one nuclear family unit, and although each had its own fire and entrance way, the living area was not internally partitioned. While on an excursion along the Russian River Valley in 1833, Baron von Wrangell came upon a Pomoan village which he described in this way:

> We found the Indian village on sandy ground, entrenched behind shrubbery and dry ditches. It was inhabited by five or six families related to one another. The women had set up temporary dwellings, made of pliable sand-willow branches, which easily had been stuck in the ground. They were set up in such extreme good taste that the sight startled me in a most pleasant way. The motley hues and different sizes of willow leaves (this tree abounds here in the greatest variety) gave to the huts, open at the top, a quite special, rather rustic appearance. The opening at the side, which serves as a door, is very carefully decorated with leafy branches. Several huts stand connected with each other by means of openings constructed inside (3).

Living sites were used at different times throughout the year, as people carried out the seasonal round. During the rainy season, the population concentrated in the winter towns, where stores of acorns collected the previous fall were kept. Fresh small game, as well as dried and fresh fish and venison, provided a supply of meat during the winter. With the onset of dry weather in the spring, groups moved to summer towns: small hamlets occupied by a



CA-Son-582, the principal town on Dry Creek during Skaggs Phase times

few families. After the long winter diet of stored foods, people welcomed the arrival of clover, other edible greens, and early ripening berries. This period, from March to June, was known as "Clover Time," according to ethnographers. As summer approached, Indian potatoes were harvested, and grains were collected from the ripening grasses. People referred to this period as "Pinole Time."

Some plant harvests and hunting activities were communal events. In addition, family collecting trips dispersed people over wide areas for varying distances and durations. Here they stayed in the small summer camps that constituted the most frequently found type of archaeological site. Men would leave the camps for a few hours to a few days to hunt, stopping occasionally to retouch their stone tools. The remains of this activity, from a few stone flakes to deposits several inches deep, archaeologists call "flake scatters."

Over the centuries, people moved in and out of the area, bringing new ideas and materials and new lifeways. All that remains is nonperishable evidence of these changes, but perishable and intangible elements must have changed with them. Thus, ethnographic analogy can be both one of archaeology's most useful and most misleading tools; caution is necessary as one goes further back in time. The people of the Skaggs Phase certainly did not live like the Mihilakawna and Makahmo Pomo thousands of years later, and the sites they left behind must have held different meanings for them.

LAKE SONOMA AREA SETTLEMENT PATTERN

Settlement pattern studies focus on several aspects of the distribution of people on the land. Lake Sonoma project archaeologists first studied individual sites, seeking the relationships of features within each site, and between the site and its setting. They also looked at relationships among sites, questioning what they might reveal about economic, social, political, and religious organization. Finally, all of the sites were studied as a whole to learn how people had used their tribelet territory.

Territory

In the southern North Coast Ranges, where Lake Sonoma is located, a tribelet territory commonly encompassed an entire drainage basin, with divisions

along ridgetops between drainages, not along creeks or arbitrarily through valleys. In areas that were particularly rich and large, such as the Russian River Valley, no tribelet could have held the entire area; here, boundaries often cut across the valley floor. The Dry Creek drainage basin was also too large for a single group, beginning near Yorkville and terminating at the Russian River, a distance of about 25 miles. In some parts of California, ethnographers have gathered detailed information on tribelet territories, but the Lake Sonoma Area was disrupted so early that only scanty, often conflicting, information remains. (See map in Chapter 9.)

The area may have contained the territory of two tribelets: the Mihilakawna in the middle of the drainage, and the Shahkowwe in the north. In each case, we have only half the story: Shahkowwe territory would have extended outside the project area—upstream toward Yorkville, taking in an equally valuable area just north of the Dry Creek uplands; the Mihilakawna tribelet center was probably further downstream from the present dam site, in the fertile valley of lower Dry Creek. Sites on Warm Springs Creek and at its confluence with Dry Creek would therefore have been peripheral to that tribelet's center. Project-area archaeologists drew the line between these groups at Pritchett Peaks, an area of dark precipitous cliffs that easily impresses the observer as a "no man's land." This is what archaeologists contended the central area was—a sort of buffer zone between the two territories.

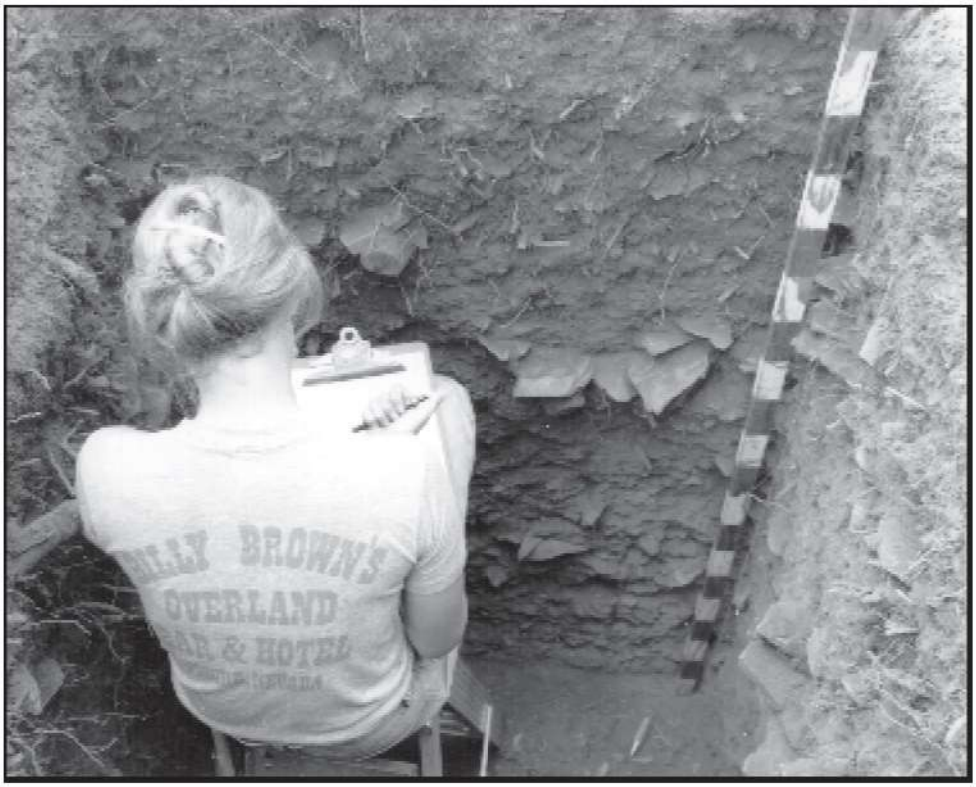
Archaeological reconstruction is the only source of information on the size of the group using the upper territory. Based on the extent of midden (habitation) sites believed to have been occupied at the same time, archaeologists propose that the population of the upper Dry Creek tribelet was between about 500 to less than 700 persons. Using data from archaeological, ethnographic, and documentary sources, the population of the Mihilakawna living below Pritchett Peaks has been estimated to have been between 300 and 500.

Site Placement

Where did people place their sites within this territory? What principles might have guided them? Anthropologist Alfred Kroeber was the first to note that there was a decided preference for certain locations in Pomoan territory: "the majority of the principal villages of the Pomo, in fact of all their settlements, lie on the north or east side of streams," because "a southern or western exposure was the pleasanter" (4). This pattern generally held true throughout the Lake Sonoma Area drainages, where most living sites were on the north and east sides of watercourses, usually on terraces well removed from the flood plain. In winter, Dry Creek became a turbulent river; if permanent living sites had been on both sides of the creek, contact between them would have been lost for months. Some minor sites occurred on the western and southern sides of streams in the Dry Creek uplands, but these were probably only used for short periods during the summer.

Confluences of streams were also preferred site locations. In the Lake Sonoma Area, virtually every junction of a tributary stream with a major creek had a site, even when the tributaries were small, unnamed channels. When a confluence was without a site, the topography was usually too rugged for human use. What attractions did confluences hold? Springfed tributaries would have served as a source of water, but many of these creeks dried up in summer, and some only flowed during rains. One value of such streams is the alternative route of travel their terraces offer; even the narrow ledges adjoining some small creeks would have made acceptable foot paths. In addition, creeks form vegetation ecotones—a meeting of more than one plant community—which provide a diversity of food for both humans and their prey. Some archaeologists recognize another feature of confluences: they offer a sense of place. Human interest in "a sense of place" can be seen in people's daily habits. On a hike, for example, most people rarely stop to eat lunch in the middle of a large open field. Instead, they seek out a large rock, a pond, a slope with a view, or a distinctive tree to sit by.

Another pattern in site placement is a preference for certain soils. Some soils are so rocky and thin that little grows there, resulting in a place too barren for habitation, lacking shade and sources of firewood. Other soils drain poorly; they become sodden and wet, ponding on flats and slumping on slopes. To the archaeologist, soils are also excellent indicators of precontact environment, of considerable importance in areas that have undergone radical change. Hundreds of years after a marsh has been drained, for example, the soil in the area indicates former conditions. An archaeologist finding a site at the edge of this soil type can understand why it was placed there, seemingly "in the middle of nowhere."



Mapping soil changes in an excavation unit at CA-Son-572

Four major soil types were identified in the Lake Sonoma Area, each corresponding to a different type of vegetation zone (see Chapter 2 for descriptions). While the woodland-grassland environment was found to contain the greatest number of living sites, most important village sites in the Dry Creek uplands were in an oak-evergreen zone. From this, the archaeologists concluded that the immediate environment may have been of less importance in locating principal towns than were other factors, such as central location or the topography.

Archaeologist Adrian Praetzellis studied the relationship of soil-vegetation zones and Lake Sonoma Area site placement. Although he found that there were a few more woodland-grassland sites than might have been predicted from that zone's stream frontage alone, in general the sites appear to have been placed in order to take advantage of good locations along major creeks, not according to soil-vegetation zone. In fact, one living site was placed in a chaparral zone, occupying only a sliver of the stream frontage, suggesting that major watercourses were important enough to offset this zone's disadvantages (5).

Site Types in the Lake Sonoma Area

Looking only at the number of sites in relation to the amount of usable land, the northern and southern areas of the Lake Sonoma project area might appear similar. The differences between the two areas—a tribelet focal area in the north, a peripheral area in the south—are reflected instead in the kinds of sites found in each. Site type, then, is as important to settlement pattern studies as it is to individual site analysis.

The function of some Lake Sonoma Area sites was fairly obvious. At chert quarries, for example, archaeologists could see the scars where the material had been extracted from the rock outcrop and the heaps of discarded stone nearby. Since there was no evidence of other activities, they assumed that the site was used mainly, or solely, to quarry chert. Flake scatters, which consist primarily of the stone debris left over from making or repairing tools, were also easily recognized. Petroglyphs, a major site type in the area, were less easily understood. The simplest of these could be mistaken for natural phenomena, but often the pits and grooves numbered into the scores or hundreds, and identification was certain. Far less certain is how they were used in the past: although ethnographers reported that these features served as

fertility rocks for Pomoan groups, it is likely that their use changed over the years. Researchers have offered numerous proposals, ranging from the mundane (territory boundary or trail markers) and the magical (weather rocks, like those of the north coast) to the esoteric (astronomical siting devices). Project area archaeologist Martin Baumhoff contended that petroglyphs were once central to a "classic" Pomoan religion, serving a far broader function than they did in more recent times.

Prehistoric habitation sites in the project area were recognized primarily by one indicator: the darkened soil called "midden." Midden develops when people have lived and prepared food, eaten, and consciously or inadvertently disposed waste in the same area over a long period of time. The resulting soil is soft, friable, and slightly greasy to the touch, ranging from medium brown to a rich black. Dispersed through the soil are firecracked rocks, used either in the stone-boiling cooking process or to form a ring around a fire. Where preservation is good, there are usually also bits of shell and bone. It takes many years of occupation for midden to develop. Several Lake Sonoma Area midden sites were more than two meters (more than six feet) deep, indicating long and intensive occupation.

Habitation sites were also recognized by the presence of housepits: saucer-shaped depressions in the soil which were all that remained of the semisubterranean housefloors of dwellings and assembly houses. In many areas of the world, people built their homes of stone or clay bricks, leaving the outlines of their structures as evidence of where they cooked, slept, stored their food, and worshipped. In central California, where structures were built of branches and brush, the only nonorganic elements were the earthen floors themselves, and these have frequently been obliterated by later use. Only rarely does enough remain to allow scientists to make detailed observations of the internal structure of a site. One site on Dry Creek was a welcome exception. Here, archaeologists found 21 well-defined housepits, with such details as evidence of entrance doors and connecting passages between houses clearly intact (see description of CA-Son-598 in Chapter 7).

Housepits not only signal living sites and indicate how people lived within them, they also reflect population size. If housepits are no longer discernible, an estimate can be made of the number of houses that would likely have been there, given the size of the site. Project archaeologists used a formula developed by demographer Sherburne Cook and archaeologist Robert Heizer, both of U.C. Berkeley, after an extensive study of ethnographic house sizes and numbers of inhabitants. Archaeologists used this method—figuring one house per 158 square meters and six persons per house—to determine the number of people living at project-area sites.

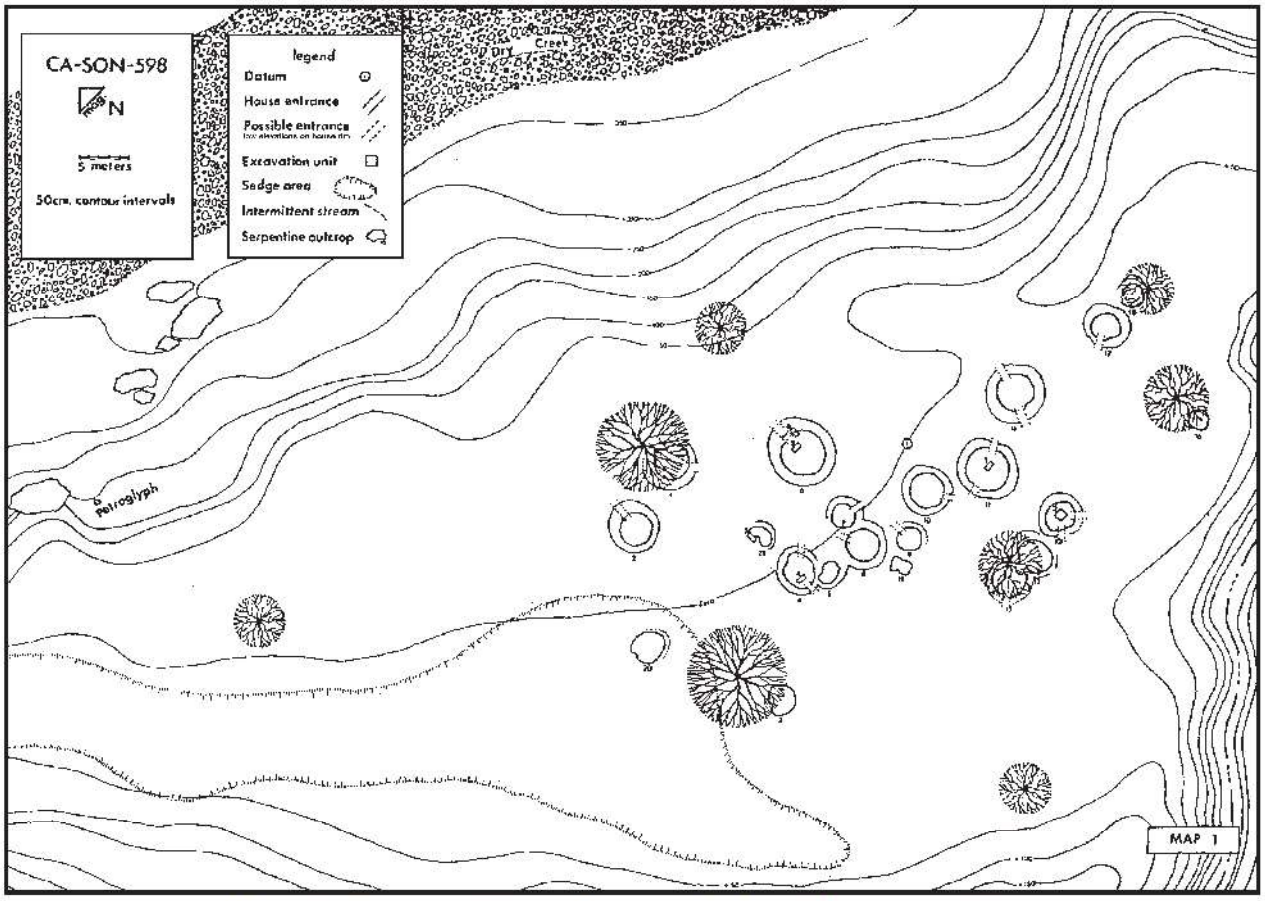
Dating Lake Sonoma Area Sites

Once site function was determined, project archaeologists had to determine the sites' time of use. Often time periods had to be treated broadly: sites were sometimes said to have been occupied at the same time if they shared the same distinctive time markers, such as a particular tool style, but a site was not necessarily occupied throughout a cultural period. For example, a habitation site with a millingstone, a Skaggs Phase time marker, could have been occupied as much as 2500 years later than another with the same tool.

From ethnographies, we know that historic-period Indian groups changed residence often.

> Often a settlement split: a petty quarrel, a shortening supply of some food in the vicinity, a death, or mere indifferent instability would lead to a living apart without any sense of a division having taken place. Thus settlements of a few houses sprang up, decreased, or were totally abandoned; and then, after the passage of a few years or a generation or two, when the memory of the omen or disaster or feud that had caused their desertion had weakened, might come to be reoccupied (6).

The results of climatic change could have caused people to abandon a site: the water source a village depended on may have dried up, or a once open terrace became choked with shrubs. Sudden natural events also caused changes in residence. A landslide, for example, could divert a creek, thus isolating a site for hundreds of years until the creek finally cut through and resumed its old course. Sometimes abandonment and reoccupation of a site left its record in the soil: layers of sterile soil (soil without evidence of human use) were present between midden layers at several Lake Sonoma Area sites. Other sites in the project area may also have been abandoned and then reinhabited, but if little soil was deposited in the interim, there was no apparent division between separate occupations. Archaeological excavators are



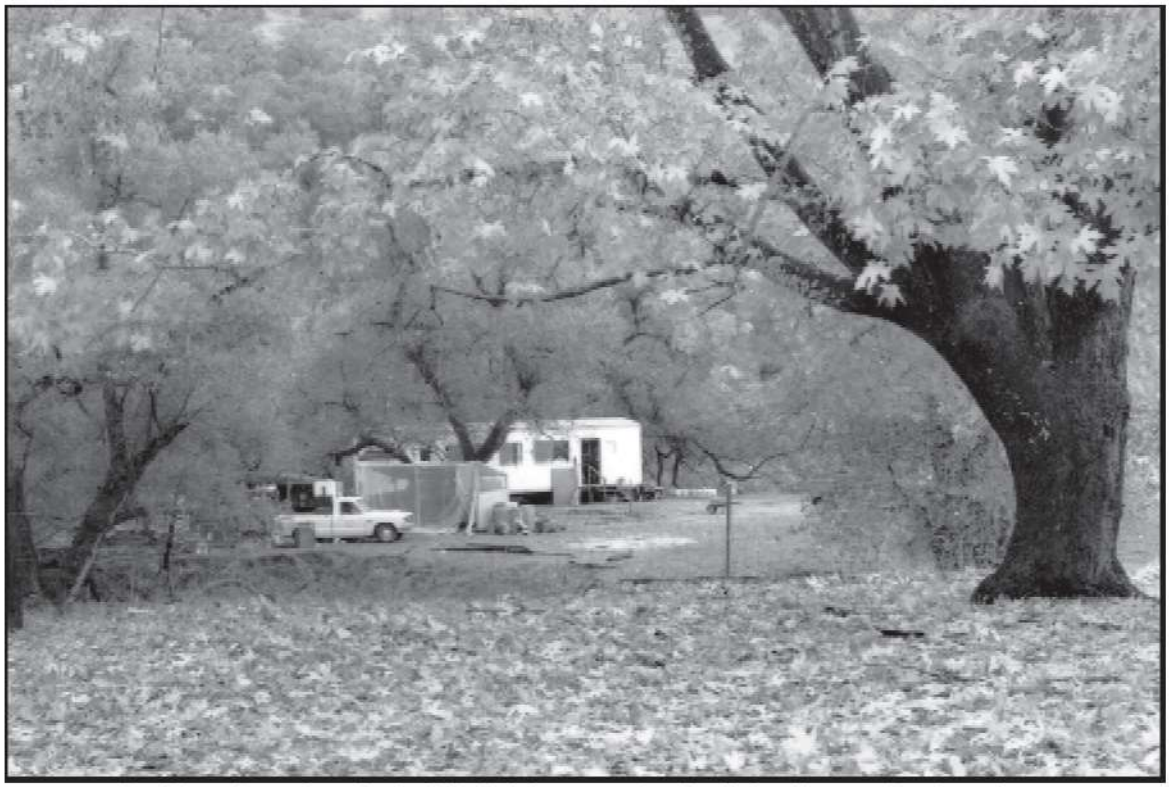
CA-Son-598, a site that provided a rare look at village composition

careful to observe the slightest soil changes as they dig: a thin layer of clay might represent several years of flooding, during which the site could not have been used.

Dating archaeological sites, fortunately, is not dependent on finding artifacts characteristic of a particular time. Time-diagnostic artifacts from project-area sites were relatively rare, usually no more than two or three per unit (one-meter-square excavation pits). Stone flakes left over from toolmaking, however, were abundant in most units, and these were used to solve the problem. Chert was the first tool making material to be used in the project area. As population grew, trade and travel expanded and the superior qualities of obsidian were recognized. Obsidian began to dominate as the preferred material, and finally it virtually replaced the local chert. If a site was found to contain only obsidian, then, it was likely to have been occupied during the Smith Phase, beginning about A.D. 1300. A site with only chert could mark the Skaggs Phase, and a mixture of materials might signal the intermediate Dry Creek Phase. Archaeologists soon recognized another variable: in the Lake Sonoma Area, people occupying sites adjacent to the two chert quarries on Warm Springs and Yorty creeks overwhelmingly preferred chert, even up to the historic period.

Another method used to date the Lake Sonoma Area sites was a process called "seriation," based on the observation that styles and shapes of artifacts changed, one type being slowly replaced by another, which was then replaced by a third. Once the sequence of styles had been established, archaeological sites in the area could be dated relative to one another, using the sites' artifacts as a guide. Placing the stylistic sequence in time required that physical tests be performed to provide specific dates for the most distinctive artifact types.

The most commonly used and least expensive physical dating method was obsidian hydration



Prehistoric archaeological field laboratory in the Lake Sonoma Project Area

analysis. Obsidian absorbs water at a constant rate, leaving a fine rim of discolored material at the outer edge of the piece, which can be seen and measured using a microscope: old pieces have wide rims, while very recent pieces may show no rims at all. A great deal can be said with a large sample of obsidian, even when absolute dates cannot be determined. Since project-area crew members kept precise information on the location and depth at which each sample was found, the results of the analysis read like a calendar recording the time that each level of soil was deposited at a site.

Radiocarbon dating is a more precise method, giving a fairly narrow range, such as 3098 years old, plus or minus 90 years. Several radiocarbon dates were determined for Lake Sonoma Area sites, but the process was an expensive one (more than 10 times the cost of obsidian hydration analysis), and intact samples of sufficient size were rare. Instead, the burden of dating the sites fell on seriation, ratios of obsidian to chert, and obsidian hydration readings.

Even when sites could be dated to a particular cultural period, another kind of dating was necessary. If we were able to map only those sites that were occupied during the same year, the apparent population would still be too high because of the seasonal movements among Pomoan groups. Permanent towns were occupied throughout the year, but by a much reduced population in summer and fall; perhaps only old people and young children remained behind, while the rest of the residents moved to summer camps. In addition, these camps were rarely inhabited all season; more frequently, families moved through a number of summer camps during the season to take advantage of ripening foods. Lake Sonoma project archaeologists recognized a number of clues that indicated season of occupation. The location of the site—within a flood plain that would be submerged in winter or within a dry drainage with no water in the summer—often suggested season of use. In some regions, studies of animal remains at a site can give more precise clues; the bones recovered may be from migrating water fowl that are only in the area for a few weeks or months of certain seasons, or bone of young fawn may be used to fix the site's occupation in the spring. In the acid soils of the North Coast Ranges, however, few identifiable bones survive to be found by archaeologists.

Warm Springs Sites Categorized by Area, Depth, and Richness of Midden

	Large			Medium			Small		
	rich	med	poor	rich	med	poor	rich	med	poor
Deep	593	582		597	566 567 568 584		572 571	576	
Shallow				608		578	583	577 603	575 604 589 601 595
Surface			579					586 541	564 581 596 592 588 587

LAKE SONOMA AREA SITES

Northern Section

Before Lake Sonoma inundated the area, Dry Creek flowed through an open valley north of Pritchett Peaks. Some of the area's largest sites occurred just north of the peaks, where stream terraces formed wide meadows and the creek was broad and slow. Towards the west, the valley became narrow, slopes dropped off steeply to the creek, and the water flowed more briskly. The only available spots for habitation in this area were narrow terraces above flood level. Despite their restricted locations, the sites in this area were once of major importance. At the eastern end of the project area, Yorty and Cherry creeks flowed toward Dry Creek through narrow wooded canyons; here living space was also restricted, but, unlike the western section, the camps and hamlets in the east were only sparsely used.

Several major resources attracted people to the northern section. First, there was the open terrain, which offered ample living space and made travel and communication relatively easy. Plant life in the area was diverse, with both an abundance and a variety of economically important oaks. The northern section also offered some of the best fishing in the area, and hunting here and further west toward the Gualala divide was considered outstanding during the 19th century.

Archaeologists grouped the sites in the northern section according to size, depth, and richness (based on the quantity of archaeological materials within a 10-centimeter excavation level). As can be seen in the above table, most of the sites fit our understanding of ethnographic site types. Large sites are defined as having 20 or more housepits, giving an estimated population of at least 120 people each. It is not surprising to find at the large end of the scale that these sites were also deep and rich. These two sites (CA-Son-582 and -593/H), occupied at different time periods, are candidates for the principal town of this tribelet, the focal point for the cluster of sites. Small living sites had room for only one or two houses; the majority of these, which proved to be either shallow or surface sites, were likely to have been seasonal camps visited occasionally for a few days every few years for hunting, fishing, or gathering other foods or resources. Between these two groups are the medium-sized sites, most of them showing long-term, medium-intensity occupation. Again, these fit well into the ethnographic site types: one might call them the hamlets, or satellite villages, occupied by four or five families who formed a kin group. The display of these sites also meets another expectation: from ethnographic analogy, one would expect only one or two large towns at any one time and numerous small surface camps.

But some interesting questions are raised elsewhere on the table. One large site, CA-Son-579,

had very few artifacts or toolmaking waste and no midden indicating habitation. Why was such a large area used so sparsely? So little information came from this site that the question remains unanswered. Far more curious are the sites that are small, yet deep and rich; there is nothing in the ethnographic literature to explain their use.

Perched on nearly inaccessible, boulder-strewn slopes, the two small, deep sites—Poolside (CA-Son-571) and Banded Rock Pool (CA-Son-572)—are essentially twins. One-quarter mile apart in the rugged western section, their high, narrow terraces overlook deep, still pools in the creek. Next to each pool, on a lower terrace, abundant food-grinding tools indicate family use for centuries. Just downstream are two petroglyphs of unusual proportions; over 25 feet long and 12 feet high, one of these petroglyphs is covered with hundreds of cupules. The two small sites and the two major towns downstream are the focal points of the following settlement history proposed by archaeologist Baumhoff.

Beginning in the early Skaggs Phase about 3000 B.C., the Cherry Creek site (CA-Son-582) was the major town. It lay on a promontory several miles downstream from the twin pool sites, in the topographically gentler area just north of Pritchett Peaks. At this time, occupation of Banded Rock Pool (CA-Son-572) had begun. Later in Skaggs Phase times, people also began living at Poolside (CA-Son-571), and even the early occupation of this site shows an extreme specialization in toolmaking, with obsidian appearing here long before it was introduced elsewhere in the Lake Sonoma Area.

Towards the end of the Skaggs Phase, around 500 B.C., and on into the Dry Creek Phase, activity at these twin sites began to flower. The intensity of toolmaking suggests a degree of specialization at these sites rarely seen in California. In fact, during the Dry Creek Phase alone, Poolside produced one-quarter of all the obsidian waste flakes found in the entire project area for all three periods. More people moved near this cluster during the time of the Dry Creek Phase; two new hamlets developed downstream, one at the elaborate petroglyph mentioned above. The population of this little enclave had grown from about a dozen people to over 75, but no more than one or two families were living at each of the pool sites. As the archaeologists put it, "tremendous things were happening at the 571-572 complex" during the Dry Creek Phase (7).

While the Poolside complex was experiencing its florescence, the major town downstream had been abandoned, and the bulk of the population had moved to the broad open terrace at CA-Son-593/H. Petroglyphs were also present at this site, but they formed quite a different pattern from the large, fairly isolated boulders upstream. Here they were found on 36 small, flat boulders scattered at the edge of the terrace, fully accessible to everyone walking from the town to the creek. Although the population during the Dry Creek Period was high, the midden at the site suggests less intensive, wider-ranging activities.

From the population shifts and activities represented by the material remains, Baumhoff proposed that the Poolside complex was an enclave for specialists including 1) the traders, since the obsidian was brought there from many miles away; 2) the craftsmen, because of the large number of obsidian chips and specialized tools; and 3) the shamans, because of the petroglyphs. He concluded that the tribelet leaders lived at the Poolside complex, while the common people lived at CA-Son-593/H. Such specialization has been known to occur in egalitarian societies, but when it takes place along with segregation of residence, then it is likely that class distinctions are present.

Indications of social stratification have been found elsewhere in the California archaeological record. It is not uncommon to find prehistoric cemeteries in which some burials have abundant wealth items and others have none. Generally these burials reflect a gradual increase in wealth consciousness and status over time, with the basic pattern remaining primarily egalitarian. A pair of sites on the Tiburon Peninsula in Marin County offers a rare parallel to the Dry Creek pattern (8). From a study of burials at these sites, archaeologist Tom King proposed that the large shellmound site was occupied primarily by people of low status, while a small site overlooking it had been the home of the upper class. Before this find, archaeologists generally equated large sites with social importance, while small sites were considered peripheral to the society. The Tiburon sites date to the same time span as the period of the Dry Creek Phase, when the Poolside complex was in flower. At Dry Creek, the case is more pronounced, with several sites supporting the hypothesis.

Archaeologists take notes at CA-Son-571

A major change occurred in the northern section during the Smith Phase. Poolside was abandoned, and Banded Rock Pool became an undistinguished site. The hamlets adjoining them were still occupied, but they no longer gave evidence of specialization. CA-Son-593/H remained the major town, but artifacts became abundant, suggesting that specialists may have lived with the rest of the community. To archaeologist Baumhoff, this shift indicated a change from an hypothesized earlier Pomo religion which encouraged rigid social stratification, to the more egalitarian Kuksu cult, which was practiced into the historic period. The Kuksu was brought to the Central Valley of California by Penutian groups: peoples who began migrating into California from their homeland in Oregon several thousand years ago, settling portions of the North Bay around 500 B.C. Penutians may never have ventured near Dry Creek; some of their technological innovations and their religion, however, gradually spread throughout central California. Project archaeologists suggested that the Dry Creek Phase represented the height of Pomoan culture, with the beginning of the Smith Phase, around A.D. 1300, marking the end of Pomoan distinctiveness. By the time of historic contact, cultural differences between Pomoan and Penutian groups had become minimal.

Some archaeologists see this history of Dry Creek as too elaborate for the available evidence; in fact, Baumhoff proposed it with caution. What is of greatest interest here are the kinds of ideas about economics, sociopolitical structure, and the role of religion that can be generated from looking at site groups rather than isolated sites. Future settlement pattern studies may clarify some of these ideas.

Southern Section

Warm Springs Creek flowed through a more restricted canyon than Dry Creek, and fewer areas were suited for habitation. But where open flats were present in the lower part of the drainage, some large important villages were found. While no large villages were present further upstream, some small, deep sites attest to long use.

Cataloguing artifacts in the Lake Sonoma prehistoric field lab

Several important resources may have attracted people to the Warm Springs drainage. A major trail to the coast, to become the Stewart's Point-Skaggs Springs Road in the late 19th century, followed the creek. The trip to Stewart's Point required one or two overnight stops, and some of the archaeological remains in this area may have been left by outsiders who did not control the area—people from the Russian River Valley and Clear Lake who made annual trips to the coast. The drainage was also rich in plants: numerous major sedge beds were found here, and it was one of the few places locally where the important medicinal and ceremonial plant Angelica could still be found late in the 20th century. The drainage also held abundant tracts of tan oaks, especially prized for their large, rich acorns. The major mineral resources were present: a large, heavily used chert quarry, and Kahowani, the hot springs later to become the Skaggs Springs resort.

No petroglyphs were found by archaeologists in this section, an absence that is especially curious given the sacred importance of the area ethnographically. For the Kashaya (Southwestern Pomo) people of Stewart's Point, the area is imbued with spiritual significance, and travel through the drainage requires special ritual observances. Petroglyphs may have been more often associated with the core of a tribelet, as we saw in the northern section; if so, they would be expected in the lower Dry Creek Valley and not in this peripheral area.

There were two site clusters in the southern section, totaling 14 living sites. Eight of these, most of which could not be dated, were probably temporary camps for small groups. It is possible that Kahowani (CA-Son-594) was once a focal point for the area. Anthropologist S.A. Barrett reported that numerous mortars, pestles, other large stone implements, and arrowheads had been noted by the Skaggs Springs proprietor around the beginning of the 20th century, but by the time the location was acquired by the Corps of Engineers, little remained of the site. Since there were as many as 300 daily guests during the resort's heyday, it seems likely that most Indian "curios" would have been picked up, while the extensive land modification, for resort construction, mining operations, and later Corps of Engineers activities might well have obliterated all midden or other evidence of occupation.

Descendants of the Makahmo and Mihilakawna do not recall hearing of these springs, but Kashaya elders know of intensive use of the area by their people. According to the elders, the hot springs were used to treat the sick. Several doctors stayed at the springs, each owning a separate pool at which curing ceremonies were performed. The springs were considered sacred, and people approached them only

after praying and performing special rituals (9). Hot springs were also sacred sites in other areas of California, and mundane activities such as food-processing were carried out elsewhere. The presence of food-grinding equipment and arrowheads at CA-Son-594 suggests a different, perhaps earlier, use of these springs.

The most striking feature of the living sites on Warm Springs Creek was the large number of hamlets present. Several of these were probably temporary camps, suggesting an unusually large number of people together in the summer, during a season when populations are believed to have been more dispersed. Four of the hamlet-sized sites were deep, rich middens, indicating longer, year-round use. Two sites date from the beginning of the Skaggs Phase through the Smith, and perhaps into historic times. The important trail in the area may account for some of the sparser hamlets. With the presumed principal town of this territory about 10 miles downstream in the middle of Dry Creek Valley, the more heavily occupied Warm Springs hamlets do not fit the ethnographic pattern, in which satellite villages were within an easy walk of the tribelet center.

One of these major hamlets, called Oregon Oak Place (CA-Son-556/H), was an especially deep midden, more than three meters, or approximately 10 feet, deep. The site was rich in artifacts, toolmaking debris, firecracked rock, and animal bone. In addition, obsidian artifacts appeared early at this site, and they consistently—sometimes greatly—outnumbered chert tools. It is tempting to propose that the site was the home of specialists, like those on upper Dry Creek, but surrounding sites give little support for this idea. There was a complete absence of the very small, rich sites found in the northern area; if specialists were living at Oregon Oak Place, they followed a different pattern.

The two other deep sites were first occupied during Dry Creek Phase times, suggesting that population had grown by this point. One was CA-Son-553, called "Double Black Dirt Delta" by the survey crew, found at the only opening in the narrow canyon for over a mile in either direction. Shell was relatively abundant at this site, suggesting frequent visits to the coast. Unusual finds were some rounded clamshell bead blanks, some with holes and some without, suggesting that the making of shell money occurred at

Archaeologists at work at a site on Warm Springs Creek

this site. In the narrow canyon about one-quarter mile downstream from the site, a waterfall poured into deep pools filled with trout—one of the more important fishing spots in the drainage. At the westernmost end of the southern section, Serene Flat (CA-Son-544/H) was another rich midden site, also occupied from the Dry Creek Period up to the time of contact. Among the abundant artifacts found at this site was the only complete clam disc bead found in the project area, assigning the site's later phase to post A.D. 1500.

Rancheria Creek was the major tributary of Warm Springs; it flowed year-round through a small valley containing a cluster of related sites just upstream from its confluence with Warm Springs Creek. A focal point of this cluster was the Broken Bridge site (CA-Son-547/H) on a small terrace one-half mile upstream from the confluence, near a series of shallow bedrock pools. The terrace was first occupied at the beginning of the Skaggs Phase, and occupation continued through the Dry Creek Phase. By the Smith Phase, the site was too small to accommodate all the inhabitants, and a nearby terrace (CA-Son-546/H) may have housed the overflow of the population. Three other midden sites were nearby, all assigned to the Smith Phase, indicating a continued growth of population and a need to expand. Despite the small size of these sites, they appear to have comprised a year-round population center.

Several questions arise from a look at the sites in this area. The intensive use of many of the sites suggests more than a peripheral hunting-collecting area, and further research may reveal that the people in this area were organized quite differently than ethnographic information indicates.

Central Section

The central section—the buffer zone between the two tribelets according to Lake Sonoma project archaeologists—was bounded by Pritchett Peaks on the northwest and the mouth of Warm Springs Creek on the southeast. Upstream, the canyon was steep sided. Terraces were narrow, rocky, and densely wooded, and travel along the creek was difficult. Towards Dry Creek's confluence with Warm Springs Creek, near the present-day damsite, the area opened to broad flat terraces, ideal for native living sites. In addition to good fishing in the central section, major sedge beds were found near the confluence, and useful willow stands were abundant.

In the westernmost two miles of the central section, only one archaeological site was present. This site had one housepit but no midden; excavating in the area revealed only one flake. Much of the soil in this stretch has been identified as "Rock Land" in the Sonoma County soil survey, not an inviting medium for habitation (10). Further downstream, a weakly developed midden appeared, but few artifacts were found and none could be used to date the site.

One site toward the eastern end of this canyon is of great interest, although investigation of the site yielded little information. On a wooded flat on the south side of the creek, CA-Son-598 is the only large habitation site that does not conform to the pattern of living on the sunnier slopes of drainages. There were 21 well-defined housepits on the terrace, indicating a population size of around 120 people. One of the depressions was sufficiently large to have been a dancehouse. At the edge of the creek, a single petroglyph was found—the only one outside the northern section. What made this site unusual was not just its shady, inaccessible location, but the fact that there was no midden and only a few cultural materials were present in a site that clearly housed a large population. Interviews carried out with a descendant of the Dry Creek people gave insight into its history (11), which is described in Chapter 7.

Remains of the two sites (CA-Son-542 and -600) on the open terraces near the Warm Springs/Dry Creek confluence were so damaged through historic use that they left little archaeological information. From the low cultural remains, it is clear that these superior locations were among the first to be occupied in early prehistoric times. During the historic period, they were again the first areas known to have been occupied, this time by Euroamerican farmers who seasonally plowed the soil. This annual churning of the sites' contents, and the curio collecting that was common among early settlers, stripped the sites of almost all evidence of their prehistoric occupation.

The study of the Lake Sonoma Area sites and their interrelationships yielded massive amounts of information regarding settlement pattern, which required equally massive efforts to interpret. Analysis of some sites and their settings took months, even years. The complete study of 61 sites could be a lifetime's work, and many questions still remain unanswered. Archaeologists interested in settlement pattern will no doubt be studying these data for many decades after the creation of Lake Sonoma.

Artifacts collected over the years from near the present damsite, photographed at a Lake Sonoma Area home, 1974

University of California Anthropologist S.A. Barrett at door of Pomoan summer dwelling
(photo by S.A. Barrett, courtesy of the Lowie Museum, University of California, Berkeley

CHAPTER 7

HISTORIC SETTLEMENT PATTERN: AN INTERDISCIPLINARY STUDY

INTRODUCTION

The prehistoric settlement pattern discussed in Chapter 6 may appear rather static, with little room for innovation or change. This was certainly not the case; many aspects of change leave no discernible trace for the archaeologist to interpret. Only for relatively recent times, well into the 19th century, do we have direct knowledge of the causes of change in patterns of local settlement and demography. As our studies take us forward into the historic past, oral tradition and written sources can be used to reconstruct these patterns, often with specific reference to the Lake Sonoma Area itself. As history is often reckoned in connection with critical events, these sources tend to document major disruptions to existing patterns of life, providing an interesting contrast to the picture of a timeless equilibrium implied by the description of delicately tuned seasonal movements.

NATIVE AMERICAN SETTLEMENT

Native Americans in the Early Historic Period

The coming of Europeans caused change to the entire native population on a hitherto unprecedented scale. Yet there is every reason to believe that influences such as economic innovation, local environmental change, regional warfare, and the spread of new religion had brought about similar, though less drastic, types of change in the past, the details of which are now lost to us. There is linguistic and archaeological evidence, for example, that the first inhabitants of the project area were displaced by Pomoan "invaders," who expanded from the Clear Lake region to take over most of the North Coast Ranges. There is also evidence from the more recent past that major disruption of native northern Californian lifeways began before the first Spanish or Russian settlement in the area. Some scholars believe that intermittent contact between 16th-century coastal explorers and California Indians may have resulted in the rapid spread of European diseases throughout the region. Thus, the native population may have been considerably reduced before European settlement of California.

In a study of population trends, Sherburne Cook estimated that the number of missionized Indians declined by about 62 percent during the mission period. Lack of resistance to introduced diseases—smallpox and influenza, in particular—took its toll on the native population, both mission-dwelling and free. In general, the mission Indians fared worse.

The population of non-mission northern and valley groups was depleted through warfare, disease, and forced removal, but the native peoples eventually adopted types of behavior, including new techniques of defensive warfare, calculated to stop further loss of territory and integrity and to insure their ultimate survival. These Native Californians managed to retain much of their social and religious character while appropriating and modifying a few features of White material culture. Cook suggested that the non-mission Indian had evolved new behavior patterns which, "if he had been left alone, might have permitted him to cope on fairly even terms with the invading race" (1).

Beginning in 1823 with the establishment of the Mission San Francisco Solano de Sonoma, native groups to the north of Santa Rosa were subject to raids, capture, and conversion by Iberoamerican forces. Local Pomoans were taken as neophytes to the Sonoma Mission, but many stayed only a short time before fleeing and returning home. The Russian Baron von Wrangell, who traveled up the Russian River in 1833, wrote of the fate of some of these fugitives. His expedition stopped with a group consisting mainly of Indians who had escaped from the Sonoma Mission and lived in the "impenetrable forests," ready to repel any further attacks by outsiders. Although on more friendly terms with the natives than were the Iberoamericans, the Russians also forcibly removed Pomoan women and young boys, taking them to Russia as wives and servants.

It was just before this time, during the 1820s according to knowledgeable Pomoan tribal scholars, that a Spanish priest arrived at the principal Makahmo village, located near the present community of Asti, and began forcibly baptizing its inhabitants in the village assembly house.

Mission San Francisco Solano de Sonoma, established 1823 [restored]

One of the local captains and his supporters protested the priest's action and proposed that the man be killed. Other villagers were afraid that if the priest were opposed he would curse the entire community. Finally, the dissenters secretly moved out of the village and, in their search for another territory to claim, came upon the Dry Creek uplands.

This location had the twin advantages of being both off the main north-south trail, and therefore relatively secure from further alien incursions, and being unclaimed by other tribelets at that time. Members of the group later moved into the upper Dry Creek Valley, either joining or replacing the area's original inhabitants. One Indian elder had been told that some of the original (Dry Creek) people had congregated at a large, remote village in the rugged area beneath Pritchett Peaks. Some of its residents were said to have starved to death when, in later years, they became too fearful of being seen by settlers even to venture out of their hidden village to gather food. This story may refer to the village of Amacha, probably located at archaeological site CA-Son-598, which was excavated in 1979 (2).

The archaeological remains of Amacha included a complex of 21 housepits on the south bank of Dry Creek, directly below Pritchett Peaks. A petroglyph rock containing 31 cupules was located at one end of the site, just above Dry Creek. Archaeologists found no evidence of midden and practically no cultural materials at Amacha, unlike other village sites. Based on this negative evidence and the apparently unfinished state of some of the housepits, archaeologists suggest that Amacha was only occupied for a short time and may have been abandoned prior to its completion (3). Given the number of housepits, however, the population of the village would have been relatively large—perhaps more than 100 people. According to Pomoan scholars, the Bill family lived at Amacha until they were routed out by soldiers in the 1850s.

The brief period of the 1830s through the 1850s saw the conversion of the Mihilakawna and their neighbors from a condition of self-sufficiency to one of dependency on wage work, with starvation as the alternative. The transition resulted from loss of land and an enormous death rate, caused both by military means and by the new epidemics of smallpox, syphilis, and influenza that swept the North Bay area,

Site of Native American village "Amacha" [CA-Son-598]

decimating the Indian population and making many of those who remained unable to gather sufficient food in traditional ways. Among the military and paramilitary actions were Mexican General Vallejo's raids of the 1830s, during which villages were destroyed. The native inhabitants of the northern frontier were eventually subdued; many people took refuge in the hills, while others stayed on at their few remaining villages, which were being engulfed by the newly established Mexican ranchos.

In 1843 José German Peña filed a petition for a land grant in the Dry Creek and Alexander valleys. The sketch map filed with his claim indicated four Indian villages, or rancherias, possibly including Ahkamodot (CA-Son-612) to the north of the Peña adobe. Before the Gold Rush, Indians performed nearly all of the work on California ranchos. To avoid rancho life, many Native Americans abandoned their principal villages and, in small groups, settled remote regions of their original territory; some of the archaeological sites in the Lake Sonoma Area date to this period of dispersal. The flight to the hinterlands caused labor problems on many ranchos, including the neighboring Sotoyome grant near Healdsburg. Such labor shortages were commonly overcome by kidnapping native peoples. This practice continued well into the 1860s, when Indian children were sold by kidnappers to settlers as household servants (4).

Americans rapidly settled the Dry Creek Valley during the 1850s. As described in Chapter 5, some squatted on what was the Peñas' claim, while others ventured onto public lands. According to the 1852 census, William Miles (father of Elizabeth Pritchett) and his two sons, the Peñas, Isaac Stailey (uncle of Malinda Miller Scott), Joel Ragan, and a few other settlers were then living in the Dry Creek Valley. The census also noted that 80 Indians lived on the Peña Ranch, some of whom undoubtedly worked as vaqueros. The fortunes of the Peñas and these Native Californians were closely linked. The Pomoans supplied the Peñas with a cheap labor force and, due to their large number, an advantage in holding the Tzabaco Rancho against squatters. In return, the Peñas supplied the Pomoans with food, clothing, and a place to live in relative security. A native woman, Juana Cook, was married to Pancho Peña, the brother of grant holder José German.

As the settlement of northern California quickened in the 1850s, an effort was made to move the native peoples onto newly created reservations. In

about 1856 the Pomoan Indians were "rounded up" from the Russian River and Clear Lake areas and "driven north." The event is known to contemporary Indians as the "Death March" for the number who died during the one hundred or so miles of forced march (5). This removal also coincided with a period of rapid settlement in the Dry Creek Valley. The Pritchett family arrived in 1855 and, according to family lore, purchased a cabin from a man whose partner had been killed by Indians (6). This cabin was less than two miles from Amacha.

The loss of their native supporters must have been a severe blow to the Peñas. As early as November 1853, the heirs of José German had sold much of the Tzabaco Rancho to John Frisbie (7), while apparently retaining possession. At the time of the Death March, Pancho helped his wife, Juana, and her family to escape to the coast. The 1856 harvest was disastrous for the Peñas. It was reportedly a dry year, they had no Native Americans to help with the work, and their grain field burned. Later that year, in November, the Peñas sold the adobe and 132 acres to D.D. Phillips.

Native Americans after the Dispersal

After a time, many Pomoans returned to Dry Creek in small groups. They found that in their absence their land had been usurped by settlers, their villages burned, and their grinding tools taken. The latter must have been a particularly hard blow to the returning refugees, as the stone mortar and pestle were essential for the manufacture of acorn flour and pinole, which constituted these people's staple food. With many of their villages now on "private" land and the ever-present threat of reprisals because of their return from exile, most Indians feared to reoccupy their previously held sites. After a period of dispersed living, some groups formed a small community on Dry Creek, apparently on land still held by the Peñas and possibly on the site of the old village of Ahkamodot.

From the 1860 census, it appears that while the Dry Creek Valley south of Peña Creek, including the old adobe, was held and farmed by settlers, the upper Dry Creek Valley was occupied by "rancheros," including Francis (a.k.a. , Pancho or Francisco) Peña (8). Francis resided with a Chilean ranchero named Powell Maxberona; the unlocated Dry Creek Pomo site whose name translates to "where Powell is" may relate to him and the Pomoan presence at this site. By this time, the Peñas' land claim had been confirmed by the District Court, making their title more legally binding. By then they had sold the Tzabaco Rancho for a second time to John Frisbee, this time reserving 200 acres for their own use (9).

The Peñas' 200-acre property was north of the adobe and south of Dutcher Creek on the east side of Dry Creek. It probably included the village of Ahkamodot, where the Bill family was said to have lived while working for the Peñas. In 1870, Pancho managed the family property where he lived with his brother and sister-in-law and their six children; Blas Peña, his wife, and their three children lived on the same parcel. Both ethnographic sources and historic documents suggest that many Pomoans continued to live on the Peñas' property. In 1870 Pancho purchased large quantities of bacon, calico, and muslin, items commonly used to pay native workers. He also paid his bills in part with sacks, which may have been made by native women (10).

It appears that the old rancho system continued until 1870, with Pomoans working for food, clothing, and a place to live, and the rancheros raising cattle and crops on a reduced scale. Traditional entertainment continued as well: the grandson of D.D. Phillips remembered his grandfather's account of the last Mexican "fandango" held on this property (11). One Pomoan elder described the more mundane activities on the ranch:

> Pancho raised cattle. They drove them. He had Indians working for him, had some Spanish people also. They drove them [cattle] to Napa; where they sent them on boats, I don't know where. Beans, peas, corn, wheat, were raised on Pancho's ranch. He was well to do . . . White people drove Pancho and all his men back where they came from (12).

In August of 1870, Frisbee appears to have sold the 200 acres claimed by the Peñas. The Peñas, and presumably their Native American help, left the property. Significantly, it was at about this time that the Pomoan settlement known as Polosha Chunalokwani, or "Oak Ball" village, was established (13).

Pomoan elders cannot remember the exact location of Oak Ball. In spite of being a "big village" with "lots of people," it apparently had neither an assembly house nor a cemetery. The "Indian houses" there were said to have been occupied year round, an innovation no doubt brought about by the usurpation

Pomoan family camping by the Russian River, circa 1900 (photo courtesy of Elsie Allen)

of the land by settlers, and one that indicates a significant change from the old pattern of seasonal movement. The 1880 census listing for Oak Ball shows 23 individuals in what appear to be two extended family groups, all connected by marriage to the Bill family (see figure in Chapter 8). The men, except for one 70-year-old, worked as laborers, probably on neighboring ranches and farms. By 1880 a few Mihilakawna families had also returned to the Dry Creek Valley and resettled either very near or actually at their old rancheria near the Peña adobe, possibly the ethnographic village of Olowicha (CA-Son-624).

Oak Ball village was reportedly occupied until the 1880s or 1890s. At this time, the resident families of Oak Ball, numbering in excess of 30 individuals, dispersed throughout northern Sonoma County. At least two families moved onto White-owned farms. After leaving Oak Ball village, the Bill and Lucas families moved onto the ranch of Beneval Cordova, a Yaqui Indian from Mexico, who had married Nellie Lucas. Cordova lived with his family in a three-room cabin, while the "old people" had a house nearby. The ranch also had a wooden assembly house and a cemetery. By May of 1910, the Cordova Place had grown to be a community of at least 35 people consisting of the two old Oak Ball families who were living in two multiple-family, three-generation households (14; see figure in Chapter 8).

By the turn of the 20th century, a new settlement pattern was apparently well established among those northern Sonoma County Indians who were not fortunate enough to have the security of a "Cordova Place." Like the traditional way, the new practice was tied to the changing seasons. Now, however, the quest for employment and the acquisition of a place to live safe from harassment were added to the necessity for food and other materials that were gathered in season. Under the new settlement system, winters were spent in wooden cabins on local ranches. Since paid work would have been scarce at this time of year, it is possible that the "odd jobs" and

Manuel Cordova in dance costume
(photo courtesy of the Edwin Langhart Museum, Healdsburg)

"woodchopping" that reportedly occupied the men were done at least partially in exchange for a place to live.

The 1900 enumeration for the area including the Dry Creek uplands lists three Indian families living in "moveable dwellings." Since the census was taken in June, it is possible that these people were camping while pursuing traditional subsistence practices or temporary agricultural work. In this area, archaeologists found a housepit (CA-Son-588) which may have been built by Native Americans who worked seasonally on the Yordi Ranch. Archaeologists have dated this somewhat non-traditional structure to around the turn of the 20th century. Waste flakes from the manufacture of stone tools and objects of Euroamerican origin, including ceramic tableware, glass bottles and jars, an eyeglass lens, and a slate pencil, were found together in the housepit (15).

In the summer, old people and young children followed the old practice by moving out onto the collecting grounds. There they lived in traditional willow-branch houses while gathering plants, nuts, and berries to support themselves, as well as sometimes hiring out for pay. In her account of this practice, one woman described the hut she and her family occupied as having been made of willow and having two rooms. This is an interesting mixture of traditional Pomoan house construction techniques combined with a Euroamerican divided floor plan, perhaps reflecting the two cultural worlds which these people were spanning. Meanwhile, children over about ten years of age and those adults who could work, spent part of the summer picking hops and fruit for local farmers, shearing sheep, and performing other seasonal labor. In addition to wage work, some Indian families spent time collecting seasonally available plants and nuts, hunting, and fishing. Trips

to the coast for shellfish, surf fish, seaweed, and salt continued to be made at this time of year. The route from Healdsburg passed up Dry Creek Road and west on Rockpile Road. The journey had to be carefully planned so the night could be spent on the land of some sympathetic local rancher. Collecting acorns remained a particularly important activity in the fall. Some sites along Rancheria Creek are known to have been used for this purpose.

Until 1910 many residents of the Cordova Place camped along Rancheria Creek on the ranch of Frank Soule (CA-Son-1211/H). James Shackley, whose wife and children lived at the Cordova Place, worked for Soule clearing brush and timber for pasture, and each year Shackley's family and other relatives spent time on the Soule Ranch. The men hunted deer and wild hogs, while the women and children collected tan oak acorns and buckeye and pepperwood nuts. In only a week, they collected enough to last the family for a year. Later, Soule harvested the bark from the tan oaks, killing the trees and bringing an end to acorn collecting there (16).

Kashaya Pomo also had camping spots along Rancheria and Warm Springs creeks. From around 1870 until 1919, two Kashaya villages were occupied on the Haupt Ranch west of the Dry Creek-Gualala divide. It is said that Charles Haupt had married a Kashaya woman, and in order to keep her from running away to join her family, he invited them all to live on his property. Like the Dry Creek Pomo from the Cordova Place, the Kashaya from the Haupt Ranch engaged extensively in traditional subsistence practices. Kashaya tribal scholars recalled many sites in the Warm Springs/Rancheria Creek area that had been used by their people in the past, including CA-Son-544/H, or Serene Flat, where there was a large permanent village, and CA-Son-555/H, the Mead Homestead, where people camped while gathering acorns and basketry roots (17).

These resource-gathering practices remained of great value to the cultural as well as the physical survival of local Indians during the late 19th and early 20th centuries. We can speculate that food collected in the summer and fall provided much of the people's winter subsistence, as it had traditionally. Although this modified seasonal pattern gradually diminished, access to land became more restricted, even in the 1980s some local Indians still engage in the seasonal collection of foodstuffs, ceremonial and medicinal plants, and handcraft materials.

In 1909 Cordova sold his property. The Bill and Lucas families continued to live there until the winter of 1910, when they were forced to leave by the new owner. Having nowhere to go, they sought refuge under a bridge along Dry Creek:

> We were thankful for the bridge, it was our roof. People put up blankets to keep the rain and cold out, and put canvas on the ground, so they didn't have to sit and sleep on the wet ground. . . .We were always cold and seemed like it never dried out under the bridge. . . . All the time hungry, the food ran out. .. Some good White people took pity on us, they gave us food and said we could stay at their places (18).

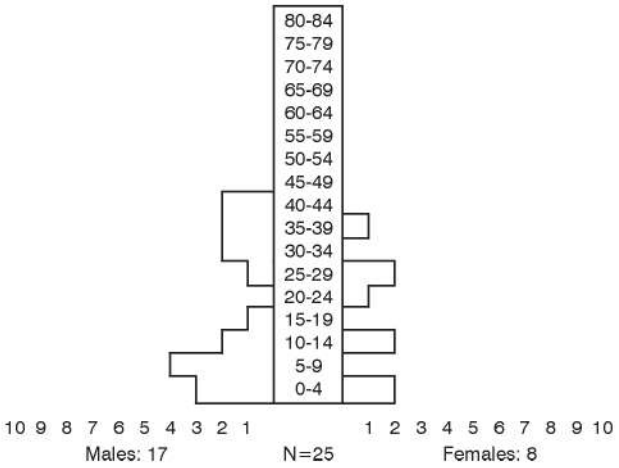
Finally in 1915, the federal government purchased land in the Russian River Valley for a rancheria, which the Dry Creek Indian people would share with Indians from Geyserville. Unlike their Dry Creek land, the new reservation had poor soil and was ill supplied with water. In the summer, when the water supply was low and agriculture was impossible, many rancheria residents worked on local ranches. Through the Depression years, the rancheria was well populated; later the population declined when residents began to move away to look for work. In the 1970s, the population began to climb somewhat, perhaps spurred by a declining national economy as well as an upsurge of Native American interest in maintaining traditional culture (19).

NEW SETTLERS

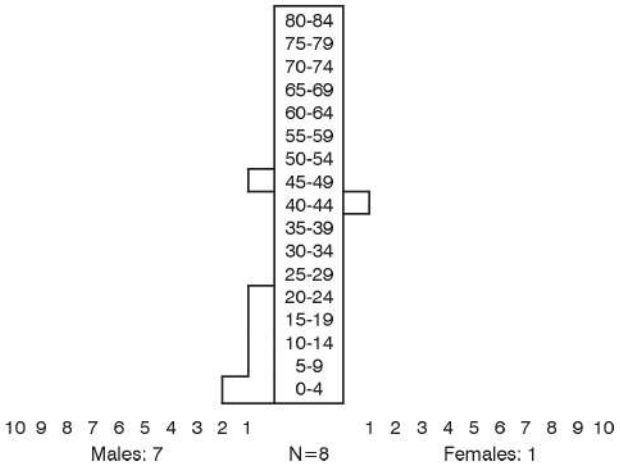
Demographic Profile of Settlers: 1860-1910

Demography—the study of the characteristics of human populations, such as size, growth, density, distribution, and vital statistics—is intimately bound up with settlement pattern. Prehistoric studies can do little more than estimate the size of a population, occasionally noting marked fluctuations and linking them to possible causal factors. Much more information is available for the historic period, but ethnic groups were frequently overlooked, and public documents were of little use in the foregoing discussion.

An excellent record is available, however, for the settler population from 1860 to 1910. In the present case, the population is defined as those persons who lived in the Lake Sonoma Area; this area includes only the land purchased by the Corps and not the



Demographic Pyramid: Dry Creek Midlands 1860



Demographic Pyramid: Dry Creek Uplands 1860

downstream area. Using census returns, the number and general cultural background of the people who occupied the area from 1860 until 1910 can be determined, along with the distribution of their age, sex, and occupational characteristics (20).

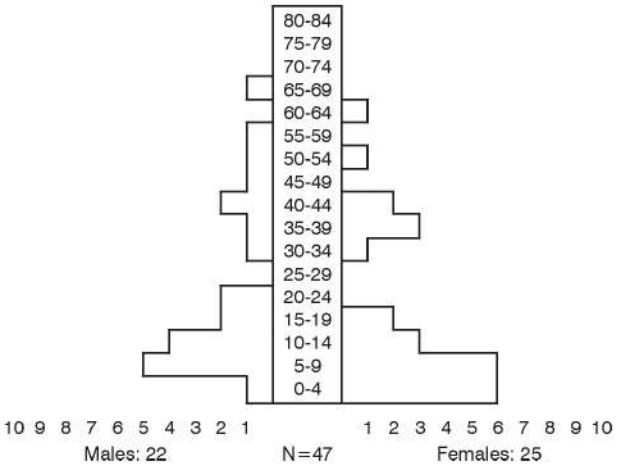
The Lake Sonoma Area straddles two political townships: Mendocino and Cloverdale. The portions of these townships within the project area differ in their environmental and settlement characteristics. Fluctuations in population were influenced by the differing land uses in the two townships. For this reason, we have created the terms Dry Creek midlands and Dry Creek uplands to refer to the Mendocino Township and Cloverdale Township portions of the Lake Sonoma Area, respectively.

The rich valleys in the Dry Creek midlands were settled before the rugged Dry Creek uplands. The 1860 census is the first one on which these settlers can be identified. The first settlers were predominantly from the Trans-Appalachian Frontier: Kentucky, Indiana, Illinois, Mississippi, Tennessee, and Ohio. Young men and families, initially attracted to California by dreams of gold, settled down to spend the remainder of their days in the area. Constructed from census data, the demographic pyramids depict the age and sex characteristics of the population. The pyramids for 1860 indicate a relatively young population in both areas, with no resident over 50. The frontier character of the 1850s continued, as can be seen by the fact that men outnumber women nearly two to one.

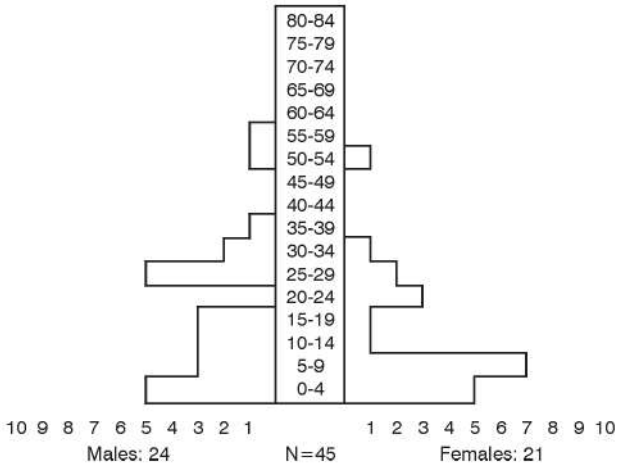
By 1870 the population of the Dry Creek uplands approached that of the midlands, which had nearly doubled since 1860. Growing pioneer families and recent arrivals account for this increase. The Trans-Appalachian Frontier states continued to supply immigrants to the area. In addition, adults from the Northeast, Canada, and northern Europe settled here. The 1870 demographic pyramids are more balanced than those of the previous decade, since they include a few old people and many children under 15. A large proportion (84 percent) of the population under age 20 was born in California. In a marked change from the previous decades, the sex ratio is equal, although there are still slightly more males than females in the marriageable age groups. All of these signs show an increasingly stable resident population.

The population of both areas increased by 50 percent between 1870 and 1880. The demographic pyramids show that the increase in the Dry Creek midlands was due to the arrival of adult male workers, while that in the more recently settled Dry Creek uplands was due to increasing family size, as well as to new arrivals. The difference between the two areas is also reflected in the sex ratio: males outnumbered females in both areas, but more so in the Dry Creek midlands.

Between the early 1870s and the late 1880s, the area experienced what might be termed a florescence, reaching its maximum population and diversification of activities. Both stockraisers and small farmers experimented with different agricultural techniques, while subsistence operators managed to get by and sometimes even to improve their status. The land was



Demographic Pyramid: Dry Creek Midlands 1870



Demographic Pyramid: Dry Creek Uplands 1870

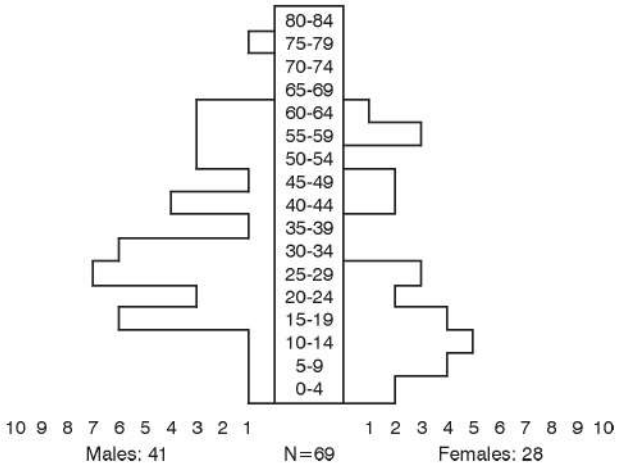
owned (or claimed) and worked by large families, sometimes with the help of kin or hired help.

Immigrants from Ireland, Germany, Switzerland, and Sweden planted vineyards and ran large herds of sheep on their properties. Alexander Skaggs employed natives of China and northern Europe as seasonal help at his resort. Persons of foreign and American birth coexisted as neighbors; in 1880 the number of foreign-born adults (32) approached that of American adults (39). Never again would people of such diverse cultural and national backgrounds reside within the area.

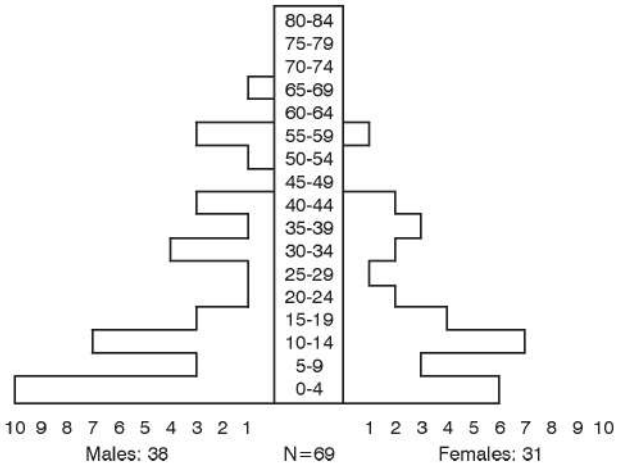
Fueled by a local incident, the Chinese soon became the focal point of racist propaganda. In the early 1880s, many local operators used Chinese workers as a cheap pool of domestic servants, fruitpickers, and woodchoppers. California labor organizations had been working for decades to eliminate this source of cheap competition, when in January 1886, Mr. and Mrs. Wickersham were murdered on their ranch, just a few miles west of Skaggs Springs, allegedly by their Chinese cook. This event received wide and sensational press coverage and provided a rallying point for an anti-Chinese movement that spread throughout the West and drove the Chinese out of numerous communities, to which they never returned. State-wide, anti-Chinese boycotts were organized in both California and Nevada (21). Locally, the *Sonoma Democrat* (30 January 1886) assailed its readers with three vivid descriptions (each different) of the victims. This must have brought home to many ranchers their isolated and vulnerable position.

Between 1880 and 1900, the population of the Dry Creek midlands increased slightly and remained relatively stable in composition, while that of the Dry Creek uplands declined by nearly two-thirds. The adverse economic and environmental climate of the 1890s put an end to many family enterprises. These conditions were particularly hard felt in the Dry Creek uplands, where two early settler families with large ranches lost their land due to foreclosed mortgages. Many families who practiced subsistence agriculture also left the area, as subsistence-based activities were forced out by the production of cash crops. These families were not replaced by new arrivals; their property was either assimilated into neighboring landholdings or purchased by nonresident investors. In both areas, only a few settler families with their adult children remained.

After the turn of the century, the Dry Creek uplands was characterized by increasingly large sheep and cattle ranches, some of which were run by hired managers. A few poorer families and individuals also remained; these people often worked as seasonal hired help and cooks on the large ranches. The families subsisted on local fish and game during part of the year, raising hogs and taking occasional work outside of the area to supplement their income. In the Dry Creek midlands, the family farms and vineyards continued. Some family members took jobs in town or worked as hired help on neighboring properties, while roadwork supplied some income to residents of both areas. At about the same time, local families began to hire Japanese men to work in the vineyards. The 1910 census also showed a Japanese carpenter working for



Demographic Pyramid: Dry Creek Midlands 1880



Demographic Pyramid: Dry Creek Uplands 1880

a Dry Creek uplands family. Japanese families continued to live in the area until World War II.

By 1910 the population of the Dry Creek midlands had declined somewhat as the pioneer settlers and their children grew old and died or left the area. Few new families moved in to replace them, since the people who remained bought out most of their neighbors. By this time, four generations of some settler families had resided along Dry Creek. (In fact, some of these families and their descendants remained until their land was purchased by the Corps of Engineers in the 1960s and 1970s.) The 1910 demographic pyramid indicates that young families, most of whom were recent arrivals, once again resided in the Dry Creek uplands. The Lake Sonoma Area possessed a relatively homogeneous population: nearly all of the under-twenty age group were California born, while only 8 out of 83 residents were of foreign birth.

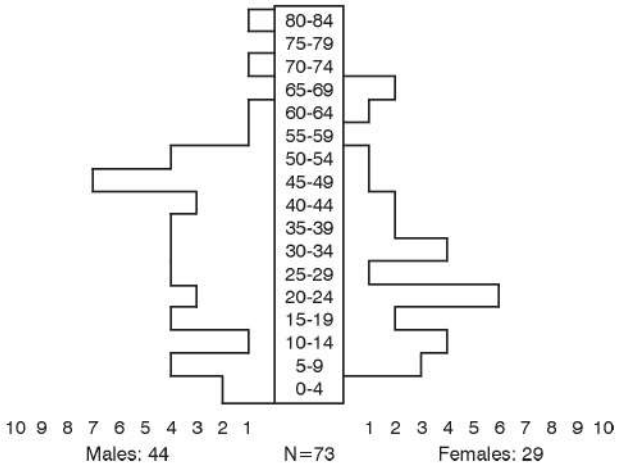
Settlers on the Land

Federal land policies had a profound influence on settlement within the Lake Sonoma Area, beginning with the squatters' disputes on the Tzabaco and Sotoyome ranchos, which delayed settlement within the project area. Although some local land grants were quickly confirmed by the U.S. Land Commission in the early 1850s, the legal boundaries and subdivision of both the Tzabaco and Sotoyome ranchos were not fully resolved until much later. Only then were the boundaries between public domain and private property clearly drawn, and squatters either obtained legal title to their claims or moved elsewhere. It was during this period of evictions that settlement increased on the public land within the Lake Sonoma Area.

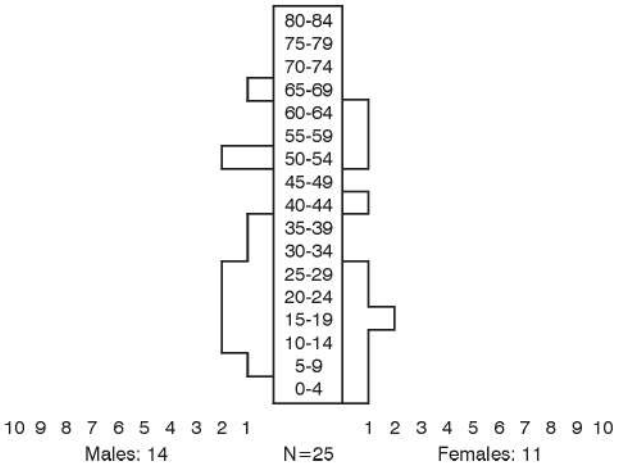
Ranch and Farmland

During the 1860s, settlement focused on two major resources: farmland along accessible creekside terraces, and well-watered grasslands along the ridgetop trail system. It was during this period that most of the eventually successful operators arrived in the area. These settlers faced a problem, in that they held no legal title to their land. Despite ambiguities in the preemption laws, unsurveyed public land could not be purchased and, until 1880, could not be homesteaded from the U.S. Government (22). Arranging for a General Land Office (GLO) survey for government land they wished to claim was therefore one of the settlers' first concerns. Prospective landowners were required to pay for the survey of public land that they planned to acquire. The GLO had a constant backlog of areas waiting to be surveyed, and did not begin work in the project area until 1872, by which time the area was already well populated. As detailed in the chapter on landholding, settlers had spread throughout the area and staked possessory claims to large tracts of land. These people usually purchased or homesteaded the most desirable portions of their original holdings as soon as the land was surveyed, gradually converting additional areas of their possessory claims to legal holdings.

A number of trends are apparent in the creation of local ranches. The most obvious is the advantage held by the first settlers in the area, who were able to secure the best land. By settling prior to the official



Demographic Pyramid: Dry Creek Midlands 1900



Demographic Pyramid: Dry Creek Uplands 1900

"opening" for sale of public lands, they were also allowed a period of experimentation with the environment without the need for capital outlay on land. Thus, viable ranch units could be established by the time the land was available for purchase. The next problem for these first ranchers was establishing legal claim and preventing the access of other settlers to their holdings (23; see also Chapter 5, this volume).

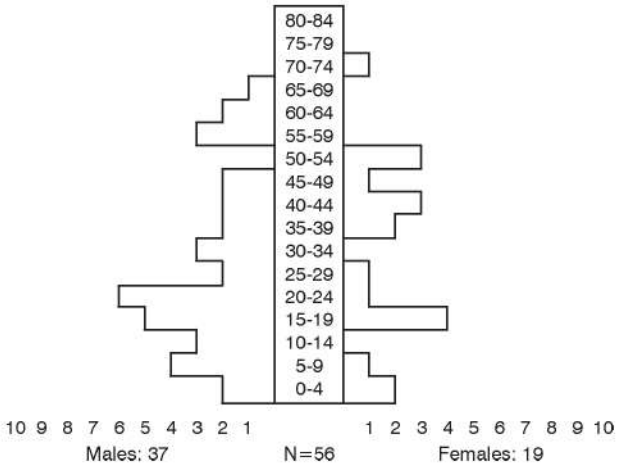
Some landholding strategies can be inferred from the relationship between an individual's holdings, natural features, and the relative position of others' land. Access to water was of vital importance in land acquisition. This need was met either by obtaining an entire stretch of creek frontage contiguous to the owner's original patented holdings, or by getting a single parcel with water frontage which was a short distance (less than one-half mile) from the major holding, with government land between the two. By the latter method, access to the scarce resource was assured with minimal capital outlay.

These practices, and their advantage to the rancher, did not go unnoticed by government officials. Writing of the North Coast Ranges in 1886, one official complained:

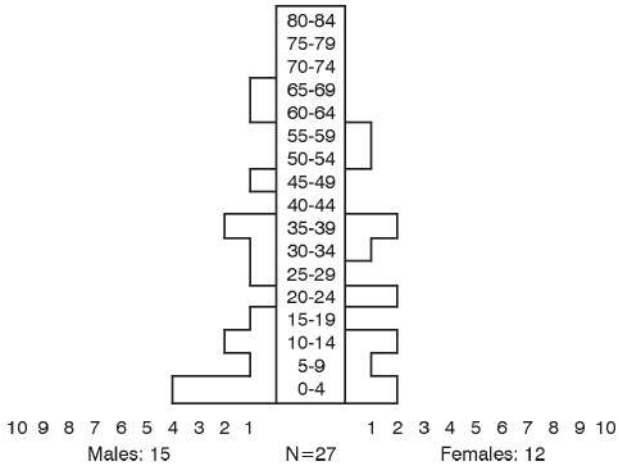
> There are ranges covering thousands of acres which are controlled (not owned) by sheep men, their holdings simply covering the strategic points of the range, possession of the water sources generally sufficing in itself to attain the desired end. Holding these points, the balance of the range is of no value to anyone else, and his herds range undisturbed over public lands. These lands are effectually excluded from settlement, the county and State governments deprived of legitimate sources of revenue, and at the same time valuable public property rapidly going to waste (24).

Although a considerable amount of land was still open for settlement in 1890, it was of little worth, for land had value only in relation to other resources, such as water, roads, and prime grazing areas, which had already been claimed. In the Lake Sonoma Area, the agricultural bottomland had been claimed by the early 1860s. The closing of the range is more difficult to pinpoint, but certainly by 1870 rangeland was no longer freely available to all comers. Access to town markets and transportation routes was another factor in settlement; rangelands near Cloverdale and along easily traveled trails were claimed before land in more remote areas (25).

Land purchases from the government declined in the 1890s, probably as a result of an 1891 federal law which repealed various public-land policies in an effort to discourage speculation. Patenting increased following the turn of the century, due to more changes in government land policies and the consolidation within the study area of many small parcels into a few large ones. Before this time, public land had often formed the boundaries between ranches. When these ranches were consolidated, the presence of public land within the holding threatened efficient management, for it could, at least in theory, be purchased by others. Thus the purchase of public and private land often coincided (26).



Demographic Pyramid: Dry Creek Midlands 1910



Demographic Pyramid: Dry Creek Uplands 1910

The accumulation of land in 40-acre parcels resulted in a checkerboard pattern of landholdings, for not all parcels were equally desirable. Consolidated by a real-estate investor in 1901, Baldwin's Surrey Ranch was irregular in shape and followed section or quarter-section lines for its boundary, which was 34 miles "in an air hue." Baldwin described the pattern and its formation as follows:

> In the early days the land had been homesteaded or bought with a view to grass and to leave out as much as possible waste brush land. Later seven small ranches had been bought up and made into one larger holding. This accounted for the irregular shape, but though it required more fencing, it was all in one body and took in much less waste land than if it had been somewhat more uniform in shape (27).

Changes to the 1862 Homestead Act may have accounted for the increase in homestead applications filed after 1912. In that year, the Enlarged Homestead Act was extended to California; it doubled the acreage, from 160 to 320, that could be homesteaded by an individual. The Three-Year Homestead Act, also of 1912, reduced the mandatory period of residence required of homesteaders; in addition, only seven months of every year had to be spent on the land to qualify. The Stock-Raising Homestead Act of 1916 further recognized conditions in the West by allowing 640-acre homesteads to be filed on land designated suitable for grazing. Landowners used this new law to acquire small, previously passed over parcels and a few larger pieces from the dwindling inventory of federal land. In 1934 the passage of the Taylor Grazing Act withdrew from private entry the country's remaining 165,965,000 acres of public domain. Although small parcels within the study area were purchased from the government after this date, public land was no longer so easy to obtain.

Skaggs Springs

Most settlers in the area staked their claims to acreage matching their perceptions of the best available farming, grazing, or timber lands. But the area had another valuable resource—mineral springs—and these were probably the most hotly contested properties in the area.

The hardships of the California passage and of the Gold Rush impaired the health of many Californians. The promise of health-giving springs had great attraction for those who, while making a fortune, may have lost their vitality. Miners were quickly joined by a multitude of health seekers, as spas became a haven for those temporarily fleeing unhealthy conditions elsewhere. These "watering places" were extremely valuable properties and, in the days before legal title, the object of considerable feuding and local disputes between would-be owners. In the Dry Creek uplands, neighbors fought over both Hood's Hot Springs and Matthews' Soda Springs, while the larger and more accessible Skaggs Hot Springs was probably the first parcel of public land claimed and permanently settled within the Warm Springs area. It was also the focus of land disputes for nearly 20 years (28).

Alexander Skaggs, founder of Skaggs Springs resort
(from J.M. Guinn's *History of the State of California*, 1906)

In 1856 Alexander Skaggs located what would become Skaggs Hot Springs resort. The spot became well known for its "picturesque and salubrious" location, "surrounded by many huge mountains covered with rich California verdure" (29). The springs were located in the winding canyon of Warm Springs (at one time called Hot Springs) Creek, "a rock-fretted stream, whose dark waters nestle closely under the tall cliffs, which shut out the sunlight, except for a few hours at mid-day" (30). Although there was some flat pasture land, most of the land encircling the springs was rugged and flanked by giant redwoods, rocky canyons, rushing creeks, and small waterfalls.

Tax records indicate that by 1857, Alexander and his brother William had built some structures at the springs. Neither brother apparently lived there all year, for as late as 1862 they were squatting on the Rancho Sotoyome. William Skaggs was taxed for a license on an "8th Class Hotel" the following year. Over the next few years he made improvements and raised the status of the place to a "4th Class Hotel," with a pianoforte and a retail liquor license. The Skaggses, of course, did not have clear title to this valuable property but maintained their hold through a possessory right. In 1865 and 1867, Alexander Skaggs paid county taxes on the improvements on his 160-acre claim. His investment in improvements was considerably higher than that of nearby farmers: in 1870, for example, James Pritchett's 160-acre claim and improvements were assessed at $500, while the 160-acre claim and improvements of Alexander Skaggs were valued at $3000.

Skaggs' claim was particularly vulnerable because he did not reside on it, but leased the hotel to others. His last and most costly dispute was with

Perry Emerson. During 1872 and 1873, Skaggs had leased the resort to Emerson, who, according to Skaggs, attempted to jump the claim. Following a few arguments and fist fights, Skaggs took Emerson to court for not running the hotel properly and for nonpayment of rent. Skaggs won and Emerson was ordered to vacate the resort. But just three days before Emerson was due to leave, the hotel mysteriously burned to the ground, and Skaggs had Perry Emerson and his friends arrested for arson. The charges were dismissed, but one of the accused, upset by the bad publicity, sued Skaggs for $10,000 in damages. During the trial, Skaggs accused Emerson and his crowd of threatening him, his family, and his property; mutilating his livestock and dogs, tearing down his fences, stealing his property, scaring away the hotel guests with rowdy behavior, and, ultimately, of claim jumping and burning down the hotel. Emerson and his friends denied all Skaggs' accusations and blamed the fire on a faulty metal chimney on the parlor stove. Skaggs lost the case and had to pay $1000 plus court costs (31). He did, however, keep possession of the property and went on to rebuild the hotel.

It was not by accident that the dispute of Emerson and Skaggs coincided with the GLO surveys in the area. In 1873, the year of the survey's completion, Skaggs' 160-acre possessory right was valued at a whopping $5000 and his improvements at $10,000—all this on land that could be purchased from the government for $400. At that time, Skaggs' tax assessment listing noted "title not good," indicating his precarious position. By 1876, however, Skaggs had acquired legal title to 440 acres, including, of course, the then-famous hotsprings. Over the years, Alexander added to his legal holdings, and by his death in 1897, the Skaggs Ranch contained 1182 acres.

Fences and Boundaries on the Land

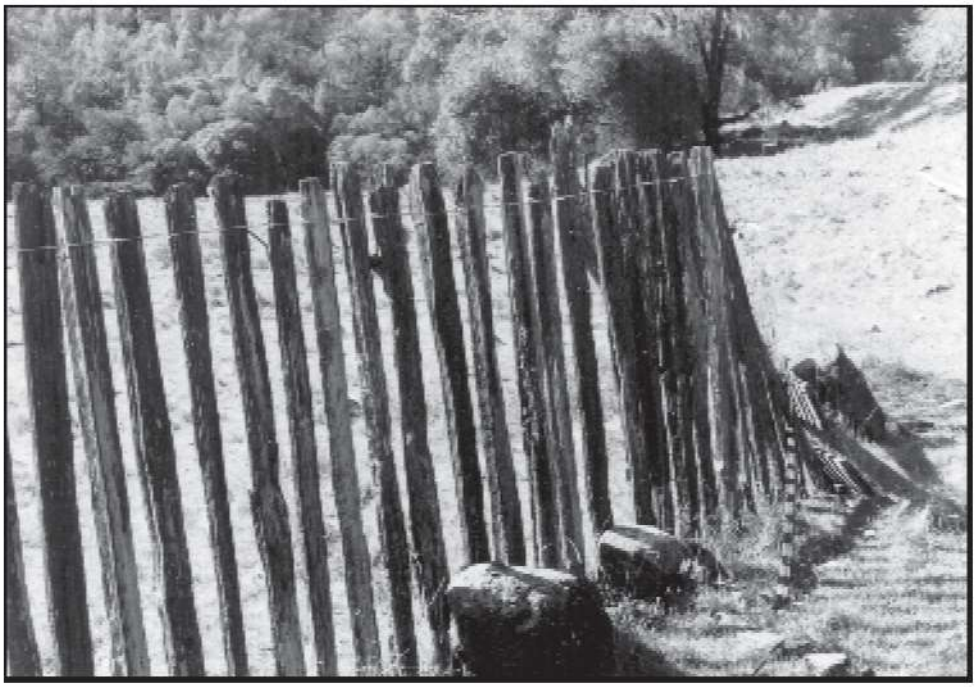
In the 19th century, property boundaries in the Lake Sonoma Area were not usually fenced; fences were used only around fields, gardens, and orchards. Ranch boundaries in the days of possessory claims were inexactly defined by those of neighboring ranches: Ferry's claim, for example, was said to end where Sylvester Scott's began. Ridgetops, creeks, and other prominent natural features defined the boundaries of many ranches prior to government survey. On this land, livestock—hogs, cattle, and sheep—were allowed to roam free and frequently strayed onto neighboring claims, where they grazed at no expense to their owner. In the early days, when livestock were not usually well tended, knowledge of the animals' whereabouts was only necessary during birthing seasons or when it was time for sale or shearing. Strays might remain at a neighbor's until such time as the owner decided to look for them or the host landowner came upon a lost animal and asked its owner to retrieve it. It is possible that before the legal purchase of large tracts of public land, holders of large and small claims were able to coexist, the livestock of the small homesteaders being allowed to range over the acreage of the large possessory claims. As the number of people and animals increased, so did competition for grazing land. The acreage limitation on free government land and the erection of fences on large properties forced small landholders to subsist on their own acreage, which often proved to be inadequate.

Before about 1900, only hotly contested boundaries would have been fenced. These fences, being the source and symbol of the feud, were often moved, removed, and vandalized. It was not until after the establishment of legal title that fencing became the cooperative goal of neighbors. Even then, friction as to the fence's location, cost, labor, and construction was common, as suspicious neighbors strove to outsmart each other.

One reason for the squabbles over fence construction was that, to quote Baldwin, "fencing was tough work." Baldwin described the labor involved:

> First a redwood tree had to be selected, cut down, sawed into lengths and split into posts. Then came the grueling work of sledding the posts onto the line or as was often the case where the ground was so steep and rugged, we would pack them onto a mule ten or twelve to the load and dump them off in piles. While still a little green these posts weighed from twenty-five to forty pounds each.
>
> The heavy rolls of wire mesh, twenty rods to the roll and weighing one hundred and sixty pounds, were another problem, both to pack on the mules to the line and to roll out and stretch on uneven ground (32).

Baldwin spoke with authority, for during his tenure at Surrey Ranch he built over 40 miles of fencing. He fenced not only his boundaries but built cross-fencing as well. Cross-fencing became an effective range-management tool. To prevent erosion



Split-stake fencing in the Dry Creek uplands (photo by Karana Hattersley-Drayton)

and improve pasture, Baldwin erected a total of about 15 miles of cross-fences, subdividing his pastures so that the sheep would not trample as much ground as formerly, and some feed might be conserved for winter. He found that "this method improved my range year after year, whereas up to that time, it had deteriorated rapidly" (33). Over the years, more and more fences were built in the Lake Sonoma Area. Presently, stake fences are an outstanding feature on the landscape. They snake impressively up and over the peaks of ridges, testifying to their importance and the incredibly laborious work of constructing them.

Fencing remained an issue even after the government had purchased 17,000 acres of land for the Warm Springs Dam-Lake Sonoma project. Stray animals were difficult to round up and at times were rustled by outsiders. Corps of Engineers staff complained about damage done by stray livestock, while ranchers complained that the Corps did not fence its boundary. Some ranchers did enclose their properties, and the Corps developed plans for 46 miles of fencing.

The Built Environment

Many elements of local settlement pattern may be gleaned from the inventory of known historic sites, which was compiled from field notes of the prehistoric survey crew and from spot-checks based on these notes, as well as on leads from old maps, written records, and oral-history accounts. Archaeologists located 78 historic sites in the field (34). These included modern agricultural features, a 1920s hunting club complex, the Cherry Creek School, 19th-century stone dugouts, sheds, house foundations, numerous bridges, and a garage. Historical research focused on families and individuals connected with the most significant of these sites.

The James Pritchett, Tennessee Bishop, and William Board families were among the first settlers in the area, claiming farmland by 1856 within about one mile of each other on Dry Creek near its confluence with Warm Springs Creek. Within ten years, other families had made claim to grazing land on the broad and relatively flat ridgetops overlooking Dry Creek. In contrast, the remote canyons and ridgelands, particularly along Rancheria Creek, were settled and occupied by single men who engaged in hunting, trapping, logging, mining, and subsistence agriculture (35). This pattern continued into the 20th century.

The first map references to settlement within the Lake Sonoma Area as a whole are found on Bowers' *Official Farm Map of Sonoma County*, which was compiled around 1863. Bowers recorded the

whereabouts of a number of area families, including the Sylvester Scotts, the Pritchetts, and the Richards, and of two camps—Grouse and Hardscrabble—just to the west.

Farm or ranch headquarters were built near arable land next to creeks, with only a short private approach from main wagon roads. Wagon roads often followed ridgetops, as did some of the Indian trails that preceded them. In addition to retracing these routes, Euroamericans often built their dwellings and planted their crops on what had been Native American settlements. The soil of Indian middens was widely acclaimed to be the best medium for growing crops, and settlers looked for evidence of this former occupation when choosing a home site. Not surprisingly, more than 20 of the archaeological sites recorded in the Lake Sonoma Area had been used in both prehistoric and historic times.

As can be seen on Thompson's 1877 map, the Richards, Pritchett, Hallengren, and Van Alen families, with landholdings along Dry Creek, lived on the road "to Healdsburg;" the Beatty, Cooper, and Abshire families lived along the "Cloverdale Road"—the Beattys on Beatty (later Yorty) Creek, the Coopers at the confluence of Dry Creek and Cherry Creek, and the Abshires further along Dry Creek. The Sylvester Scott family lived on a side road on a fertile hillside above Dry Creek, while the John Ferry family, who are not shown, lived further west on the Cloverdale Road along Dry Creek. Thompson's map does not show all the persons who lived in the area in 1877. In fact, the Dry Creek uplands around Ferry and Scott was fairly populous and was referred to as the "Upper Dry Creek Settlement" by GLO surveyors in the 1870s. From the 1880s to as late as 1900, mail to persons in the area could be addressed "Drie (or Dry) Creek, Cloverdale." The Mendocino District School, discussed below, probably provided the focal point for this settlement. Proximity to schools, to other family members, and to neighbors was an important factor in the location of dwellings (36).

Ranches and farmsteads often took on the appearance of little settlements. Baldwin described his ranch headquarters as he found it in 1903:

> It really wasn't so bad except for the bare hill on which the house stood. There was a pleasant two story house [former Sylvester Scott residence] about two hundred yards to the north for the foreman, a one story cottage for hired help, wagon sheds, a tool house and blacksmith shop and two barns (37).

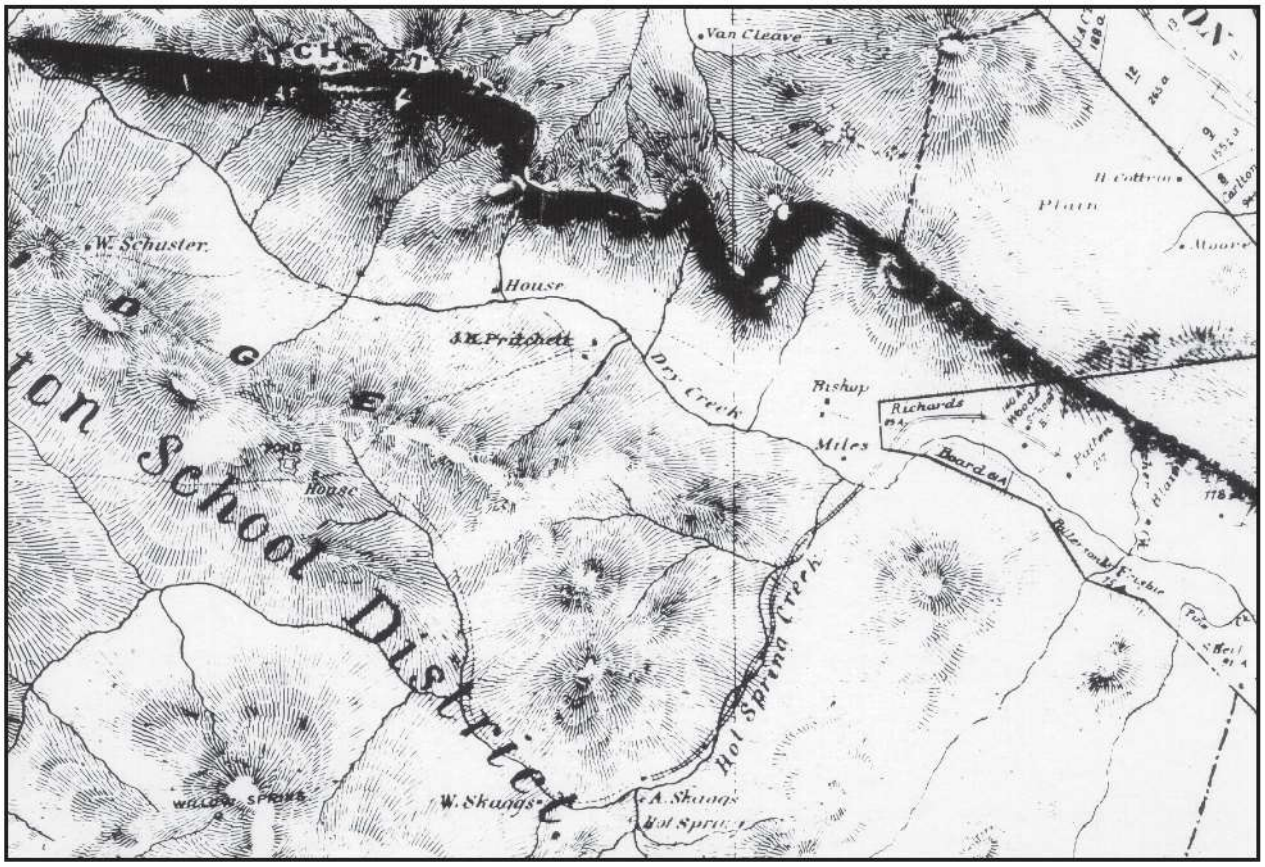
During his stay, Baldwin made many improvements and additions to his ranchstead; these went beyond the normal embellishments for the time, including an aviary, a swimming hole, and a pond for "Quilp," the oddest member of their menagerie, an alligator.

Baldwin had the time and resources to create these whimsical and nonessential additions, for his ranch was an operating venture when he arrived. Pioneer settlers did not have this luxury. Within a very short time, they had to build a house for shelter and plant crops for food. As such, the first house was often small and not intended to be permanent. When time and money allowed, families often enlarged their dwellings or built new ones, turning the old house over to the ranch hands or converting it into an outbuilding. Many of the first houses built in the area were probably what have been described as folk houses. These houses were built without formal plans according to the image of the completed house that existed in the mind of the builder, whose unconscious decisions about size, proportion, and layout were based on his previous experience. The house of James and Elizabeth Pritchett (CA-Son-1129/H), built in 1862, was probably such a structure (see Chapter 3).

When families rebuilt, they often chose more contemporary styles based on formal plans. When the Pritchetts' son fashioned his home just after the turn of the century, he picked a floor plan that was apparently Colonial Revival in style. By this time, numerous books and magazines advised farmers and ranchers on every subject imaginable, including building country homes. Based on her reading of an article in *Circle Magazine*, one young lady offered an experienced Dry Creek uplands rancher the following advice on his anticipated new home:

> When you build your house that you were thinking of be sure and have a cement cellar—that will do away with the dairy and give you more ground for your house—the cellar is much better for storage purposes and you can keep meat in it for a very long time in the Summer as well as Winter (38).

After building a home and putting in crops, the pioneer settler often planted trees, both fruit and ornamental. Certain trees, like the presence of Indian midden, were seen as indicators of good soil.



The Lake Sonoma Area, circa 1863 (from Bowers' *Official Farm Map of Sonoma County*)

Eighteenth-century tree lore foretold that chestnut, hickory, walnut, oak, cherry, and elm signaled areas suitable for farming. In the 19th century, Americans prized land covered with hickory and walnut, for, according to historian John Stilgoe,

> such species represented dignity, strength and courage, characteristics that won for Andrew Jackson the nickname "Old Hickory," and they epitomized national standards of arboreal beauty. Always, however, they first indicated soil rich enough to farm (39).

The pioneer settlers planted both hickory and walnut trees, along with many varieties of fruit trees, and a few exotic ornamental species. Eucalyptus were popular in the 1870s, as the tree was believed to be a deterrent to air and water-borne diseases, and to harmful insect pests; many eucalyptus were planted in the project area at that time.

John Ferry Homestead

Ranchstead layout can be partially reconstructed for the John Ferry homestead (CA-Son-567/H), which was the focus of archaeological investigations under the direction of Roberta Greenwood (40). This site is located in the rugged north western section of the study area, in an area of mixed woodland-grassland, on one of the best broad, open terraces in the Dry Creek uplands. An Indian midden, which was called "Homestead Pasture" by the archaeological survey crew who first recorded it, was also located on the site.

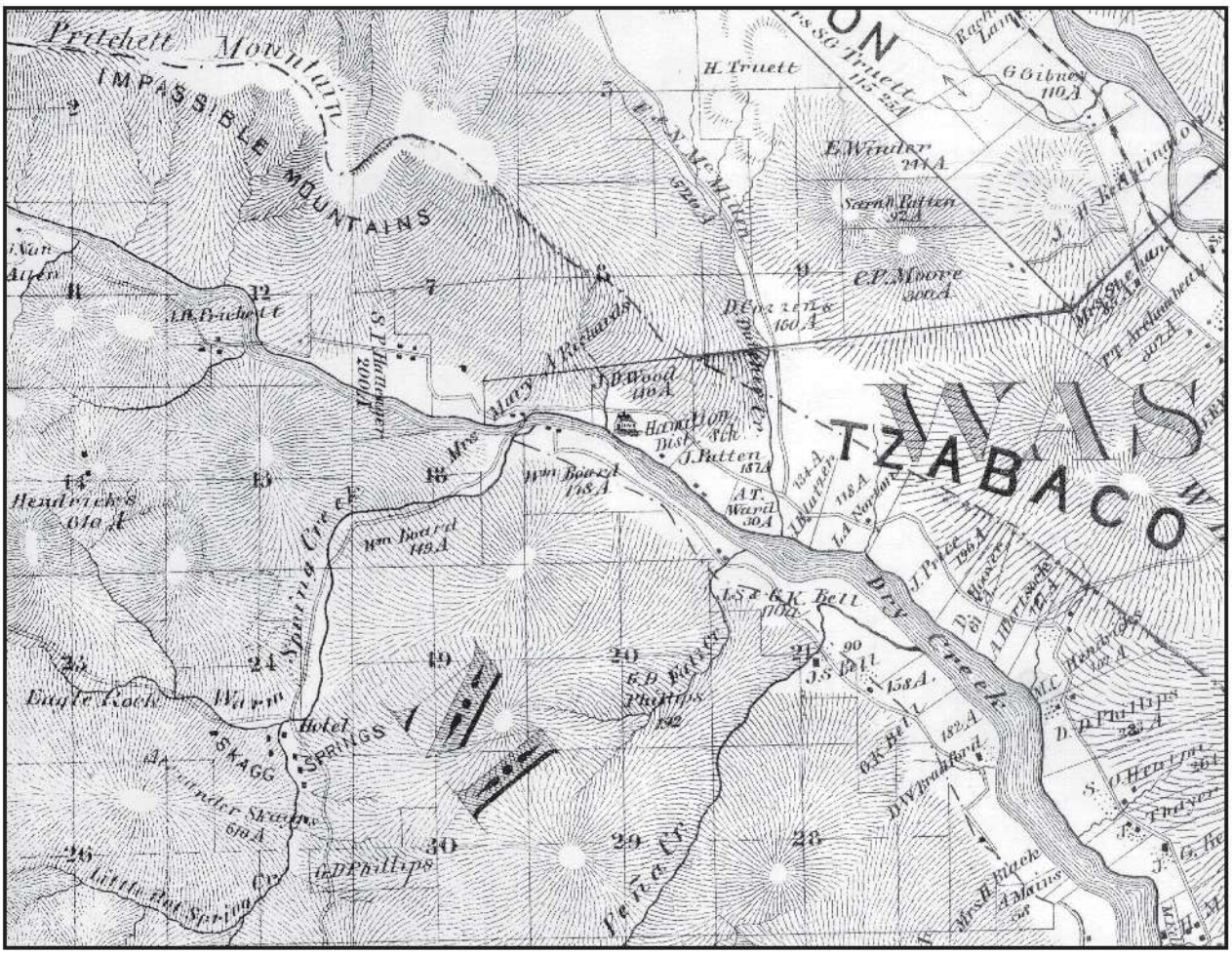
The dwelling of the John Ferry family was probably built in 1870, when the Ferrys purchased their ranch on Dry Creek. The house, located at the highest point along the creek within their acreage, would have possessed a fine view up and down the narrow creek gorge. A former resident provided a sketch of the house as he remembered it before it was destroyed in 1948. The house had five rooms—two bedrooms, kitchen, living room, and dining room—and large front and back porches. The kitchen had a

view of the Ferry's private drive, the sheep shed and pens, and the bridge across the creek. The structure, probably built of hand-hewn redwood on a foundation of local stone, was symmetrical in floor plan and small for the dozen people it once housed.

Although John Ferry was a rancher—first cattle and later sheep—he also tilled the earth. The Ferrys planted an orchard northwest of the house, on a narrow stream terrace. At one time this orchard probably covered from five to seven acres, but by 1983, when Warm Springs Dam was finished, the terrace on which the trees were planted was eroding into Dry Creek. A number of trees survived and bore fruit, including a magnificent old green-apple tree, a white-fruited fig with a spread of 45 feet, several prune trees, Bartlett and Winter Nellis pears, and two quince trees. A clearly discernible vineyard tillage pattern, possibly the remains of the one first planted by John Ferry, remained up the hill from the house on the southwest-facing slope of a gentle hillside.

John Ferry's fields were once partially surrounded by cottonwood trees. He probably planted the row of black walnut trees that survived near the former house site. A short distance from the house was a large, flat, fertile field, where Ferry may have grown the one acre of potatoes listed in the 1880 agricultural census. Spring bulbs, whose progenitors may have been planted by the Ferrys, still flowered on their homestead site. These hearty varieties, well suited to the local climate, included purple and white iris and the polyanthus narcissus (41).

Well-designed outbuildings were an important part of any agricultural enterprise. Designing a shearing shed, for example, was not as simple as it might sound. For, according to a study-area rancher,



The Lake Sonoma Area, in the 1870s (from Thompson's *Historical Atlas Map of Sonoma County*, 1877)

> you had to have the right f low of traffic of the animals for the maximum efficiency and had to have the corral in the right place and the gates in the right place and opening in the right way. There was more to it than just putting in pickets (42).

A sheep shed and corrals recorded by archaeologists on the John Ferry homestead seem to meet these criteria. The sheep were evidently gathered outside in holding pens at one end of the shed, from which they were herded into a run on the side of the building. The sheep run had a dodge gate that opened into the middle of the shed. From here the animals were directed into one of the five partitioned shearing stations. After shearing, the sheep were placed in a holding area before being run up a chute and loaded into a waiting truck. The sheared wool was taken up into the loft, where it was pressed into wool bags and slid down fleece chutes onto the floor below for storage (43).

The shed, recorded in 1980, was probably constructed many years after Ferry's tenure. Those actually built by the 19th-century rancher had long since disappeared and could not attest to his skill and efficiency. But by all indications, including the few remains of his homestead, Ferry was a thoughtful and innovative rancher. His acquaintances certainly did not anticipate that he would be unable to weather his financial problems; but Ferry fell victim to the overly optimistic expansions of the 1880s (more about the Ferrys can be found in chapters 5 and 8).

Springtime in the Dry Creek uplands; cherry tree in bloom (from GM collection)

Schools

Soon after settling the land, young families began to think of schools. A school distinguished the true settlement—the one that was meant to stay—from haphazard, transient occupation. Residents of the upper Dry Creek Valley had already built a schoolhouse when, in 1866, the Sonoma County Superintendent of Schools appointed an Upper Dry Creek District Board of Trustees. After hiring a teacher and repairing the schoolhouse, the trustees organized the first district election, in which William Board, J.D. Wood, and A. Blair were elected as school trustees. The first official act of these men was to change the name of the district to Hamilton.

The first Hamilton School was on private property. In 1870 the trustees voted to obtain a school lot and made plans for a new building. They purchased three acres of land from J.D. Wood adjoining the Richards property, just east of the present-day Warm Springs Dam. While settlers wanted schools, they were not always willing to finance them: over the next four years, the voters of the district turned down three tax measures to build the new schoolhouse. Following the third defeat, and "after considering counsel and some spirited discussion," the board of trustees decided to build the schoolhouse anyway (44). In a little over two mouths, the new Hamilton School was finished, except for some interior painting and woodwork.

Mr. Kraft, who taught at the Hamilton School in the fall of 1879, described the schoolhouse in his monthly newspaper report:

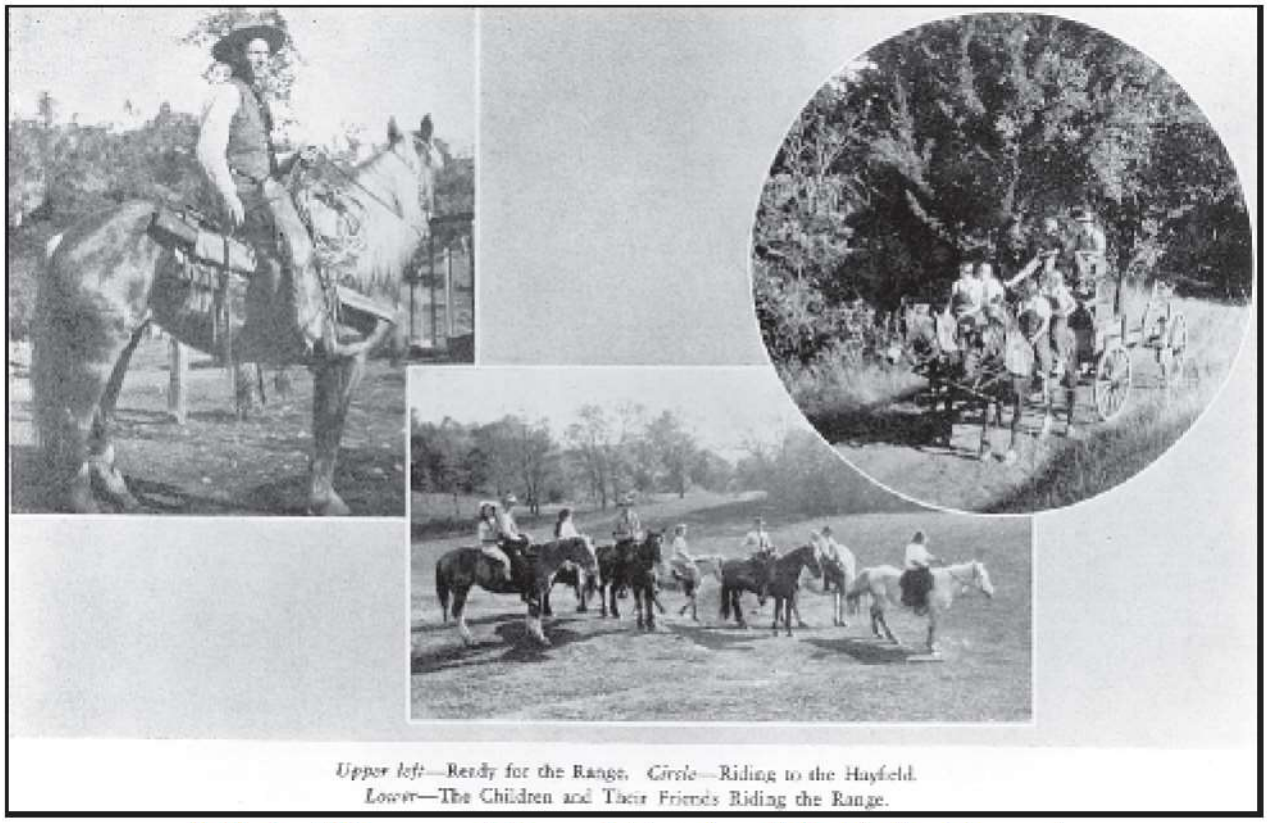
> The schoolhouse is located in the Dry Creek Valley in a beautiful grove, and is surrounded

Hamilton District School, 1889; first girl on right, standing, Annie Phillips
(photo from the Dry Creek Neighbors Club's *Vintage Memories*)

> by a large and shady fir, oak and madrona trees, and the play ground is almost unlimited. The building is a substantial frame twenty-four by thirty-six feet, well painted and the interior is hard-finished. It contains patent desks, 152 surface feet of good blackboard, a valuable library, globe, charts, a good stove, a whole chair and desk, and all other necessaries and is a credit to the district (45).

The location of schools and school districts depended upon the enrollment of a requisite minimum number of pupils. A school district could be formed if enough children resided in an area at too great a distance from any other school. In the Dry Creek uplands, there were at least three school buildings over the years. The presence of large families in the uplands resulted in the creation, in 1871, of the Mendocino School near the Ferrys' house. During the first year, 57 students attended the school; three years later, attendance peaked at 65 pupils. Two decades later, the Cherry Creek District School (CA-Son-552H) was formed in 1893, with the children of Tom and Margret Scott making up a large share of the quota of students. When the Scott family moved in 1901, enrollment fell, and the Cherry Creek School District merged with Mendocino. Some districts contained more than one school to accommodate the needs of all of its pupils. From 1875, the Hamilton District sometimes employed a teacher for a school above Skaggs Springs, "as the children in that part of the District could reap no advantages from the school on the creek" (46).

During its existence, the Hamilton School never lacked students within walking distance. Although families were smaller in the valley, there were more of them, and the second generation often stayed on the family farm and raised children of their own. But the Mendocino School served a declining population spread over a wide area, and the location of the school changed many times over the years to accommodate the needs of the greatest number of pupils. In some school districts, the building itself was physically dismantled and reassembled on a more convenient site. In others, as in the Mendocino District, it was simply the students who were shifted between various buildings, which were only sometimes used as schools. In the 1870s, the Mendocino School was located within reach of the Ferrys' children, the children of the Sylvester Scotts, and of other homesteaders within a five-mile radius. Five miles can be a long journey over rugged terrain; many children traveled long distances on horseback, often leaving home before daybreak to reach school. In



Baldwin children around the ranch (photo from Baldwin's *Reminiscences*)

1908 the school was temporarily housed at the Baldwins':

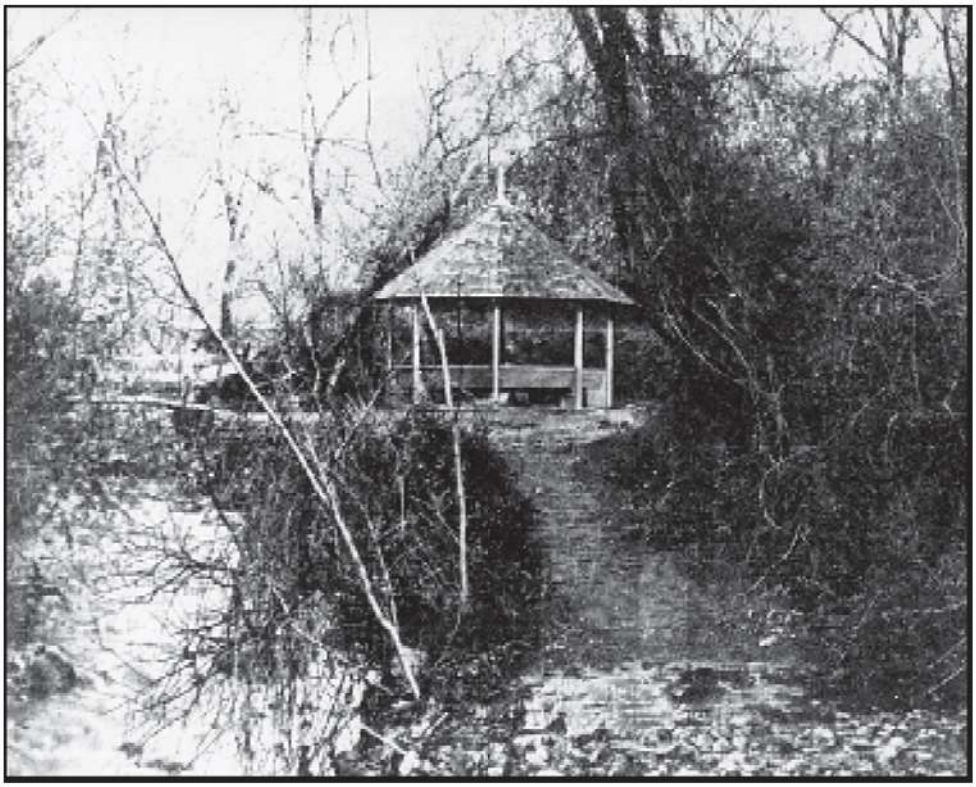
> The school district was using the little cottage in our group of buildings that year because it evened up the distance that the different families had to go to get to school, and because the school teacher, Farley Auble, a fine young man to whom the children were devoted, boarded with the Smalleys (47).

As population in the Lake Sonoma Area declined, the age of the residents increased, since few young families replaced the older settlers. The Mendocino District School operated with just a few children until it finally closed in 1936. At that point the building was used as a woodchopper's cabin, until it burned down some years later. Only 15 students attended Hamilton School in 1920, and not long thereafter, the school closed.

Skaggs Springs

Unlike the agricultural properties, which were laid out in such a way as to make efficient and productive use of all available resources, the buildings and landscaping at Skaggs Springs were constructed with a view to promoting a different resource: using the natural setting to create a sense of relaxation and peace. Visitors came to the springs for health and leisure. They bathed in the soothing spring water and hiked throughout the surrounding countryside. In the early days, the men went on hunting excursions with a renowned hunter, while in later years, trout fishing became a main attraction.

Before the 1873 fire, the Skaggs Springs Hotel had a bar room, about 24 bedrooms, a kitchen, a private dining room, a main dining room, a parlor, and a cellar. Other buildings and improvements on the resort included five or six guest cottages and a bathhouse, as well as a hog pen, barn, corral, garden, and orchard. Skaggs rebuilt within a year of the fire. In 1897, when he died, the hotel had 17 guest rooms, a barbershop, bar, parlor, private and main dining rooms, and many other service-related rooms. The hotel was fronted by a brick patio on the east and a covered dining area on the south. There were also 11 cottages for guests and employees, with from 2 to 16 rooms each. The guest cottages were named after the localities from which Skaggs' guests came—Nob Hill,



"One of the Famous Hot Springs at Skaggs, Sonoma County," circa 1910 (courtesy of Ed Mannion)

Oakland, San Rafael—in order that they might feel more at home. According to one report, the resort had a total of 76 guest rooms.

Not all vacationers slept in cottages or in the hotel. Perhaps as early as the 1870s, Skaggs added tent platforms: structures with a wooden floor and canvas-covered upper frame. Prior to this improvement, some guests may have brought their own camping equipment or simply slept under the stars. By 1920 there were five clusters of tent platforms on the resort grounds.

The bathhouse complex was on the west side of Little Warm Springs Creek. There were a dozen bathhouses in two rows facing each other, one for men and one for women. The cast-iron tubs that they contained were filled with hot spring water. Hot baths were often followed by a stint in the nearby massage room. The three hot springs and one "cold soda and iron spring" were the main attraction at Skaggs'. Each of the hot springs had gazebos or other shelters built over them. Benches lined the gazebo walls, and there was a small pool of spring water in the center. Guests used the metal dippers that hung from the walls to take water from the pools to drink (48).

The hotel and main recreational facilities were located along what was, after 1890, Stewart's Point-Skaggs Spring Road, at its intersection with the resort's unimproved, dirt road. A short distance from the dirt road, interspersed along Little Warm Springs Creek, were the cottages and tent platforms. The bathhouse and covered springs were located further along the creek, away from the main road and the hotel. A few cottages, including Exile Cottage, so named for its location furthest from the center of resort activity, were sited in quiet wooded areas along the dirt road past the springs. Thus, a guest could choose to socialize in the popular areas around the hotel, or to seek solitude in a relatively isolated cottage or in walks through the countryside.

Seasonality

The Lake Sonoma Area has basically two seasons: it is wet from November through April, and dry for most of May through October. Throughout the area, travel was difficult—at times impossible—for much of the rainy season. Because of this isolation, many

economic and most social activities slowed during the winter. Through the early 20th century, even the Mendocino District School, located in the uplands, closed just before Thanksgiving and reopened in April. The structures at Skaggs were not the only ones in the study area to be seasonally occupied; many other dwellings and outbuildings saw use only during the dry season.

Skaggs Springs is an extreme example of the seasonal aspects of the local settlement pattern. During the height of the summer, it was not uncommon for 300 guests to stay at the resort. The hotel, cottages, tent platforms, and campers' tents were full. People roamed over the surrounding hills, fishing, hunting, and picking berries; they swam in the creeks, soaked in the baths, and danced in the open-air ballroom. By fall, only a few persons were left; the resort was wet, cold, and quiet.

After applying for homestead patents in various parts of the Lake Sonoma Area, some families used their homestead cabins as summer homes or hunting bases. This pattern began in the 1890s and continued well into the 20th century. During the dry season, family and friends would take both short and extended holidays on the property, while a neighbor, perhaps in exchange for a discount on grazing rights, might caretake the property the rest of the year. During parts of the 20th century, hunting rights probably equaled grazing rights in value. The Hot Springs Ranch Corporation, which purchased large tracts including John Ferry's homestead and part of Baldwin's Surrey Ranch in 1931, was organized as a joint hunting club and sheepraising operation. The population on this property would have fluctuated greatly, with a large crowd during hunting season, extra workers at sheep-shearing time, and only the tenant ranchers and their help for the rest of the year.

Up until the 1920s, the bark of the tan oak, used in processing leather, was another resource that brought people temporarily into the area. The bark peeling season ran from mid-May to mid-August, although it was best to wait until the latter part of the season. The bark took about three weeks to dry prior to shipment. During this time, it was very important to keep the bark dry, and storage shelters were often constructed (49). Some landholders in the Lake Sonoma Area no doubt sold their timber rights to a contractor, who would bring in his own crew to accomplish the harvest. In this case, the only specially built structures would have been the overhang to protect the tanbark and a cookhouse, for barkpeelers commonly slept outdoors.

Temporary logging and mining camps may also once have existed within the study area. Surface remains of these activities have probably washed away long ago from the creekside terraces that would have been the most comfortable camping places.

CONCLUSION

After the completion of the Warm Springs Dam, only the fish-hatchery staff lived in the project area. But the area was not always characterized by this emptiness. For thousands of years, people made this their home, occupying permanent villages and seasonal campsites. The pressure of Euroamerican settlement changed the size and location of native settlements, but Pomoan Indians continued as a part of the region's population. The 1870s saw the Lake Sonoma Area burgeoning with people and activities. The large families kept numerous schools in the area simultaneously in session. Settlers socialized with their neighbors, with residents of nearby towns, and with friends and relatives from further afield. This bustle of activities and the families who, for a time, thrived on it had been nearly forgotten when the Warm Springs Cultural Resources Study began its investigations of the area and are the subject of the following chapters.

Makahmo mother and infant, 1899; Elsie Allen carried by her mother, Annie Burke
(photo courtesy of Elsie Allen)

CHAPTER 8

FAMILY AND KIN: THE DOMESTIC SPHERE

INTRODUCTION

For the people who lived in the early camps and villages of the Lake Sonoma Area, as well as those on the historic-period farms and ranches, kinship ties were of great importance. Marriage between neighbors served to form tight alliances within the home community, while kinship bonds also extended far beyond the local area, cementing political, economic, and social ties throughout the region.

To a greater or lesser extent, kinship affects how an individual is viewed and treated by society and when, where, how, and with whom he or she may interact. Kinship groups serve as a link between the family and society at large. When viewed crossculturally, kinship and family are extremely complex phenomena. Because of the diversity of kinship patterns and the importance of kinship relations to the survival of the individual and the group, kinship has long been a major focus of cultural anthropology. Anthropologists have developed a complex array of terminology to distinguish the ways in which different cultures reckon kin relationships (1).

For this chapter, it is important only to recognize the difference between family (persons related by blood or marriage) and kinship groups, which include only certain kindred. Both families and kinship groups can be further modified or can be expanded through other means, for example, adoption. In many societies, kinship groups have been of primary importance in both personal and political matters. In such a society, people would know what behavior to expect from their kinsmen. This is very different from contemporary western society, where participation in kinship activities is voluntary and the word "family" is extended to include any group of kinsmen (2).

Anthropologists had studied kinship and families for decades before there was much interest in the history of the western family. During the 1960s and 1970s, the history of the family became an important topic of study for sociologists, anthropologists, historians, economists, and demographers. Previously, such studies had been limited to analyzing large-scale fertility, marriage, and mortality patterns, and to classifying household structure. Concern with overpopulation and with social problems linked by some social scientists to the "deterioration" of the family in western society prompted researchers to focus on an imaginative new set of questions. Primary to these studies is an emphasis on the relationship of birth and death rates to household structure and family organization, and these factors' influence, in turn, on the behavior of families and individuals.

Using crosscultural studies through time and space, researchers are gaining a comparative perspective and have begun to formulate explanations of family change and development. For example, society defines the appropriate age for marriage, and whether a person of 50 is considered old or middle aged. Other economic, social, and historical factors impinge upon the family and the orderly passage of its members through the anticipated life course. Economic hardships during the Great Depression of the 1930s, for example, prevented many people from marrying and starting families, while draft laws of the 1960s during the Vietnam War provided an incentive for men to marry at a younger age (3).

Using some of the methods developed in the last two decades by social scientists studying family history, this chapter focuses on families and households once residing in the Lake Sonoma Area. The "household," which may or may not be a family, is a group of people who live together and form a functioning domestic unit. Unrelated, adults may form a household, as may a family with certain hired workers. Households are the agents of consumption, education, and often of production as well. The household is often the main decision-making unit of society; it adapts to changes in regional and national economic and environmental conditions. Thus the household, and the families it contained, can be used as a basis from which to approach a wide range of research questions (4).

The Richards family in front of their house, circa 1890, the site of which is under Warm Springs Dam; left to right, Warren Richards, Judge Price, Harry Van Alen, Mrs. Richards Price, Amy Richards (photo courtesy of Edwin Langhart Museum, Healdsburg)

Transitions

Birth, home-leaving, marriage, childbearing, retirement, and death are outstanding events along the course of life. The transitions from one status to another are recognized, defined, and celebrated in different ways by different cultures. For most people, however, these transitions are celebrated within the familial setting in a manner visible to the wider public. One interest of family historians is the study of these transitions. "Life-course" analysis seeks to discover when individuals moved into and out of various family roles, and how these changes were related to the family as a collective unit (5).

Of particular interest in life-course studies is the relationship between changes in three kinds of time: individual or developmental time (chronological age), family time (marriage, leaving home), and historical time (economic and social conditions). When "family time" and "individual time" are out of sync, conflict develops within domestic groups. Life-course analysis is concerned with how typical lives were "timed" in the past, and how these life-course patterns fit into the specific economic, social, and demographic setting (6).

Age-specific transitions for the Southern Pomo were rigidly scheduled. An individual passed through a series of well-defined roles, with each change of role marked by rituals signaling the shift in status and responsibility. In contrast, family behavior in the 19th century was generally characterized by its diversity and flexibility in regard to timing, "a kind of controlled disorder that varied in accordance with pressing social and economic needs" (7). As state and private institutions gradually took over the functions of welfare, education, and law enforcement, a greater conformity in timing came to be enforced from the larger society. Age-related requirements, such as mandatory school attendance and retirement and child-labor legislation, have imposed more rigid patterns of timing upon family members. Researchers summed up the differences between the last two periods as follows:

> 'Timely' action to nineteenth-century families consisted of helpful response in times of trouble; in the twentieth century, timeliness connotes adherence to a schedule (8).

The following sections will examine transitions in more detail, first by describing how they generally occurred among the local Pomoans and later by focusing on the timing strategies of four Lake Sonoma Area settler families in relation to their changing social and economic milieu.

POMOAN INDIANS

Family and Kinship Groups

Precisely how the Dry Creek and Cloverdale Pomo reckoned kinship and the exact nature of their systems in times past are now lost (9), although many of the functions of their kinship groups have been reconstructed. In Pomoan society, an individual could not survive for long without the aid and protection of kin. Each individual had certain rights and responsibilities based upon his or her position within the kinship group. These mores served as a binding force. Kinship group members cared for both the young and the old; they parceled out all jointly owned staples and money with which to purchase goods. Members paid doctors' fees and other debts; they arranged and paid for marriage and burial ceremonies. The Pomoan kinship group entered into and oversaw all aspects of the lives of its members.

Based on extensive interviews with members of Pomoan groups who lived near Ukiah in Mendocino County, anthropologists Bert and Ethel Aginsky wrote what is often described as an ethnographic novel, *Deep Valley*. Although some Pomoan elders discount some of the Aginskys' descriptions, the authors succeeded in bringing their subjects to life by personalizing the account. In one sequence, set in the sweathouse, an old man counsels his young charge about the importance of kin:

> You can always rely upon your blood relatives for aid and protection. You must be good to them; you must not growl at them; you must give them presents and help them at all times . . . Only your blood relatives comprise your sanctuary, and you can rely only on them. The times you're with them are the only ones you can relax your constant vigilance. It's your family members who will take care of you when you are young and when you are old, and when you are sick, when you are hungry, and when you are in need of money (10).

Kinship groups were also important to the political organization of Southern Pomo tribelets. Extended families often resided together in one household and formed the most basic residential, corporate, and decision-making unit of society (11) . The village, the political subdivision of the tribelet, was usually made up of one or more kinship groups. Each group had a headman; together these men governed the community and from among their members chose a captain. The captain served as principal advisor to the tribelet group: he welcomed visitors; presided over food harvests, trade, and ceremonies; and settled disputes. He did not, however, have absolute authority over the group. Kinship headmen had the same responsibilities as the captain but presided over a smaller population. Thus a village might be led by one captain and several headmen (12).

Baron von Wrangell, a Russian stationed at Fort Ross during the 1830s, was favorably impressed by the "easy-going" and "tender-hearted" nature of the Pomoan peoples. He noted the near equal standing of group members and their lack of slavery. Wrangell described their society as follows:

> They love their children with great affection, yet they require patriarchal obedience, and all the younger members of a tribe pay great respect, to age, to experience, and to the art of archery. The high esteem in which the father is held is often passed on to the son. But the authority of the chief is generally rather minimal, for anyone is free to leave his birthplace and to choose another residence (13).

Membership in a Southern Pomo kinship group was not determined solely by blood, as choice of residence was also important. Flexible residence rules and a variety of kinship relations made it easy for an outsider to join a group through marriage or adoption. Among the Makahmo and Mihilakawna Pomo, marriage partners had to be chosen from outside the blood kin group. A newly married couple would often live for a time in both the husband's family's village and the wife's family's village before making a final decision on where to live. They might even continue to shift residence. It was, however, the parents' choice of residence which determined initial kin allegiance for their offspring (14).

The responsibility for taking care of the children and teaching them traditional ways rested on the entire kinship group, not on the parents alone. This was done along generational lines. All women called "sister" by a woman would care for and treat her child as if it were their own. Children were especially close to their grandparents, who took the primary responsibility for their instruction. Older children also took charge of their younger siblings, sometimes acting as an intermediary between them and their grandparents. Thus a young girl would have called all

A Makahmo family, circa 1898; Mr. and Mrs. Jim Marino and daughters
(photo courtesy of Elsie Allen)

her female cousins "sister," while her elder sister was called "little mother." When these girls themselves had children, their daughters would address as "aunt" all their mother's "sisters," regardless of the closeness of the biological relationship. In addition, these terms might be used merely to show respect, despite a complete lack of blood relationship. This use of kinship terms must have caused considerable confusion to census takers in the 19th century and continues to plague ethnologists attempting to construct genealogies.

Despite these complications, census data from 1880 and 1910, in combination with genealogies collected by modern ethnographers, allow us to reconstruct residential kin and family groupings around the turn of the century. Indians evidently continued to live in large extended family units. The following "Family Tree" illustrates the residents of Oak Ball Village in 1880. Except for two brothers, whose connections with the others are unclear, all persons appear to be related to the Bill family either by blood or by marriage. The four offspring of "Dr. Bill" remained together; their spouses, and sometimes the spouses' relatives, joined the residential group. Thirty years later, in May 1910, nine of the former Oak Ball residents still resided together at the Cordova Place, along with their children and grandchildren. Captain Charlie Bill, the leader of this group, had died two years earlier. His role was never refilled, although his sister's daughter took over some of his duties (15).

Pomoan household size and structure during the historic period were extremely variable, as men or other members of the family might spend part of the year away from home engaged in temporary agricultural work. At the time of contact, household size and structure varied by season and according to the preferences of individual families. Large households held up to 15 persons, all related by blood or marriage, while a small household might be made up of only a woman, her children, and perhaps an old man. According to a Pomoan elder, a couple usually remained in the grandparents' house until they had "too many children" (16).

POMOAN LIFE COURSE

Birth

If a family was not already living at the wife's mother's home, they returned there for the birth of a child. Here the expectant mother was counseled by her female relatives, who also assisted the midwife at the child's birth. The infant was washed and wrapped by a woman who was good and generous so that the newborn might acquire these qualities. Both parents were confined after their child's birth, the mother in the childbirth hut adjacent to the living house (also used as a menstrual house) and the father in a special bed in the dwelling house. The parents also observed dietary restrictions for a prescribed period (17).

A month or more after birth, the child was named in a special ceremony and placed in a traditional baby-carrying basket made by men. The basket was lined with tree moss, which served as a diaper, and secured by a strap to the mother's back for carrying.

Childhood

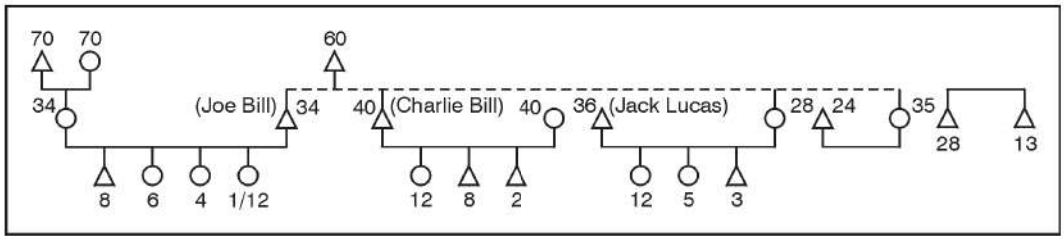
Children played a variety of games, many of which taught them skills necessary in adult life. They also spent much time listening to "Coyote Stories" about the adventures and misadventures of the "animal people" who occupied the world before human beings. One elder Mihilakawna recalled the role of stories in her childhood:

> Stories taught us how to sit still and listen, how to listen to our elders, how to behave towards them. We learned our language that way too, by listening to those stories. The stories also taught about different things in the world: how things were made, what was good and bad, the way people should act towards one another, and more (18).

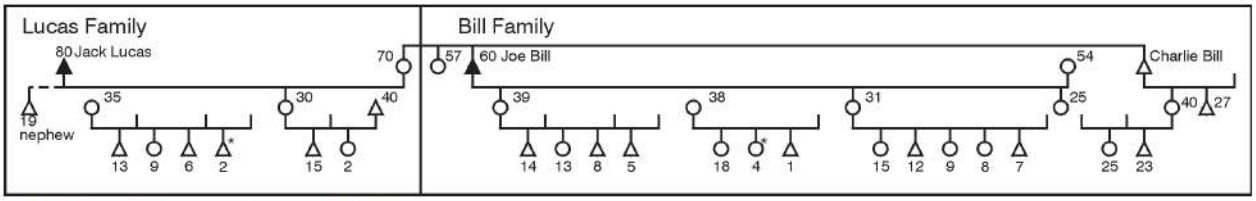
As parents were often away hunting and collecting food, grandparents usually took over the care of the children. According to one Pomoan woman,

> teaching was constant. No one said, "Come with me and I will teach you now." It was just daily. Someone would say, "Come with me. We are going to gather clover" or "We are going to gather some smooth flat rocks to put in the acorn basket." It was just constant. We learned from watching and went from there (19).

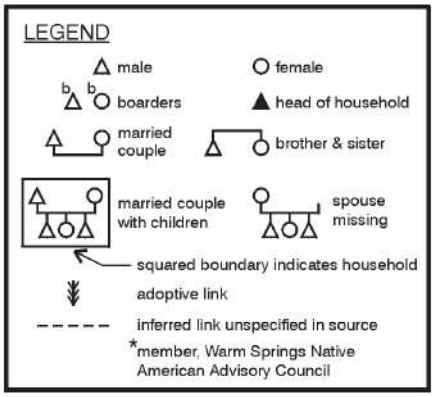
Children began taking on adult responsibilities upon reaching puberty. The father and other male relatives instructed the boys on hunting and fishing and the roles of manhood, while the mother and female relatives taught the girls the art of basketry, food gathering and cooking tasks, and the special



Bill Family – Oak Ball Village, 1880



Bill Family – Cordova Place, 1910



rules and rituals pertaining to womanhood. There was no special single ceremony for males at puberty; a number of separate events indicated their passage into manhood. The initiation of young men into one of the secret religious societies appears to have been one marker of this transition. At this point a boy also began to take up residence in the sweathouse with his father and the other men. In addition, his first deer kill was noted by a ceremony in which the meat was shared with his close relations.

For young girls, entrance into adulthood was signaled by their first menstruation and celebrated by a prescribed ritual. At the onset of her first menses, a girl, followed by her immediate family who sang the customary songs, entered the menstrual house. She was confined to this separate room, where her diet and behavior were restricted, as they would be for subsequent menstrual periods. The confinement and restrictions on this first cycle lasted for four weeks, while all subsequent confinements lasted only four days. This transition was accompanied by a change in the girl's appearance. Among the Dry Creek Pomo, a young girl would have her ears pierced at puberty, while among the Cloverdale Pomo, womanhood was marked by the right to wear women's clothing.

Adult Life

The passage of a person into full adult status was usually associated with marriage. Men and women became eligible for marriage shortly after being recognized as adults—men at about 16 years and women at about 15. For Pomoans, marriage served not only to bond the couple in a special relationship, it also joined the families, communities, and tribelets in a cooperative network. Thus marriage was a political as well as a social arrangement. In the vast majority of marriages, the husband and wife spoke the same language. Some sons and daughters of socially and politically important families, however, married outside of their language group and thereby created or strengthened the ties between groups and enlarged the opportunities of both peoples.

Potential spouses could be met at the regularly scheduled social events and dances attended by neighboring peoples. Courtship was a serious undertaking, for it involved not only the two young

people but their families and relations as well. The parents or sometimes the grandparents of the man would initiate the betrothal by offering gifts to the woman's parents. Acceptance of these offerings by her parents indicated their acceptance of the suitor, his family, and their relatives. Discouraging courtship had to be done tactfully, for to refuse the gift outright might result in bad feelings between the families.

The wedding ceremony included an exchange of gifts between the families of the bride and groom. The groom's family gave the bride strings of clamshell beads, while the bride's family gave baskets to the groom's family. In addition, each family was responsible for supplying ingredients of the wedding feast. Pomoans continued to follow traditional customs into the 20th century, as shown by the following description of a wedding in nearby Coyote Valley:

> old women in Potter Valley had been pounding acorns for days to make pinole which is like flour. Great big baskets were filled with acorn mush, pinole and perhaps fish. What I saw was the bride's family going back to reciprocate what the man's family had done. All the girl's relatives from the Valley carried a basket of something. The mother of the bride had a belt made of beads about that wide and she laced that around her somehow. Can you imagine how many beads that took? Then they had a choker much more elaborate than the one we have at the Museum. They put that around his neck and on the end of it would be ornamental shell and feather. I always felt that their weddings were just as costly and just as elaborate as weddings today among your people (20).

Although the couple was united by the feast and the exchange of gifts, their families were not formally joined until the birth of their first child.

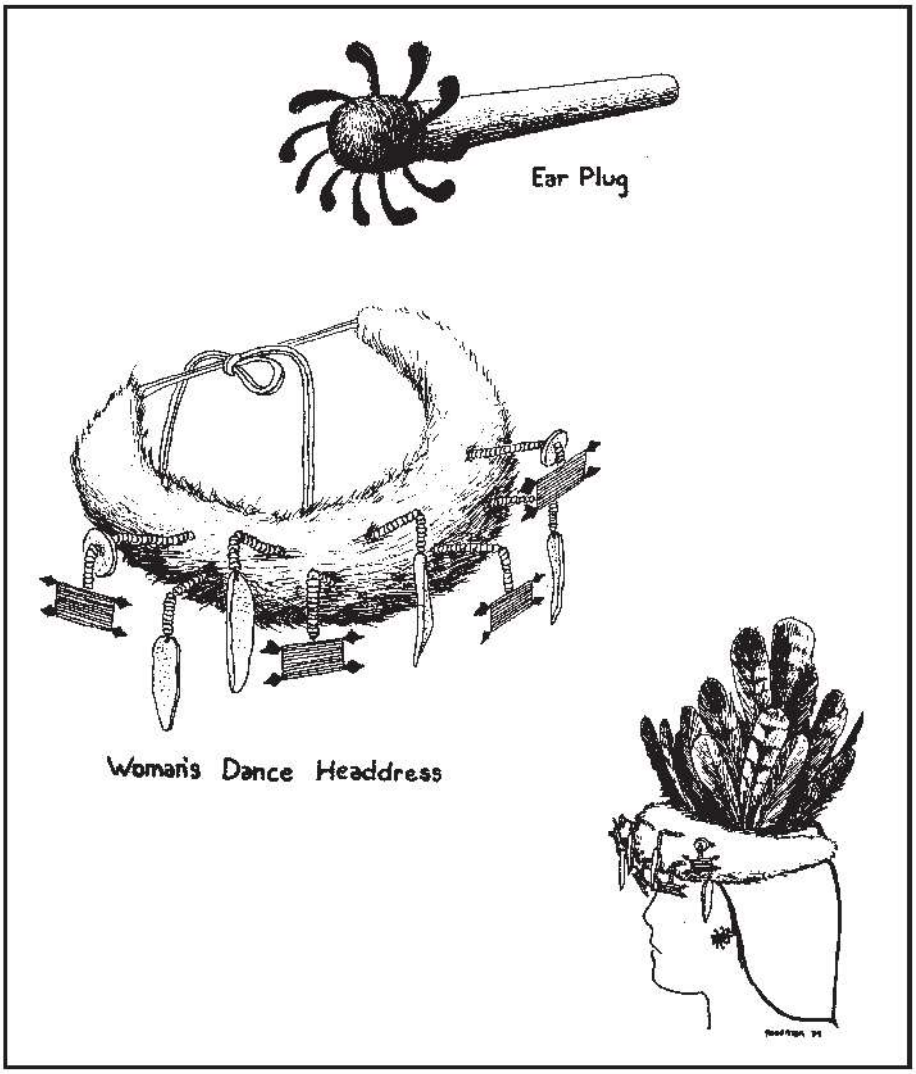
Pomoan women practiced birth control to either promote, prevent, or terminate pregnancy. This involved using herbal preparations accompanied by the appropriate songs and prayers. Cloverdale couples wishing children sometimes visited a special rock, near what is now the Sonoma/Lake county line, where they made offerings. Births were also limited by frequent taboos on sexual relations: men had to avoid contact with their wives before hunting, gambling, or entering into any situation which required their full power, while women observed the same restrictions prior to collecting basketry roots or sacred plants. Mourning observances often required lengthy periods of sexual abstinence, as could a prolonged illness in the family. Illness or death in the family also prevented marriage from taking place.

We do not know what prehistoric Pomoan groups thought of as the ideal family size. It would have been important to insure the survival of enough offspring to support the parents in their old age, but children beyond a certain number would not have been seen as desirable. At the time of contact, nearly all Pomoans married. Judging from documentary and ethnographic sources, this norm continued in historic times, in contrast to the Euroamerican population, among whom the proportion of married people fell as the 19th century progressed. Local native couples did not, however, have large numbers of surviving offspring. As can be seen by comparing the family trees within this chapter, Pomoan women had fewer children than did settler women.

During his visits to the Cloverdale area in the 1870s, ethnographer Stephen Powers was told that the Makahmo practiced infanticide in order to avoid raising any more children among the Whites. According to Powers, a feeling of intense pessimism had overwhelmed the Makahmo:

> There seems to have fallen on them a great and bitter despair…they see themselves slowly and surely throttled by the white man with his busy engines, his vast enterprises, his thundering locomotives; all their fine broad valleys wrenched from them with bloody violence; themselves jostled, elbowed back, crushed to earth; all their rich nut-bearing forests filled with the swarming flocks and herds of the avaricious and never resting American, consuming the acorns which are their subsistence, and for presuming to gather which off lands which were their own from time immemorial, and for which they have never received the compensation of one poor dollar, they have been sometimes pursued and shot unto death like jackals (21).

Infanticide was also sometimes practiced if a child was born with an immediately recognizable birth defect. In the 19th century, the infant mortality rate among Pomoans must have been extremely high due to their lack of resistance to introduced diseases,



Women's ceremonial regalia (drawing by Rusty Rossman)

poor living conditions, and lack of medical care. In addition, couples may have consciously avoided having more than a small number of children. Together these factors kept the completed family size of Pomoans relatively small. In recounting her life story, one Pomoan elder from Potter Valley indicated that small families continued to be the norm into this century:

> I often wondered if it was a subconscious rebellion against the White man or what, but do you know that the young people [in ca. 1910], very few had any children. Aunt Maggie had four, three sons and a daughter. Mother had four. Now there is two of us. The rest, whole families, are just gone. I think there are five direct descendents of the people who were there. I have always wondered why but I don't know (22).

In contrast to the Potter Valley Pomo, there are still quite a few descendants of Dry Creek and Cloverdale Pomo living in northern Sonoma County. In fact, with better sanitation and medical care, the declining population of native peoples reversed itself on a statewide level in the mid-20th century: in 1960 American Indians had relatively larger families than did any other ethnic minority group in California (23).

Adulthood for Pomoan men and women required participation in a number of activities, which varied according to their age and sex. Among precontact Pomoans, food-collecting activities were governed by

a fairly strict division of labor. While men hunted in the nearby hills or fished the creeks, the women collected basketry materials on creek terraces, harvested plant foods in the meadows, or processed foods back at the village or camp. Pomoan women worked very hard. Baron von Wrangell observed that hunting was the male domain, while the women "undertake the difficult tasks in general" and "carry all the heavy loads." He attributed this unequal division of labor to biological factors; the women being generally of a "much stronger physical constitution" than the men, "who, although large and well-proportioned, still seem to be weaker than the women" (24). Women gathered and prepared most of the food. Some staples required numerous steps in processing before they were ready to eat. Just preparing acorns, the mainstay of their diet, was "a lot of work"' involving "gathering it, shelling it, drying it, grinding it, soaking it to leach out the bitterness and cooking it" (25).

Although many tasks were limited by age or sex, some activities involved most of the people in a village. All family members joined in when the large communal fish dams were erected across a creek; some stayed on the banks to clean, salt, and dry the catch, while men, women, and children waded in the water, driving the fish into the central basketry trap. Acorn collecting, carried out in the late fall and early winter, also required all family members. Men climbed high in the tree and, using angled harvesting poles, knocked the acorns to the ground, while women and children collected them into large baskets.

Pomoan men and women had separate social networks. Women were not allowed into the men's secret societies, and only old women could enter the sweathouse. Thus women were excluded from direct participation in interfamily and intergroup decisions. Pomoan women did, however, have direct control over the internal affairs of the family. The "headwoman" of each family had charge of the valuables of all family members, including those of her married sons. She regulated gift giving at weddings, funerals, and other occasions, and was also in charge of food collection, preparation, storage, and distribution for the family.

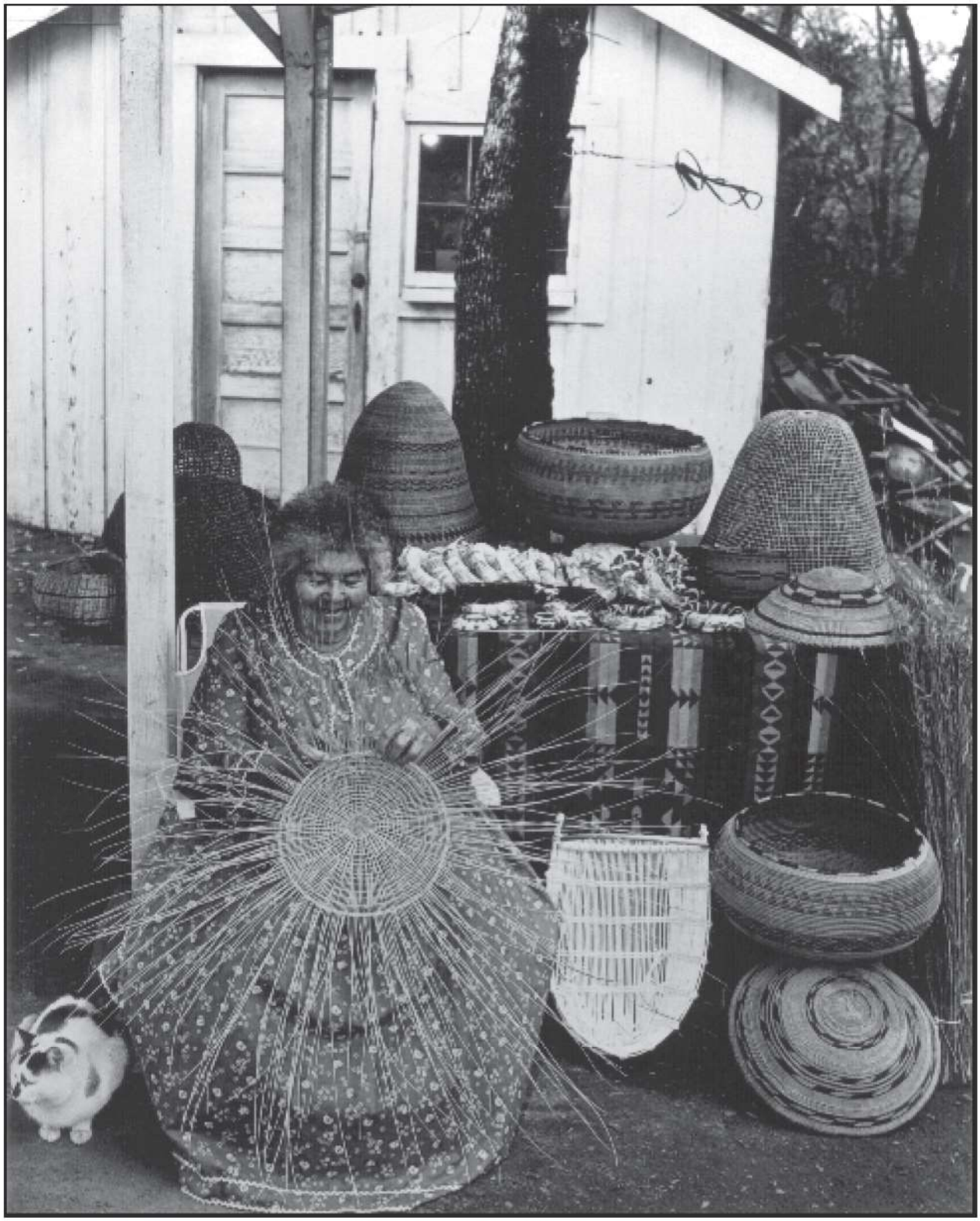
Men spent much of their time in the sweathouse with other men. Although they ate their meals at home, they would often sleep in the sweathouse. Here the men developed close friendships, exchanged information, educated the younger men, planned joint activities, dealt with political matters, and played games of chance, skill, and endurance. Men could gain status and wealth through specializing as craftsmen in bead, bow, or stone tool making, or as professional gamblers, athletes, dancers, singers, or storytellers. There were also a limited number of leadership roles as tribelet captain, and as trading, hunting, and fishing captains, and kingroup headmen. Positions in the curing arts, such as herbal doctors, singing doctors, and "outfit" doctors, were also highly prized, and open to both men and women. Most of these positions, however, were filled by men trained by their fathers or other kinship group members who previously had held the same position.

The women and children gathered in the dwelling houses. Here, the women developed comradeship, learned from each other, dealt with the affairs of women, and planned female-centered activities. The menstrual house was the exclusive domain of women. Here younger women were counseled by their older female relatives.

There were also positions of high status and authority for which only Pomoan women could strive: the headwomen presided over the affairs of women, and there were also female gamblers, storytellers, and doctors. Unlike men, only a few of whom were selected by the elders for specialized roles, women had greater opportunities to specialize. Many women excelled in midwifery, herbalism, and in the making of special baskets. Most women made baskets for domestic use, but some specialists created lavishly decorated baskets for important ceremonial and social occasions. Pomoans are considered by many to be the world's finest basketmakers and are known internationally for their decorated baskets.

Through her basketry, a Pomoan woman gained recognition from her group and from persons from other tribelet groups. Baskets continue to bring Pomoan women into the larger social network. Renowned Pomoan basketmaker Elsie Allen learned the art from her mother and grandmother, went on to teach it at the Mendocino Art Center, and put on demonstrations at craft and art exhibits in major cities from California to New York. Her mother also influenced Elsie in her desire to teach non-family members:

> Mother showed baskets for seven years. She showed baskets at the Boonville Fair, and around. She liked people and noticed how



A Makahmo weaver at home, 1980; Elsie Allen with the basketry art of three generations
(photo by Scott Patterson)

people liked the basket displays. She wanted me to travel and meet people through the baskets and not destroy her baskets and have nothing left for me and others in the future. Mother died in 1962, and I have tried to keep my promise (26).

Old Age and Death

Among the Southern Pomo, people were accorded the respect owed to "elders" when they became grandparents, often before they reached middle age by 20th-century standards. At this point, their responsibilities shifted to caring for and educating their grandchildren, while their own children took over the tasks of providing the group with food and other staples. The elders were greatly respected and readily obeyed by their grandchildren, whom they instructed in the traditional ways and beliefs. The accumulated knowledge and experience of old people gave them considerable power. Little by little, until their deaths, they passed their power on, in the form of information, skills, and ritual objects, to the succeeding generations.

Both the Cloverdale and the Dry Creek Pomo cremated their dead along with all of the possessions of the deceased. The name of the dead person was never used again, for its use might cause the deceased to want to remain among the living. The dead could find the afterlife only if all attachments to their earthly presence had been broken—thus, the burning of possessions and the prohibition on using the name. Upon death, the family and relatives of the deceased gathered together to mourn. Men and women painted their faces, cut their hair, and cried and wailed to demonstrate their grief. The Makahmo observed a mourning anniversary one year after the funeral. Again, everyone wailed at the loss of the deceased, and food and items of value were burned at the grave.

SETTLERS

Family and Kin

Although less formal and encompassing in their influence than true kinship groups, kin were nonetheless a very important factor in the development of the West. Kin served as a resource to protect and promote the desires of member families and individuals. For example, during the settlement stage, families having the support of an effective kinship network often had an advantage over families trying to make it on their own. Kinship was also a factor in migration, settlement, and marriage patterns. Kinship became less significant in the 20th century, as many of the activities performed by these groups were taken over by impersonal, outside agencies, both private and governmental.

In western society of the late 20th century, one of the major functions of kin is to provide emotional support, offering a sympathetic ear and sound counsel. This was not always the case; in the 19th century, extended family members were valued as much for their ability to provide assistance during periods of economic need or crisis. These economic exchanges cemented familial relationships from generation to generation and maintained the self-sufficiency of the family. Families preferred to rely on relatives, rather than on strangers, for aid (27).

Kinship had a strong influence on migratory practices. Multifamily units often moved west as a unit, even when making stops spread over many years or decades. Brothers, often with their wives, widowed mother, or even mother-in-law, traveled together. Numerous examples of families moving west to be near kin are recorded for the Lake Sonoma Area. Given the nature of landholding described in Chapter 5, it would have been easier for kin to move into the area than for unrelated persons. As described in that chapter, relatives might help a settler to consolidate his claim. They might also settle a portion of that claim for their own use. Such was probably the case when, in 1884, the Tom Scott family moved onto a ranch neighboring that of Tom's half-brother, Sylvester Scott.

Relatives did not always make the best neighbors, however, and the antics of feuding kin make up a good part of the gossip of most rural communities. The family of one project-area landowner lived in Mendocino County to the north, where, in the 1850s, a number of relatives had settled a valley. Two of the brothers quarreled for decades over a fence line. After many, many years, the pair had a tearful reunion at what was presumed to be the deathbed of one of the brothers. But when, to their mutual embarrassment, the brother recovered, they continued the feud, more fiercely than ever (28).

Marriage between neighboring families served to expand and strengthen kinship bonds and to consolidate property holdings. Close relationships between neighbors were inevitable in a relatively sparsely settled and isolated area, where fortuitous meetings with eligible strangers would have been few

and far between. These romantic involvements would have been either encouraged or discouraged by families, depending, in part, on the mutual benefit that the union might bring about. Active kin groups took a strong interest in the romantic attachments of their members, which could result in family feuding and bad feelings. Privacy was not possible even on geographically secluded properties in the Dry Creek uplands. As one young woman complained:

> How that old hen can keep track of the private affairs of the rest of the Nation baffles me. She has seven children to take care of and a house to keep neat and clean, and that ought to keep any woman busy and happy, but she seems never so happy as when she has percipitated herself into the innermost secrets of her neighbors far and near (29).

The lovers themselves were not oblivious to the economic aspects of their anticipated marriage. One local boy was quite taken with a certain Miss Cassidy who lived just to the north, but when her father's gold-mining prospects failed, so did their romance. An observant brother wrote of the young man's plight as follows:

> I feel sorry for hennery. He seemes to feel a kind down hearted lately. The rage a bout the mine seemes to die a way and I think that he thinkes ther is nothing in marreying a red heded women wethought [without] a fortun and he wishes he tied up his stockinges passing buy ferrey's [punctuation added] (30).

Ferry, their neighbor to the south, was a successful rancher with several young, unmarried daughters.

A considerable amount of intermarrying went on between families who lived in the Dry Creek Valley: the Pritchett, Bryant, Ireland, Hendricks, Wood, Phillips, Richards, and Van Alen families were connected by marriage with each other and with other families up and down the valley. Some of the landholdings of these families bordered on each other. At marriage, the parents of one partner might give the couple some of the family's acreage, either deeded or possessory, and eventually the aging parents might mortgage or give all their holdings to them. Loans, ranging from small to large sums, were commonly arranged between kinfolk. Most kin could not supply large sums, however, especially following the turn of

Wedding photograph of Dry Creek Valley residents Maude Phillips and Geo. L. Hendricks, 1901
(photo courtesy of Edwin Langhart Museum, Healdsburg)

Vacationing on Matthews ranch, circa 1908 (from GM collection)

the century; loans were then negotiated with a bank, but often with a relative acting as the guarantor.

Families and individuals residing in the area also had connections with their urban-dwelling kinfolk. This enlarged the social and economic base of both groups. The Van Alen family—John, Egbert, William, and Harry—are a good example of this extension. Together, they engaged in a wide range of speculative ventures in the late 1880s, including a stock ranch at Flat Ridge, a farm and vineyard on Dry Creek (CA-Son-1127H), and a fruit-packing cannery in Healdsburg. To raise capital for these ventures, the Van Alens mortgaged real estate. At some point, they over expanded, for in December of 1894, with two complaints against them for unpaid debts, their 960-acre Flat Ridge Ranch was sold at a public auction (31). The Van Alens' range of holdings foreshadowed the financial empires consolidated by local kin during the early 20th century. Livestock, wine, mineral deposits, lumber, and of course, real estate, made up the assets of these corporations, governed by boards of directors composed of family members.

Most arrangements between rural and urban kin, however, were not so formalized; they were based instead on notions of family favors, responsibility, and reciprocity. Urban kin could run errands and purchase a wide variety of consumer goods for their rural "cousins." They could keep country relatives abreast of price conditions in town and help them market their livestock and produce to best advantage. They also supplied a place for rural kin to stay when in town. In turn, city folks could summer on the country property of relatives. Although they might give some aid at harvest and sheep-shearing time, the city cousins were primarily on vacation. The implications of these extended summer visits on landholding patterns have been discussed above (see Chapter 5). In addition to letting their city relatives live off the "fat of the land" during summer, rural kin sent gifts of game, poultry, and produce throughout the year to their urban counterparts.

From old letters and oral history, a flavor of all the best aspects of this relationship between urban and rural kin can be reconstructed. George Matthews ran a kind of summer camp in the Dry Creek uplands for the Cochranes, relatives on his mother's side from Marin County (32). From 1900 (20 years after the death of George's mother) until around the First World War, members of the Cochrane family spent

Woman hunter on Matthews ranch; note "Tent City" in background, circa 1908 (from GM collection)

summers at the ranch. Some families camped in tents, while others had cabins scattered about the property. George supplied the tents, picnic tables, straw mattresses and cots, and, for some families, even a milk cow. In addition to the ranch's orchards, vines, and berry bushes, George planted a vegetable garden for the families' use. Everyone ate well during their visits. There was plenty of fresh food and game to eat. And when George wasn't around, the cousins did a bit of illegal hunting or helped themselves to his chickens. The commodities that couldn't be caught or picked at the ranch were shipped in advance from San Rafael. In addition, George made weekly trips to Cloverdale, armed with a shopping list from each family's camp. This must have been a substantial gathering, for there were 36 second cousins, their parents (George's cousins), and nonrelated friends of the families who summered at the ranch. No family members ever paid Matthews to stay on his ranch, and he reportedly enjoyed the summer get-togethers as much as they did.

During the first summers the entire family of each cousin would came up, but as the years went by, the men could not take time off work and would join their families only when they could. As soon as school let out, the cousins got ready for the trip. Each family traveled by train from San Rafael to Cloverdale, where George met them with horse and buggy at the station. After a big lunch at the Cloverdale Hotel, the families changed from their city things into their country clothes in a room reserved at the hotel for that purpose. They left their city clothes in Cloverdale to be retrieved on the way home. Everyone piled into George's buggy for the ride to the ranch. Before the climb up Red Mountain, all the children had to get out and walk up the steep slope.

First thing in the summer, the boys filled sacks with sand and built a dam in Dry Creek to make a swimming hole, complete with diving board. The children spent their summers swimming, hiking, and horseback riding; they also learned to hunt at a young age. George Matthews believed that girls and boys should be raised the same, so the girl cousins learned these skills too. Soda Springs, three miles to the north of Matthews' house, was a favorite spot, with both hot and cold pools. The children brought sugar and lemons from the orchard and made a delicious lemon fizz. They also visited Hood's Hot Springs about two miles south of George's house.

In the evening all of the families came in from the different camps and got together on the verandah to tell stories and sing songs. George's foreman, Charlie Cook, played the accordion, and other campers played violins. Eventually George built a dance pavilion for all his guests. There the teenaged cousins, their friends, and young members of the hunting club frolicked until the early hours of the morning. The older and younger guests thoroughly enjoyed

themselves as well, but the stage was certainly set at the ranch for many a first summer romance.

One long-remembered event was the "Great Water-Fight." One particularly hot day, when George was in town, silliness overwhelmed the family camps and the entire clan participated in a marathon water fight that not only emptied the water tanks George had built to supply the camps, but the well, and even the dishwater, which "Mama threw at Uncle Jim."

The vacations ended when school started, although some lucky children were allowed to miss the first weeks of classes. When a family was leaving for the season, everyone got together in front of the house to take photographs. Then they went down to Cloverdale in the buggy, got back into their city clothes, had lunch, and caught the train. Most visitors left reluctantly, and it took them quite awhile to get used to city life again. As one young cousin wrote during class on her first day back at school:

> We all arrived safely home, although I cannot say happily, as far as I am concerned for I got the blues frightfully just as soon as I struck this cold, miserable city. It was so foggy that I could not see my hand. Heinze [a member of the hunting club] managed to keep us cheerful though, throughout the journey. I was positively ashamed of him. He came through the city in the same old clothes that he wore on the ranch. He was as happy as a lark and as proud as a prince, with his gun and his buck on his shoulder and the horns and a log of wood tied with a hayrope in his hands. He was exceedingly happy when he arrived in the city and papa a little bit too. Mama managed to keep him somewhat straight. They sat in the smoking car by themselves so no wonder they were happy (33).

Louis Mead: A Solitaire

Solitary individuals were unusual in this area of family enterprises. Although some project-area residents lived alone during their bachelorhood or following the death of a spouse, only a few residents can be singled out as "hermits." Louis C. Mead was one of these, described by archaeologists as a man of "subtle mystery" (34). He lived on a homestead (CA-Son-555/H) bordering what became Skaggs Springs-

"The goat that followed George Matthews home from Ornbaun Valley," circa 1910
(photo courtesy of Geraldine Von Husen)

Two young campers on the Matthews ranch who had just been awakened by a bucket of water, circa 1910 (photo courtesy of Geraldine Von Husen)

Stewart's Point Road. He arrived sometime after 1870 and worked as a laborer at a nearby farm. The 1880 census listing placed him up the road from Skaggs Springs, where he remained until his death in 1920 at age 71. He had either traveled west with his parents and younger sister, or had been followed by them after a short period. His father, S.P. Mead, was the Indiana reporter who penned the descriptions of Skaggs Springs quoted in the Cultural Landscape section of Chapter 3. The elder Mead may have come to California for his health; he spent some time taking the waters at Skaggs, before eventually settling with his wife and daughter in Healdsburg and becoming a co-editor of the *Russian River Flag*, the town's Republican newspaper.

The 1880 census showed Louis and his father living together on the homestead and his mother and sister on Matheson Street in Healdsburg. S.P. Mead may have been only visiting his son at this time. Louis apparently quarreled with his family and remained a recluse for the rest of his life. His parents and sister moved to Santa Barbaria in 1883, and when his father died the next year, Louis received nothing. His mother's obituary, printed in the Healdsburg paper in 1897, failed to mention her son, who lived only a few miles away, but noted that Mrs. Mead was survived by a daughter who lived in San Francisco (35).

Local residents remember Louis Mead as a loner who had no family and socialized little. Louis' name did not appear on any of the guest lists of local parties published in the Healdsburg paper and later collected by WSCRS researchers. His reputed stingy nature—"he was as close as the bark on a damn tree"—is revealed by the following story: "One time his own dad came there to visit him and stayed on a couple of weeks and when he left why, he presented the old man with a bill for board and room." The same old-timer recalled a typical Louis Mead shopping trip to Geyserville. He came in an old cart pulled by a starving horse and followed by a couple of skinny dogs. Following his shopping and before returning home in the afternoon, he would lunch on an onion sandwich, the main ingredient having been "borrowed" from the seed box in the store. Other locals remember Louis with humor and affection as a man who "lived from day to day."

Louis Mead apparently supported himself for over 40 years on his 320-acre homestead. He cultivated a small field and raised poultry, hogs, goats, and a few cattle. Work done by historical archaeologists attests to Louis' self-sufficiency. Archaeologists excavated two stone dugouts on his homestead; one apparently served as a tool shed and the other as a cold cellar for food. The dugouts were constructed by digging into a slope and lining the

Hiram Perry Hulbert and Mary Bell Hufstader Hulbert and children, ca. 1897

interior with unfinished stone of differing sizes. One dugout apparently had steps approaching it made of wood planks, flattened tin cans, and soil. Both outbuildings probably had wood sides and roofs. Food bone recovered from the cold cellar suggested that Louis relied more heavily on home-butchered goat and deer meat than on store-bought beef cuts. Evidently not pressured by family or self-ambition, he avoided the pitfalls of bad debts which plagued other area residents. He also resisted overtures from expansion-hungry neighbors to buy him out. In March 1920 Louis Mead sold his property to an outsider as a "Life Estate," to be turned over to the purchaser upon Mead's death. Six months later Louis died during an operation to amputate a gangrenous leg.

Family Life

During the 1800s, families faced an uncertain future; life was fragile, and shifting economic trends could be perilous. In 1900 the average life expectancy at birth of White Americans (male and female) was only 49 years, yet up seven years from the 1850 figure (36). High infant mortality was one reason for the low life expectancy; the infant mortality rate for the late 19th century was approximately 10 times that of the 1980s. As infant mortality declined and life expectancy rose, birth rate and family size also declined. One of the most noticeable changes in western families over the past century is the decline in birth rate: between 1810 and 1930 the birth rate declined from an average of eight children per mother to slightly less than three (37). There are not enough data to work out the birth rate for all women in the Lake Sonoma Area; we do know, however, that during the 19th century it was high for many of these women, especially those living in the Dry Creek uplands, ranging up to 20 births. Families with six or seven surviving children were common. Completed family size dropped considerably after the turn of the century.

Death in the family was a common childhood experience in the study area, as in the general population. The long childbearing period—over 25 years for some women—and shorter life-expectancy, meant that the lives of parents and children overlapped for a shorter period than they do at present. The "empty nest" phase, so common today, in which a couple spends many years together after the departure of their children, was rare; marriage was more commonly broken by the death of a spouse before the end of the child-rearing period. The insecure nature of the family meant that many individuals did not pass through the life-course transitions in the ideal order or at the appropriate age. The youngest children, for example, often had to care for and support their widowed parent and thus could not marry until an advanced age, if at all.

Ranching family in the Dry Creek uplands (from GM collection)

Families settling in the area faced a changing set of constraints and opportunities that challenged their resourcefulness. In addition to the precariousness of life itself, families had to cope with the instabilities of the developing capitalist system. The first problem was to establish a homestead with a sufficient quantity and variety of crops and livestock to supply the subsistence needs of a growing family. Then a cash crop was necessary if one was ever to be successful and rise above the subsistence level. Cattle, sheep, and grapes were the main choices of the area's operators. These investments required labor and cash for development. It also became increasingly important to secure legal title to one's property; this also required cash. Older members of the growing families might aid in property development and expansion, but many families needed additional help from the outside in the form of hired hands and loans. A woman who settled with her family in Green Valley, about eight miles south of Healdsburg, described what they did in the mid-1850s as

> only the common routine of business incdently [sic] to farming & such kind of work. such as ploughing & clearing planting out orchards & vineyards & raising stock & milking cows trying all ways to make a liveing & our girls & boys getting large enough to help us. so that we might be able to pay our debts (38).

The expanding operators' constant need for cash to pay the help and mortgage payments strained some enterprises beyond the limit of their resources. The rapid price fluctuations of agricultural products could bankrupt families who were forced to sell their goods at a low price in order to raise needed cash. An additional threat, climatic disasters, might not only severely damage a family's crops and livestock but, by destroying their means of acquiring cash for mortgage payments, might cause the eventual loss of the entire operation. Thus, heads of households sought to balance the needs of property development with the needs of their families, all within an economic and environmental climate subject to rapid change. Developing ventures within the Lake Sonoma Area were faced with a decline in productivity due to deteriorating grasslands, the phylloxera epidemic, and falling prices for wool and sheep.

Settlers also had to confront the lack of opportunity for younger family members seeking a place in the rural economy, as well as the rising expectations of young and old stimulated by the industrial revolution. Landholdings were often settled by brothers or by a father and his sons. These holdings, however, could support only one family. Thus younger brothers needed to acquire sufficient capital to purchase their own land when they wished to marry. After about 1875, the lack of funds and scarcity of suitable land kept these men single and within the family operation for most of their younger years. In particular, the large acreage requirement of sheep ranching did not permit the fragmentation and formation of new enterprises, forcing the eventual

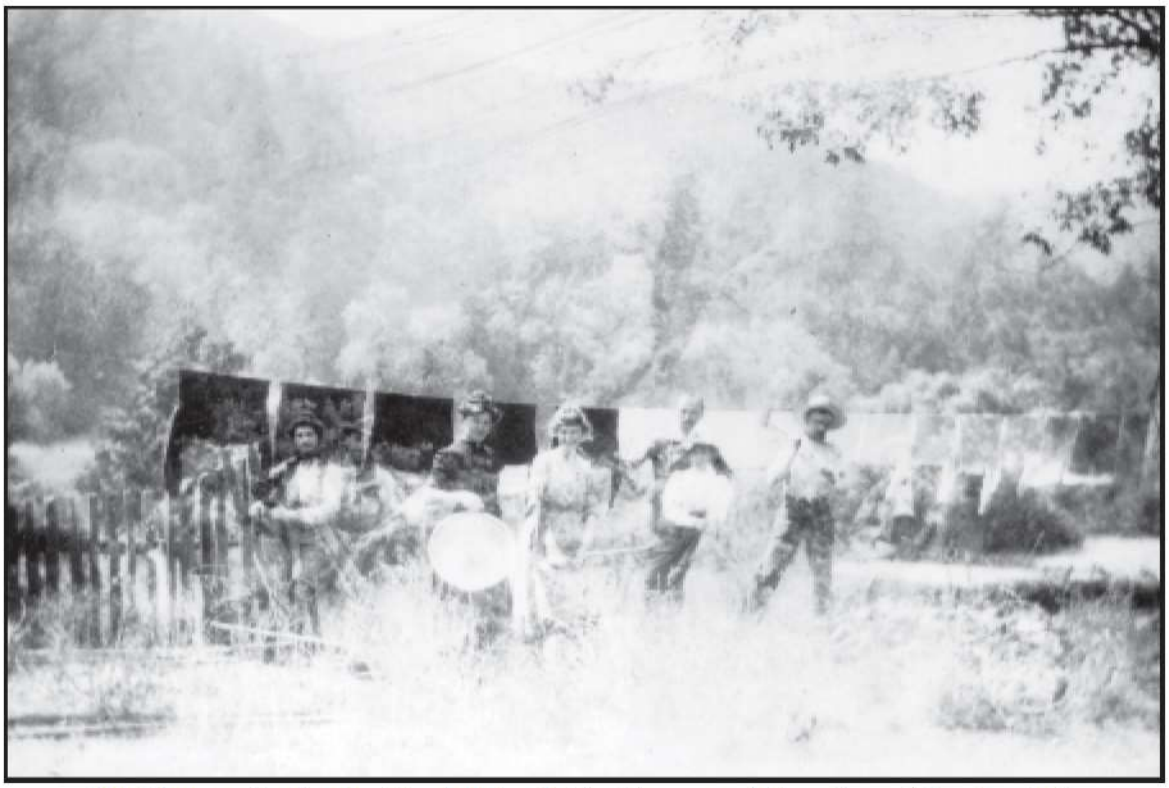
departure of all but one son. After establishing an enterprise, the problem was no longer property development, but maintaining the family enterprise intact through an increasingly harsh period of economic and environmental crises (39).

Women

Until relatively recently, the role of women in developing and maintaining these agricultural enterprises had been essentially overlooked. This oversight was due in part to the focus of traditional historians on great men and major events and to the less public stage on which much of women's history had been played out—the household. In the Lake Sonoma Area, as elsewhere, women not only participated in the families' economic ventures, they also helped create and maintain the social community.

The influence of wives on property development decisions was probably greater than will ever be realized. Women, through their role as cook and household manager, may have had a greater awareness of the success or failure of the operation than did their mates. It was a woman's responsibility to parcel out the family's supplies in such a way as to never run out. In dwellings lacking electricity or running water, simply accomplishing those tasks traditionally defined as "women's work" was a mammoth undertaking: cooking, washing, cleaning, sewing, and giving birth to and caring for numerous children. Some women were in charge of cooking meals for up to 20 hungry persons, three times a day. One may add to this the necessary chores of canning fruits, vegetables, meat, and fish, making soap and clothes, and tending the garden and farmyard animals.

Aside from their domestic role in the home and farmyard, some women worked on the range with the men as well. In 1887 one woman living in the Dry Creek uplands wrote, "Jonney and my self is the stock men now dayes we mannage thinges while the others do the plowing" (40). And later: "If I had not looked after the cattle this winter we would loose a great maney both calves and young heffers" (41). This dual role was sometimes necessary when the husband was sick or dead and the sons were not old enough to assume responsibility for the enterprise. Married women often ran the family homestead alone while the husband was out hunting or tending to other business. When widowed homesteaders remarried, their second wife was usually much younger than



Washing day in the Dry Creek uplands (double-exposed photo from GM collection)

Family of George Matthews' hired hand, circa 1908 (from GM collection)

themselves, thus possessing the stamina to outlive them and carry on the property.

After a property was successfully established, the women were under less of a burden to work outside the physical limits of the house and farmyard. Then the personal temperament of the woman and the attitude of her husband had a good deal to do with the scope of her activities. According to one woman, who spent her life working with her husband on their Humboldt County ranch:

> It depends entirely on the woman. Some women did nothing but keep the house and tend the garden and that sort of thing. Canned and whatever had to do with the household. But some women also went out and worked with the sheep. Oh, lamb'em and gather, put them into the corral. Worked with 'em when they were shearing, tagging and did all kinds of things that pertained to the sheep business (42).

Sheep ranching, more so than cattle ranching, was often undertaken by husband-wife teams. Many properties within the North Coast Ranges were managed in such a way, with the woman taking equal responsibility and possessing equal knowledge and skills in the family operation.

Women may have been more affected than men by the isolation of ranching life. Women had fewer adult social contacts than men and, in the early days, had fewer reasons or opportunities to leave the home. Especially in the winter and during times of sickness, the poor roads and lack of neighbors would have been a real hardship. One woman wrote from the Dry Creek uplands in 1887:

> I realey thught I was dyeing. The creekes were overflowing and no one could get heir and no one could get out. This is a verey poor place for a woman to live this time of year unleless there is some one that understandes what to do when one is sick. There at laist to be too wimen to geater [together] where the nuburs [neighbors] are so scares [punctuation added] (43).

Hard work and lack of affection caused this same woman to complain bitterly of her spouse: "He treats the femail sext lik he doe the cattle. The can come in and come out and die if the like and that is all the stock man seems to care" (44).

Drinking was the way in which one of the first women settlers coped with her isolation and unsympathetic male companions. There is an often repeated story concerning Mrs. Scott's grandmother, or Aunt Katie, who was reputedly "partial to a dram."

The men were going off for the day and, not wishing to leave Katie in possession of the whiskey jug, they hid it in a tree. Katie eventually found her prize:

> With methodic precision she carried out a large wash-tub, and having taken correct bearings, placed it immediately beneath the jug, and next, procuring her husband's rifle, she took deliberate aim, bang went the charge, the bullet pierced the target, the liquor trickled into the tub, Aunt Katie regaled herself, and was found, on the return of the party, in affectionate proximity to what remained of her favorite tipple, having had as much "independence" as was good for her (45).

As more women arrived in the area, they sought more constructive remedies for their problems.

The need for a community and for the companionship and help of other women provided the impetus for the establishment of numerous organizations, religious and secular, including the Saturday Afternoon Club, the Dry Creek Neighbors Club, and the Cloverdale Spinsters. These reflect a similar pattern to what has been reported about a Canadian ranching community. There, it was revealed that although the social networks of men and women were separate, "due to the limited number of alternatives, these ties are complementary, and they incorporate different members of the same household." The women established the social context of the household: "Whereas men have important work exchanges with other men, it is the women who, for the most part, organize the social relationships between the household, the kin group, and the community" (46).

Four Settler Families

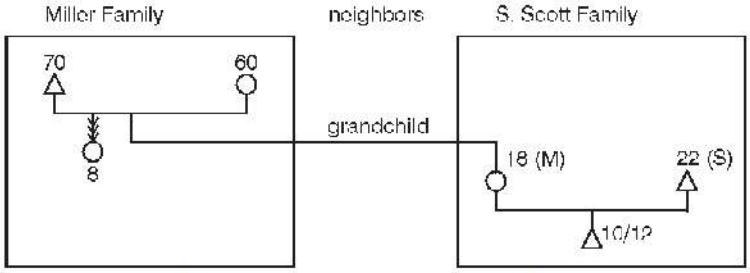
The local careers of four families illustrate how people met the challenges presented by the changing constraints and opportunities of the Lake Sonoma Area. The histories also underscore many of the points made in this chapter and throughout the volume.

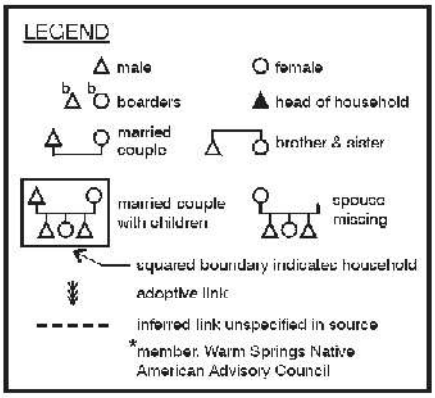
As will be seen, the composition of the family and the seat of authority within it changed throughout the life course of each family. The precariousness of setting, flexibility of response, and diversity of action so characteristic of the 19th century also can be seen in the history of these settler families. Despite the fact that we are now aware of the tremendous contribution wives made to family enterprises, little was recorded on the women connected with these four families. We are left primarily with their childbearing record, as reconstructed from the U.S. Census. "Family trees" have been constructed from the census for each family at ten-year intervals, except for 1890, for which there are no data. The family trees also include boarders (b), as the census listed people by household (47). In our area, these households were the economic units of production; thus, these family histories emphasize economics.

The Scott Family

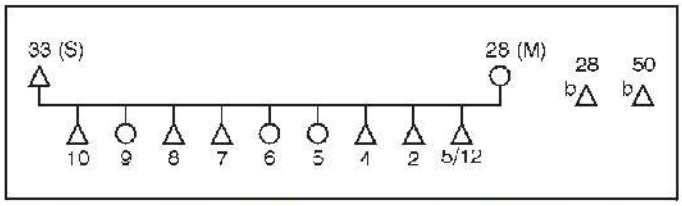
The life course of the Sylvester Scott family typified many of the trends discussed in this chapter (48). In about 1858 Malinda Miller and Sylvester were married in Healdsburg. Both had experienced California in its frontier days. In 1854, at age 16, Sylvester had left his home town in Wisconsin and headed for the goldfields of El Dorado County, while Malinda had crossed the Plains in a covered wagon with her grandparents, settling in the Healdsburg area before 1850. The Millers became well known in the area, for Valentine Miller had brought the makings of a distillery with him. In the early days, grain was in short supply, so he had little opportunity to ply his trade. But when Cyrus Alexander sold him a quantity of damaged wheat in 1851, Valentine was back in business (49).

The Millers continued to produce alcoholic beverages and were the forerunners of today's thriving wine industry in the area. By 1860 Valentine made wine as well as whiskey; he was the only winemaker listed on the agricultural census for Mendocino Township for that year. Both the Scott and Miller families then lived as neighbors on the Sotoyome Rancho. By 1865 Sylvester had a possessory claim along Cherry Creek, and by 1870 his family had moved onto the property. In the first ten years of their marriage, Malinda gave birth to nine children, including one set of twins, one of whom died. Valentine's brew must have been healthful, for in an era where few couples lived to be grandparents, Valentine and Kate lived to see the birth of 12 great-grandchildren. In 1872, in an interesting case of overlap between legal and familial dealings, the Millers signed their property over to Sylvester, with the consideration that Sylvester "support and maintain" them during their natural lives (50). At that point, the Millers probably moved in with their granddaughter and her family. They had both died by 1874 and were buried at the ranch. The

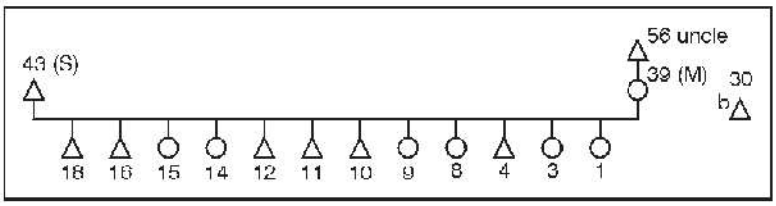




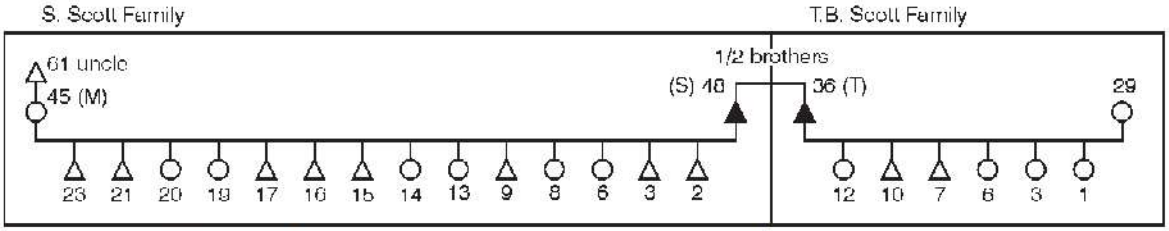
The Scott family in 1860 (constructed from U.S. census)



The Scott family in 1870 (constructed from U.S. census)



The Scott family in 1880 (constructed from U.S. census)



The Scott family in 1885 (constructed from information provided by descendants)

Millers' graves were marked with tombstones, carried across the Plains under their covered wagon. During the next decade, the Scott family cemetery was used at least two more times: a young son died in the mid-1870s, and another son died at birth in 1884.

Sylvester expanded and diversified his ranch during the 1870s. He put in an orchard, a vineyard, a dairy, and a carp pond stocked with fish imported from Germany. He held claim to a 3000-acre ranch, part possessory, part deeded, stocked with milk cows, cattle, and some sheep. Sylvester was in the process of upgrading his livestock through the purchase of thoroughbred Durham bulls and cows, and fine, imported sheep.

To help with this work, as his children were still young, Scott hired laboring men and went into partnership with his wife's uncle, Isaac Stailey. During the 1870s, the pioneer ranchers on the North Coast Ranges, including Sylvester, fared very well on the rich, almost pristine grasslands. In the early 1880s, with at least some of his one-dozen-plus children old enough to help, Scott continued to develop his ranch. His Durham herd won first prize at the State Agricultural Fair, and he ran one of the area's model properties (51). Orville Baldwin remarked that Sylvester raised "twenty children to the age when they were old enough to run away from home, which everyone of them did" (52). This was a slight exaggeration, for 15 was mentioned as "old

enough," and in 1880 three children of this age and older remained at home, while two children over 18 had left.

Malinda was related to Joaquin Miller, a poet well known for his unpredictable nature and sentimental verse. Billing himself as the "Byron of the Rockies," Joaquin toured Europe and the British Isles in the 1870s. For a time, Londoners were quite amused by his frontier dress and bizarre antics, that is, except for Queen Victoria, who expected proper behavior even from foreigners and poets. Through Joaquin, members of the European and British mobility learned of the fabulous hunting in the Dry Creek uplands and of Sylvester Scott, "the hunter." Scott operated a forerunner of the hunting clubs which followed in the area. Joaquin Miller and other famous persons traveled to the area just to hunt with Sylvester, who at one time had 20 bear dogs, some purchased for as much as $100 apiece.

Sylvester's half-brother Thomas Benton Scott, Tom's wife, Margret, and their five children moved to an adjoining ranch in 1884. The two families were very close; the children played and went to school together, while their mothers enjoyed each others' counsel, companionship, and help. Remembering their childhoods, a daughter of Malinda's wrote to her cousin,

> The things I liked best on the ranch was when your mother [Margret] and you would come up to our ranch and help dry fruit and can in those tin cans and seal with wax. I can remember all the preserves and so many pickles and things, my mother and your mother used to fix. I often think our mothers got a lot of comfort together (53).

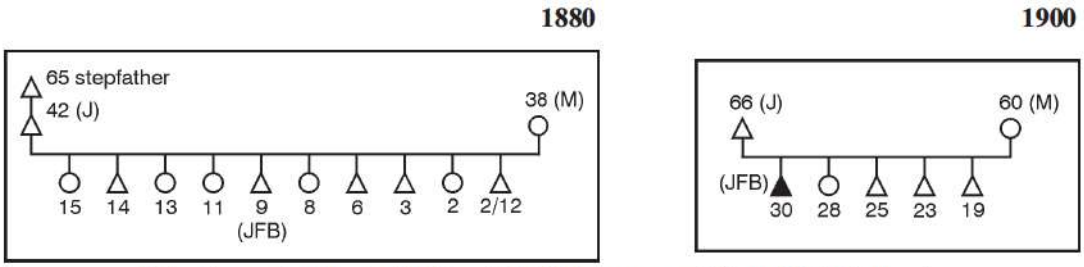
The two Scott families were neighbors for only a short time. As early as 1873, Scott began mortgaging property. As with other area ranchers, his indebtedness may have grown over the years. In 1881 he took out a seven-year, $12,000 mortgage on his property, which at that time was valued at $20,000. Sylvester's financial problems became obvious in the winter of 1886, when the Bank of Cloverdale and the Bank of Sonoma both filed proceedings against him and Stailey. Eighteen months later the ranch was sold at a public auction to the mortgagee. What had gone wrong? The boom period for North Coast stockmen was passing, but his neighbors would manage to hold out for a few more years.

The profits from Scott's stockraising enterprise may have been dwindling due to deteriorating grasslands. His large herd of cattle and dairy cows would have needed more and better quality acreage than the sheep that were quickly becoming the area's staple. In fact, between 1880 and 1882, Scott had sold at least 200 of his stock cattle and purchased more than 1000 sheep. Since he had negotiated his loan, the prices of farm products had fallen while currency was becoming scarcer in supply, considerably reducing his chances of making ends meet. Scott may also have been a casualty of what demographers have labeled the "dependency ratio," that is, the number of consumers compared to the number of workers. As a household moves through the developmental cycle, the "dependency ratio" changes. If the number of dependent children increases and the number of working adults remains stable, each family worker will have to produce a greater amount of food or cash to support the rest (54). In 1880 there were six persons over 15 and 10 children in the Scott household.

Most of Scott's neighbors, however, were too worried about themselves to consider the reasons for his bankruptcy. One neighbor, in fact, attributed his failure to divine punishment incurred by Scott's blasphemy: "my perence [parents] told me whom so ever spit against heaven it fell in his face and it is so in scotts case he was all wayes blastfarming" (55). The sudden demise of Scott's operation caused quite a panic in the area, as he owed money to local businesses and working men:

> Their is great excitment in the neighberid last week on acount of the failour of sylvester scott. His stock and everything he had was atached last week for det . . . [illegible]. Nearly all the men in cloverdale is conscerent in the failur. He owes dick murphey a thousand dols and they say he owes the familey laberin men in town from a hundred to to [two] more. The stock is all on ferries ranch and the sheep are all a shering their and one of the wells and fargoes detectives is their to luck out...tom scotts hop house was burned with the hopes in it. Saved nothing but the press [punctuation added] (56).

Tom Scott was not the only person to be affected by Sylvester's failure. Small disasters multiplied as old feuds revived between neighbors and a government land inspector toured the area. One of



The Ferry family in 1880 and 1900 (constructed from U.S. Census)

Scott's lenders died from a cold he caught removing Scott's sheep to his own ranch in the rain.

In 1889 the Sylvester Scott family moved to Idaho in a covered wagon. Sylvester was over 50 years of age; Malinda, who had given birth to her twentieth and last child in that ill-fated year of 1886, was 48. Well past their prime and with at least a half-dozen dependent children, the Scotts started over with a ranch in Leviston, Idaho. It appears that the majority of offspring from both Scott families married.

The ranches of both families, along with many small holdings, became part of the 8000-acre property purchased by Orville Baldwin in 1903. From Baldwin a portion of the ranches passed to George Matthews in 1926, and from Matthews' family to the Corps of Engineers for the Warm Springs Dam/Lake Sonoma Project.

The Ferry Family

John Ferry and his wife, Mary, were both born in Ireland (57). They lived in California by 1865 and had moved to the Dry Creek uplands by 1870 (CA-Son-567/H). At that time, the couple had four children under the age of six. The Mendocino District School was located near their home for many years, and all but one of their 11 children attended classes there. John Ferry was the school clerk for 30 years, beginning in 1874. Like the Scott family, the Ferrys lost their ranch for bad debts.

Loss of the Ferry ranch was due to a combination of family and national economic conditions. In 1870 John Ferry purchased a $7000 possessory claim to an unspecified acreage; the bounds of his parcel were simply described by neighboring claims. As a result of the vague nature of his property boundaries, Ferry had squabbles with some of his neighbors. He was also a Justice of the Peace, and despite a considerable amount of vandalism, threats, fisticuffs, and gun waving, the only casualty was one of Ferry's dogs.

Although Ferry began as a dairy farmer, he quickly perceived the greater profit to be made from sheep. It was during the 1870s that the North Coast Ranges first began to assume importance as the center of the state's range sheep production. Ferry was one of these pioneer sheep ranchers. The height of the industry, however, was barely reached in the late 1870s, when a number of factors combined to bring about the decline which characterized the following three decades. Profits from sheep never again approached those realized by the pioneer sheep raisers of the 1870s (58). At that time, a fairly managed flock of good sheep yielded six to seven pounds of wool per head each year. Ferry's flock did even better than this, averaging four pounds a head for just one of the two yearly clippings in 1879. Spurred on, perhaps, by a notion of unchanging conditions and steady profits, Ferry borrowed money to upgrade his herd and secure legal title to the land he held in possession.

Ferry's operation had mortgage problems almost from its inception. Each time the mortgage was renewed, its face value increased. Like Scott, Ferry took out a seven-year loan in 1881. When his mortgage fell due in 1888, however, Ferry was able to renegotiate. In 1891, with the general economic climate even worse than before, Ferry was again able to renew the mortgage. His luck ran out, however, in 1897: the mortgagee died and his heirs foreclosed when Ferry could not make the payment.

The 1890s were a disastrous period for local ranchers. The tariff on wool imported into the United States, which had been in effect since 1875 when most sheep ranches began in the area, was lowered by two-thirds in 1890 and eliminated altogether in 1894 (59). As a result, the bottom fell out of the wool and sheep market. Some time around 1890, Ferry planted a vineyard, perhaps in an attempt to diversify. The sheep business began to improve in 1897, when the wool tariff was reinstated at its 1890 rate and the national economy recovered from the depression of

the mid-1890s. But it was too late for the Ferrys, who lost their ranch to the Smith family.

The Ferrys, like their neighbors the Scotts, had a large family, with ten or eleven children surviving to adulthood. Although John Ferry's stepfather homesteaded with them and aided in property development, the Ferrys still hired more help than did the majority of their neighbors. The eldest daughter was retarded and could neither read nor write at age 15, and the eldest son left home in 1886, at age 20. He worked shearing sheep for other ranchers, before eventually getting a job installing wire for the telegraph company. Ferry's neighbors believed that his son had left home due to family squabbles. Thus, in the mid 1880s, while trying to repay their loan, the Ferrys had one disabled daughter, three teenaged daughters, four young children, and two teenaged sons at home. In a time of declining productivity, this "dependency ratio" may have increased the property's economic liabilities.

The Ferrys were able to hold on to some of their sheep and, following the sale of their property, they moved onto a smaller neighboring parcel homesteaded by their son, John F.B. Ferry (CA-Son-1165/H). The older John Ferry, probably disheartened by his failure, apparently retired, and John F. B. took over the family's stock; he also worked for Orville Baldwin for a short time before moving to San Francisco. A number of his brothers and one sister moved to San Francisco at the same time.

John F.B. seems to have done fairly well financially for himself in the city, and the family's second homestead may have been used for awhile only as a hunting and recreational cabin from around 1908. Johnny was, however, not a great social success in his new urban environment. Although "he of the purple face" could afford to take young ladies out to the "swellest restaurant" in town, he lacked in the art of conversation. As one young lady lamented, "he is so slow. I would like to have stuck him with a pin" (60). Ferry remained friends with the sons of the Smiths, who had foreclosed on his father. At least one of the Smith brothers also lived in San Francisco, and he and Ferry partook of the gossip network that reached from the Dry Creek uplands to downtown San Francisco.

Johnny did not stay in the big city; by the 1920s he was in his fifties and living in his cabin in the Dry Creek uplands. He lived alone and seemed an eccentric figure to the neighborhood children. Every week he would drive his Model A Ford into town for services at the Catholic church, dropping off the Sunday paper at a neighboring ranch on his way home. From documents and oral history, it appears that none of the Ferrys ever married; at least one sister joined the Ursuline Convent in Santa Rosa. From 1929 until 1935, John F.B. Ferry, like his father before him, was one of the trustees of the Mendocino District School. Neighbors did not know how Johnny supported himself during these years. A walnut orchard was his only visible asset. In 1948 a family from Oakland purchased the property from Ferry and two of his sisters for use as a summer home.

Portions of the two Ferry ranches eventually became the property of the Corps of Engineers. The original homestead passed from the Smiths to Edwin Thompson in 1919, and from Edwin and Lottie Hallengren Thompson to the Hot Springs Ranch Corporation in 1931.

The Pritchett Family and the Hallengren Family

The following two families—the Pritchetts and the Hallengrens—faced a different set of opportunities and constraints than did the Scotts and the Ferrys (61). They lived in the upper Dry Creek Valley, where fertile bottomland presented the opportunity to grow a wider variety of crops. As the area was less rugged, transportation networks were more reliable, and the greater proximity to population centers allowed for easier shipping of goods and the possibility of employment in nonagricultural sectors. Although the Hallengrens eventually diversified into stockraising, neither they nor the Pritchetts had this as their primary emphasis, and thus they were not under the pressure that stockmen faced to expand and consolidate vast acreage. The Hallengrens and the Pritchetts survived the economic crisis of the 1890s. The families were similar in the diversity of economic resources they exploited but dissimilar in their use of family members and their life-course strategies.

James and Elizabeth Pritchett and their two small children left their Illinois home in 1854 bound for California by the "ox-team route." It took them six months to cross the Plains and reach the gold country: "they suffered many hardships on this long pilgrimage, but with youth and bouyant hopes born of visions of the golden land they held their way undaunted" (62). They lost three of their four oxen on

the hot Nevada desert but were rescued by a friend from former days who happened to be a herder in the area. The family made it to the "diggings" in El Dorado County, and their troubles seemed to be over, although the gold was not so plentiful as they had imagined. Mrs. Pritchett got a job cooking for a company of miners for $50 a month, and James got a job in the mine at the same wage. When, after three months, the mine owner abandoned his claim and left his workmen unpaid, the Pritchetts decided to quit the mines and try farming. They came to the ranch of William Niles, Mrs. Pritchett's father, in the Dry Creek Valley.

The Pritchetts purchased a possessory claim on the public domain northwest of Tzabaco Rancho. In 1860 they grew wheat, barley, corn, and oats—all common cash crops for small farmers of the period. They owned a small number of cattle and sheep and a large number of hogs. In addition, some family members took on other employment when the need or opportunity presented itself. During the mid-1860s, Elizabeth Pritchett served meals to travelers on their way to the mines in the west. Later, in the 1880s, one son-in-law worked as a clerk and one son as a blacksmith. All of these activities would have added to the family cash reserve as well as decreasing their reliance on a single source of income.

In 1856, at age 20, Svente Hallengren left his native Sweden and emigrated to New York, where he worked as a blacksmith. In 1863 Hallengren journeyed via the Isthmus of Panama to California, where he pursued his occupation in the gold country. It was there, in El Dorado County, that Svente met Henrietta, the woman who was to become his wife. Henrietta had been born in Germany and came to America with her parents in 1847, at the age of eight. The family settled first in Maryland and then moved as far west as Missouri before making the long journey across the Plains to El Dorado County in 1854.

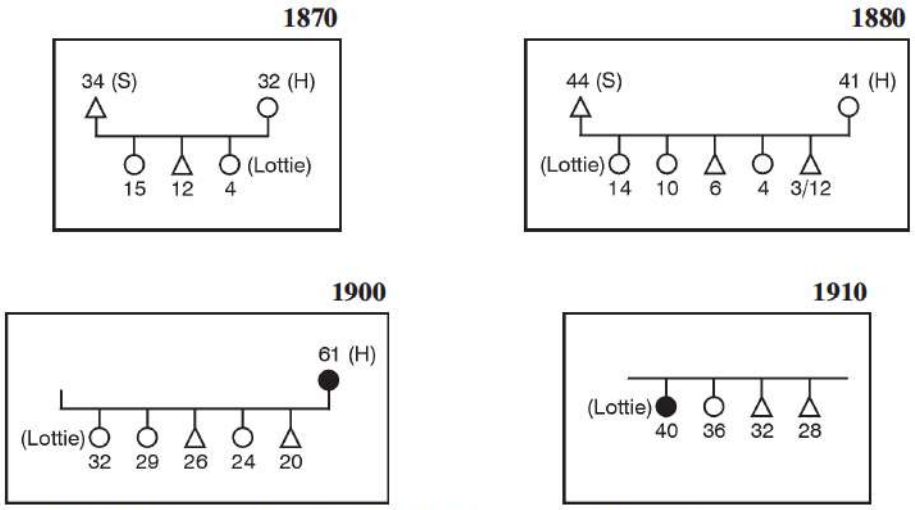
Svente, Henrietta, and two children, probably from a previous marriage of Henrietta's, moved to a possessory claim just north of the confluence of Warm Springs and Dry creeks in 1865. Like the Pritchetts, their nearest neighbors, the Hallengrens began with cereal crops and a small quantity of livestock. Svente also took outside work as a blacksmith and tried his luck at copper mining to increase the family's cash income.

In 1878 Svente bought a "Gordon & Huffman horse-powered threshing machine," and the local paper remarked that "threshers are quite numerous on the creek" (63). By 1879 Pritchett and Hallengren each had 50 tilled acres; Svente concentrated on barley, while James had nearly equal amounts planted in barley, wheat, and corn. Both families had small numbers of horses, cows, and cattle, but the Hallengrens also raised sheep, while the Pritchetts owned a greater number of poultry. Lastly, the Pritchetts had a larger apple orchard, while the Hallengrens had a one-acre vineyard. Judging from these figures, it would appear that the Hallengrens were investing a larger amount of time and money in a narrower range of cash crops than were the Pritchetts, who raised a diverse range of products that required less initial expense.

The Hallengren and Pritchett children were around the same age and attended the same school and many of the same social events. The timing of their life-courses, however, was very different. While the Pritchetts married at a young age, the Hallengrens married late, if at all. In the case of the Pritchetts, marriage and home leaving did not necessarily coincide; with the Hallengrens, it did.

Nine of the 11 Pritchett children survived to adulthood. During the 1870s and 1880s, these children began to marry, usually upon reaching ages 18 to 20. All of the known marriage partners came from nearby farms or ranches. In three instances (Richard Pritchett, Frostena Pritchett Ireland, Albert Pritchett), the couple settled on property adjoining the family farm, probably once considered to be part of its possessory holdings. A daughter married into a stockraising family bordering the family to the west; and a son and a daughter married into the Wood family, who lived nearby in the Dry Creek Valley. In 1900 three households made up of seven adults (persons over 15), five children, and two hired hands—a total of 14 persons—resided on the Pritchett property. Within the immediate neighborhood, Elizabeth Pritchett, then a widow, had at least five children, 20 grandchildren, and one great-grandchild. In contrast, the number of persons residing on the Hallengren property actually diminished by one, to a total of six persons, as Svente had died in 1896. All five of the adult children remained single and at home with their widowed mother.

The Hallengrens, who were not well integrated into the neighborhood through kin alliances like the



The Hallengren Family: 1870-1900 (constructed from U.S. Census)

Pritchetts, seemed to have been involved in incidents of feuding. In 1879 vandals burned Svente's threshing machine right at harvest time. It was only through the efforts of the threshing crew, made up of many neighbors, that the fire was put out before it reached the barn. The local paper intimated that everyone knew who the culprits were, and that they would soon be brought to justice, but evidently no charges were ever filed. A few months after the incident, Svente leased his ranch to devote his attention to his copper mine, an endeavor which likely failed (64). Later, in what was probably a boundary dispute, the Hallengrens were involved in a feud with their Finnish neighbor to the north. In 1888 and again in 1894, the man was charged with criminal assault, first by Svente and, in the later incident, by daughter Lottie. This time period coincided with the "proving up" period of the neighbor's Homestead Entry patent, which may well have been filed on land once used by the Hallengrens. The Hallengrens may also have engaged in their share of antagonistic pursuits. An old timer recalled that Svente had James Pritchett's "Whiskers hanging by a rope over the fireplace," but did not intimate how they had come to be there.

Like most area families, the Pritchetts experienced financial difficulties during the troubled 1890s. They mortgaged property first to their son-in-law, John Bryant, and later to an early area resident, Joel Ragan. Following James' death in 1890, the family's remaining hogs, goats, and horses were sold. Joel Ragan attempted to collect his loan from the family in 1893; the success of his effort is uncertain, for although the encumbered acreage was reported sold at public auction to Ragan, the Pritchetts retained possession.

While the Ferrys and the Scotts illustrate the consequences suffered by borrowers in early mortgage agreements, the case of Joel Ragan demonstrates the risks and losses suffered by lenders, especially during periods of declining land values. Ragan had been one of the earliest settlers in the Russian River Valley and was once a rich man. When he died on 10 October 1895, he owned no real estate or livestock; he owned 132 shares in the Bank of Healdsburg, one trunk of clothes, and 36 promissory notes—many from Dry Creek Valley residents—dating from 1868 to 1895. All but four of these notes were appraised to be of no value because they could not be collected. The four "good" notes eventually proved to be worthless as well, for the mortgaged property could not be sold for a price sufficient to pay the note. In fact, the property could not be sold at all, as no buyers could be found. Thus, after the probate costs and the payment of Ragan's debts, there was very little of his once large estate (65).

Despite their lack of support from a kin network, the Hallengrens, with fewer family members to support during the 1890s, were far better off financially than their neighbors. While the Pritchetts were bartering with eggs, Svente returned to vacation in his native Sweden. By this time, the Hallengrens' winery was in operation, using grapes from their own and neighboring vineyards. The Hallengren offspring stayed at home and managed the family enterprises. Henrietta Hallengren died in 1910, by which time only one daughter had married and left home.

With the turn of the century, business and agriculture improved, as did the lot of most area

residents. Judging from newspaper accounts and oral history, up until the First World War there was a very active social round in the Dry Creek Valley. Birthdays, anniversaries, holidays, and other occasions supplied excuses for large gatherings of 60 or so neighbors. The Hallengrens and Pritchetts both hosted their share of these parties. To celebrate the New Year in 1914, the Hallengrens decorated the barn with fir trees and holly berries for dancing. Cards, games, and music provided entertainment in the house for the less energetic, and at midnight a turkey dinner was served. "Old man Richards" often called the reels for the square dancing. Guests commonly departed these affairs at daybreak (66).

In 1911 at the age of 37, Lind Hallengren married Marie Heaton, the daughter of one of the earliest settlers in the Dry Creek Valley. Six years later, Marie, her baby, and another woman were killed in an auto accident at the railroad crossing on Dry Creek (67).

Sometime around 1920, eldest daughter Lottie, now past 50 years of age, married Edwin Thompson, a local rancher and owner of considerable property. By this time, the Hallengren family may have been suffering financial problems despite the diversity of their holdings. The toll, first of the phylloxera epidemic and then of prohibition, on the area's vineyards and wineries was severe. Only two offspring, Lloyd and Lily, remained on the family's holdings. As the market for grapes was very poor, the Hallengrens, like other local agriculturalists, planted prunes. In the late 1920s and early 1930s, Lloyd and Lily repeatedly mortgaged their crop of prunes and grapes and their real estate. The Hallengren winery apparently did not reopen and was described as an "old winery" on a 1925 GLO map. Although the family had maintained their holdings, the enterprise operated at a considerably reduced scale from days past. By 1943 Lloyd Hallengren had diversified into the raising of turkeys—encumbered, however, by a $2750 mortgage to a poultry-feed concern in Los Angeles.

Although the Pritchett family survived the 1890s depression, they were unable to maintain their property through both the phylloxera epidemic and prohibition. By 1910 only the Albert Pritchett family remained on the holdings. Elizabeth had moved to a small house in Healdsburg. Albert apparently "midwifed" at the birth of each of his seven children, an unusual practice when doctors and midwives were generally available. Albert had a vineyard and may have sold Ford automobiles from the large two-story Colonial Revival house he built in 1900. He also kept two wagons and six horses for hauling grapes into town. In another indication of longstanding antagonism between neighbors, Albert drove his grapes right past the Hallengren winery which stood next door.

Albert left his family in 1912, and later remarried. A neighbor, Will Richards, Jr., oversaw the management of the family vineyard during the couple's divorce proceedings. In September 1914, Albert was judged to have deserted his family, and his wife, Jennie, was granted a divorce. Jennie sold her 40 acres, including the house, to Lloyd Hallengren in 1917. Frostena Pritchett Ireland's son and his family lived on the Pritchett/Ireland property in 1920, but the family connection with this acreage ended in 1928, when Albert sold the remaining portion to John Henderlong, son of another Lake Sonoma Area settler family.

When Lottie Hallengren Thompson died in 1945, she left considerable property to her husband, Edwin, and some also to her brother Lloyd. Edwin later married Lottie's niece, who inherited the property in 1964. By the time of the Corps acquisition, the Hallengren family had consolidated the property of many of their former neighbors into one large estate.

Each of these four families followed different strategies in their use of land, money, and kin. The success or failure of these strategies depended, in part, upon their adaptability to changing environmental and economic condition. Flexibility was an asset; too many constraints in the form of large mortgages, overreliance on one type of crop, and very large families hampered an operation during times of stress, when quick change was essential.

These family histories are not unusual. During the second half of the 19th century, families settled throughout many rural areas of northern California. Areas which now have only a few residents, once boasted populations in the hundreds. The histories of these families is contained not only in old documents, but also in the ground, on the landscape, and in the memories of old-timers descended in fact and in spirit from the original settler families.

Local rancher George Matthews (at left), hosted many relatives from the San Francisco area during their summer vacations (from the GM collection)

A trainload of visitors to the Cloverdale Citrus Fair, early 1900s
(photo courtesy of the Sonoma County Room, Sonoma County Public Library, Santa Rosa)

CHAPTER 9

THE COMMUNITY

INTRODUCTION

Humans generally form groups larger than the family, but still too small to answer all their needs. Whether the group is informal, like the upper Dry Creek ranchers, or highly structured, like the Mihilakawna Pomo, it rarely stands alone. Instead, as anthropologist Robert Redfield expressed it, "the little community...is a community within communities, a whole within other wholes" (1).

Over the 5000 years of occupation of the Lake Sonoma Area, interactions were often cooperative, involving alliances between groups which allowed not only trade but shared celebrations and recreation. Groups formed by the new settlers worked together to promote community values: fairs brought the virtues of the area to the public's attention; schools transmitted social ideals as well as knowledge to the next generation; while national holidays and political events reminded communities of the larger world they were a part of. On the other hand, there has been conflict—from outright warfare to long-term animosity, rivalry, and racism.

Human alliances change constantly, and there must have been many hundreds of social and political networks that formed and dissolved over the years. This chapter looks at just some of the ways that groups outside the family interacted in the Lake Sonoma Area.

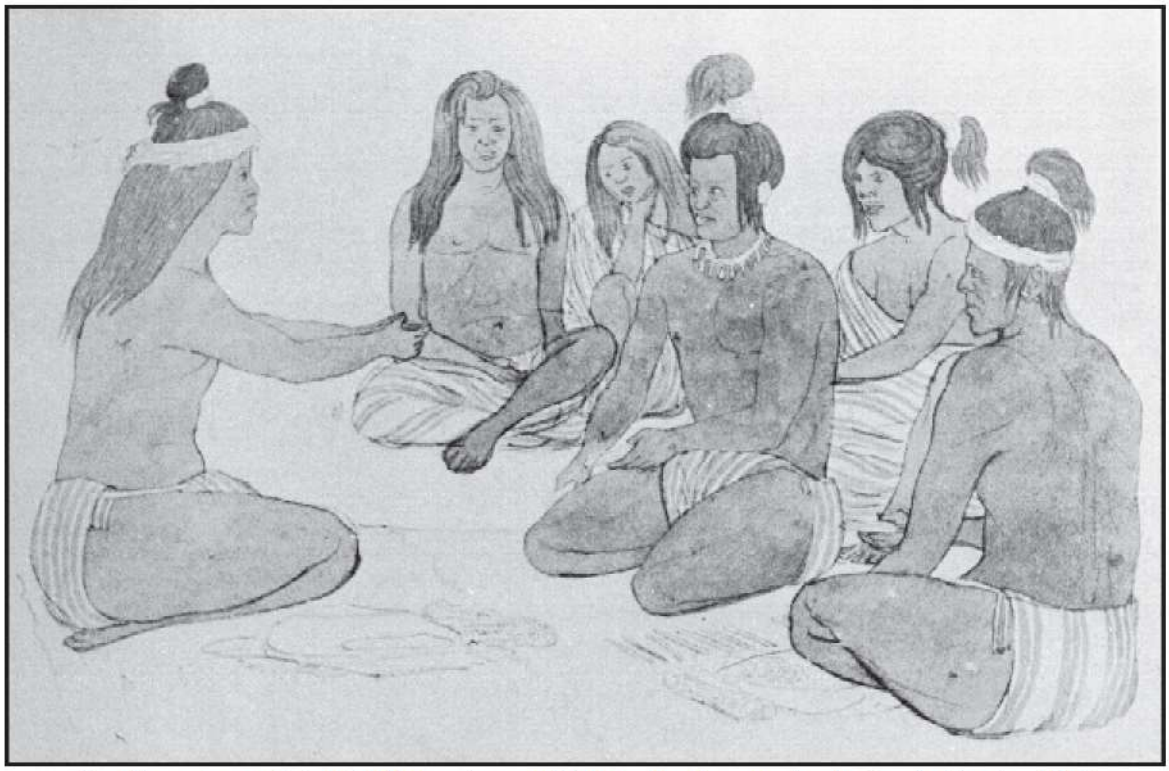
THE NATIVE AMERICAN BIG TIME

Each language in central California had its own name for the important ceremonial gatherings held before the time of Euroamerican contact. Today they are remembered by most people as "Big Times"—assemblies that brought well being to the participants, affirmed alliances, satisfied curiosity about the outside world, and offered four days of drama, dance, feasting, and gambling. The celebration of the Kuksu, a widespread religion practiced in most of central California for perhaps a thousand years or more, was a major reason for such gatherings. There were two main components of the Kuksu religion. One was the Kuksu Society itself, in which only special men with sacred knowledge were allowed to impersonate gods, wearing elaborate costumes and performing precise, spiritually potent, dances. The other component was the Ghost Society, open to all male members of the group, whose impersonations of the dead and of the inhabitants or the underworld were watched with amusement, and sometimes terror, by the whole assembly. The ceremonies "recreated sacred time and in one way or another restored [the] people to the unsullied state that had prevailed at the time of creation" (2).

A stipulation of the Kuksu was that more than one tribelet should participate. The ceremonies were to be practiced once every year, but only once every seven years at any one village. This requirement led to the creation of a ceremonial network over the broader region. Both Kuksu societies stressed the initiation of young boys. By the time the ceremony had made its circuit through the other tribelets, a new group of boys had reached initiation age in the home village.

From extensive field work in Central Pomo territory near Ukiah, Bert and Ethel Aginsky wrote a lively account of the Kuksu ceremonies once held there (3). According to the authors, ceremonies were often scheduled at a time when intercommunity relations were strained: two weeks of preparation—involving constructing a new dancehouse, preparing food, and replenishing old costumes and ornaments—brought the host community closer together. Much of the excitement of these gatherings came from observing outside groups at close hand, noting each other's wealth, strength, and correctness of behavior. Members of the host community, in addition, were given the chance to display their hospitality and wealth. These gatherings were among the few occasions when whole families traveled outside their territory, allowing women and children to learn about other places and customs. Since intermarriage was common among ceremonial groups, the feasts served to keep relatives in contact, and no doubt new marriage alliances were also made at these events.

Big Times were a source of pleasure and excitement and a means of cementing relations



San Francisco mission Indians at a gambling game (watercolor by Louis Choris, 1816)

between the groups. Gambling, primarily among men, was one of the major activities. Pomoans were avid gamblers, and a single game, accompanied by singing and drumming, might last throughout the night. On his 1830s journey through the Russian River Valley, Baron von Wrangell described some Southern Pomo men at "their favorite activity":

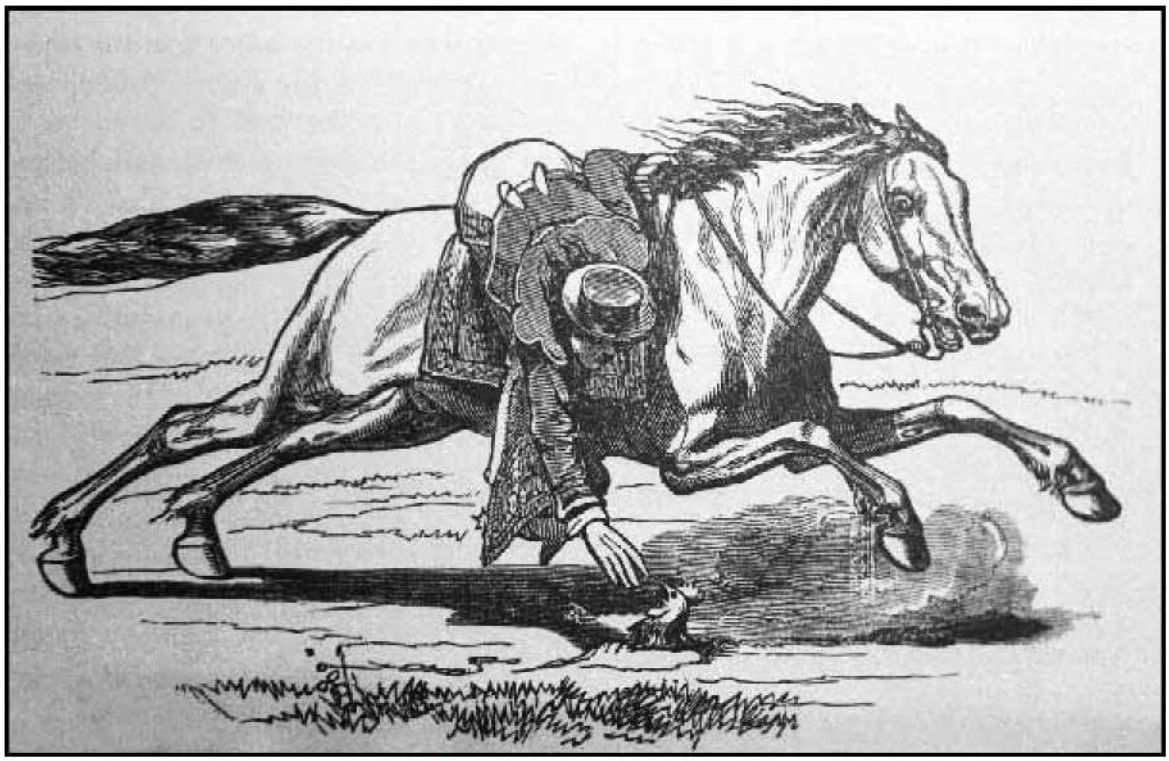
> Two players sit across from each other, and on both sides of the players singers post themselves, whose melodic song is interrupted only by the sudden, loud outcries of the guessing players. The opponent tries to hide the number of small sticks which he holds in his hand behind his back, while he makes quick, diverse movements with his arms, and with his other free hand beats time to the music on his chest. The game always lasts until one of the players has lost all his belongings. This occupied [them] all night long till the light hours of the day (4).

Gambling was entertainment, but it was also a way of attaining prestige among other groups, since a man who did well at gambling was considered particularly powerful. Casual trading among individuals from different groups also took place during these assemblies. All together, a Big Time provided the setting for a flow of goods, wealth, and information across tribelet boundaries.

MEXICAN PERIOD SOCIAL NETWORKS

The Californios of the northern frontier formed a broad social network cemented by marriage. Mariano Vallejo, the most influential man of the region; J.B.R. Cooper, grantee of the El Molino Rancho; Doña Maria Carillo of the Cabeza de Santa Rosa; Joaquin Carillo of Llano de Santa Rosa; Jacob Leese of the Huichica Rancho; Henry Delano Fitch, Peña's neighbor; and John Wilson of the Rancho Los Guilicos were all related by marriage. Although widely dispersed, the ranchos of the northern frontier could be thought of as comprising one community.

José German Peña was one of the exceptions. Peña died a single man, something of an anomaly at the time. We do not know whether this was simply his preference or his fate as a man of little influence; in either case, his position outside the marriage network may have excluded him from some social and economic agreements. Although Peña's will tells much about his economic activities, we have only a few hints as to his social connections. From the



"Native Californian at full speed taking the buried rooster by the head." Rodeo sports often had their inhumane aspects (from R.R. Olmsted's *Scenes of Wonder and Curiosity from Hutchings' California Magazine, 1856-1861*, 1962)

several paragraphs of protestations of faith included in his will, as well as his request to be "enshrouded in the habit of our Father San Francisco" and buried at Sonoma Mission, we can see that he was linked to the Catholic Church, a common characteristic in Mexican California (5).

Whether Peña himself was given to the open hospitality and lively socializing that typified the early California lifestyle we do not know, but there is an account of a mid-1850s "fandango" held near the confluence of Warm Springs and Dry creeks a few years after his death. This would have been a rodeo, held by Peña's brothers primarily to round up cattle from the open range, separate them, and brand them. Rodeos were often accompanied by feasting and by the bull and bear fights and horse racing which typified ranchero social gatherings. The grandfather of a 1970s Dry Creek Valley resident recalled attending this last rodeo when he was a child. One of a large crowd of onlookers, he remembered "the caballeros dressed in their velvet suits and large sombreros, riding horses whose saddles were adorned with silver trappings" (6). The Peñas' immediate neighbors would have participated by necessity, in order to gather their herds; the new American settlers, we see from the above account, were also drawn to this event.

As the valley filled up with American squatters and lands were subdivided, the basis of the rancho system—the huge cattle herds—was undermined. The system was maintained for a while on smaller properties, and Mexican social networks continued alongside those of the new settlers. Indian vaqueros still lived on the Peña ranch, and horse races and no doubt other social gatherings were still held. Some rancheros, like Mariano Vallejo, went on to attain prominent positions in the new settler community; others, like the Peñas, left only a sparse record of their adjustment to the new society (see Chapter 7).

EARLY AMERICAN SOCIAL CONTACTS

Neighbors

Due to the remoteness of the Lake Sonoma Area, settlers were dependent on one another, and even the usual definition of a neighbor was adjusted. Upper Dry Creek rancher Orville Baldwin claimed that

"anyone within forty miles by road or twenty by trail was a neighbor" (7). A neighbor was of vital importance—someone who lightened everyday tasks and aided in emergencies. Neighbors shared in building houses, raising barns, driving picket fences, and in the virtually unceasing winter repair of roads and shoring up of creek banks. In the bottomlands at the head of the valley, neighbors helped in bringing in the crops; in the uplands they joined in marking, shearing, and dipping sheep. Also in the uplands, where large herds were present, neighbors banded together to hunt bears, mountain lions, coyotes, and other livestock predators. Upland neighbors also helped each other by serving as witnesses in legal cases, and they testified—at times, illegally, as Chapter 5 demonstrates—for each other regarding homestead claims. Usually these two lifestyles, ranching in the uplands and farming on the valley floor, led to separate social networks. There are stories, however, of these groups getting together for mutual benefit. Especially during tines when sheep ranching paid poorly, farmers would provide ranchers with valley crops in exchange for hunting rights in the uplands.

By the turn of the century, a generation of ranchers and farmers had grown up together as neighbors. Particularly at the head of the valley, where smaller farms made closer neighbors, the social bonds were tight. The young Hallengrens, Pritchetts, Boards, Richards, and Van Alens all shared two generations of mutual experiences, which included work, play, and family problems. Young neighbors often married, further binding people and property. Men shared projects at their homes, and when one neighbor was picked as foreman for government or utilities projects, he hired the others to fill out his crew. Road tending, surveying, and eventually telephone line work were all shared in this way. Women visited with one another to bridge the loneliness of ranch and farm life and no doubt shared in the rural chores of baking, sewing, and canning.

Even among these hard-working people, for whom a day off was a luxury, neighbors joined together for pure enjoyment. Near the confluence of Warm Springs and Dry creeks, barn dances were often held among the valley farmers; children roughhoused in one room, while the adults danced until the midnight potluck supper. Dances included the Virginia Reel, with second-generation settler Will Richards, Jr. serving as a caller, while other neighbors provided accordion music. In the uplands, where distances between homesteads were greater, social events were usually simpler. Orville Baldwin tells of get-togethers between his and his ranch hand's families. Music-making, even by the unmusical, was the highlight of these evenings, and both children and parents danced for hours (8).

Schools

Schools were high on the first settlers' list of priorities. During the 1850s there were few schools in Sonoma County, and hundreds of children were said to be growing up ignorant. With the establishment of a school, members of a community gained a feeling of permanence and respectability; they demonstrated their intention to stay, to improve the next generation, and to continue the values of the society. The local school often became the center of a rural community. It provided the arena not only for the education of the young, but also for local politics, social functions, feuds, and gossip (9).

These schools were run by a locally elected board of trustees, which was responsible for the hiring and firing of the teacher, the purchase and maintenance of school property, the timing of the school year and, to some degree, for setting the curriculum. Within each school district, an annual meeting was held during June to elect one trustee for a term of three years. On some occasions, these elections were hotly contested races between opposing factions. In 1878, one such meeting nearly ended in a brawl. The Hamilton District clerk recorded that

> considerable excitement prevailed during the voting in consequence of the Blazer party endeavoring to get up a row but as they lacked the pluck to begin it they did not succeed (10).

The teacher was sometimes an issue in these election campaigns. The first act of the new board was often to fire the teacher in midterm. Thus, Mrs. Conlon, who "kept a first class school" in May 1879, "did not give satisfaction" in July and was dismissed (11).

Broader political concerns also surfaced at the local school. In describing Hamilton School's students in 1879, the teacher, Mr. Kraft, revealed his political bias:

> The pupils possess over the common run of intelligence. There is a certain class here, as well as in other school districts, who attend school in a sort of come-and-go-when-you-

Hamilton School, circa 1910; several third-generation project area residents are shown in this picture (photo courtesy of Edwin Langhart Museum, Healdsburg)

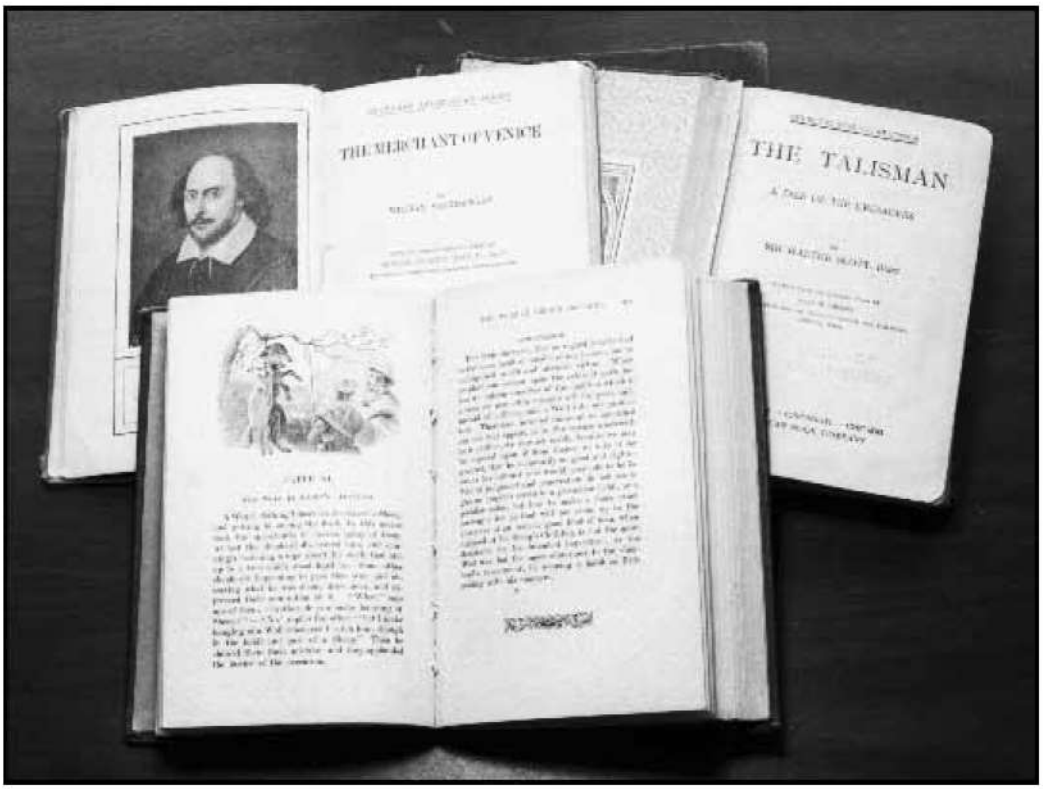
> please manner, who grow up idle and listless, and who will vote the Kearney ticket and cry for a division of property (12).

Dennis Kearny, leader of the radical Workingman's Party, advocated what were at the time revolutionary changes in labor and taxation. The movement, at its peak in 1879, may have fired controversy in the Lake Sonoma Area, if Mr. Kraft's views were at all representative. His statement also reveals that a class distinction was felt in this small community, perhaps made between landowners and their employees, or between prosperous and less successful landowners.

School was less demanding of a child's time in the early years, no doubt partly because children were needed at home as well. California law mandated trustees to keep school open for at least three months of the year, but it appears to have been the trustees' choice which months to remain open. In the 1870s, Hamilton School usually started its term sometime in March or April; these terms lasted four or five months. By the 1880s, the school year was divided into two terms, a spring term from around April 1 to mid-June and a fall term from mid-July to November 1. The school was closed over the wet winter months, when many roads and trails would have been impassable. The Mendocino School carried on this schedule through at least 1912, but with a longer school year; there was apparently no June break, and children usually attended classes until Thanksgiving. By the mid-1920s, this school was on the now-familiar September to June schedule (13).

In contrast to Mr. Kraft's apparently stern approach to his pupils, Farley Auble of the Mendocino School in upper Dry Creek was a more agreeable teacher. He walked through the woods to and from school with his students, "making the forest ring with his songs as he strolled along the trail" (14). Mr. Auble faced a class diverse in age—from 6 to 14—and in socioeconomic background, with the children of a gentleman rancher and of a poor immigrant family.

Mr. Kraft and Mr. Auble were in a minority, as school teachers were more commonly women. Most districts hired only single women, and some had very strict codes of dress and behavior. As housing near the school was often scarce, many teachers boarded with one of their pupils' families. The Abshire, Tom Scott, Richards, and Smalley families each boarded a teacher at one time. Although some teachers became life-long friends of the family, relations were not always amicable. Teachers were sometimes manipulated to take over the housework and care of



Among the readings offered at Mendocino School in the Dry Creek uplands

the children during their off-duty hours. One teacher at Mendocino School complained that,

> From the time I got up in the morning until school was out in the afternoon I worked steady, teaching, washing dishes, and sweeping. . . . It was constant work, staying steadily at the place, not even a horse back ride or a ride to town. Never in my life have I worked so hard and steady. . . . Not even a thanks or a good-bye did I receive. . . . though I was a teacher and a servant too (15).

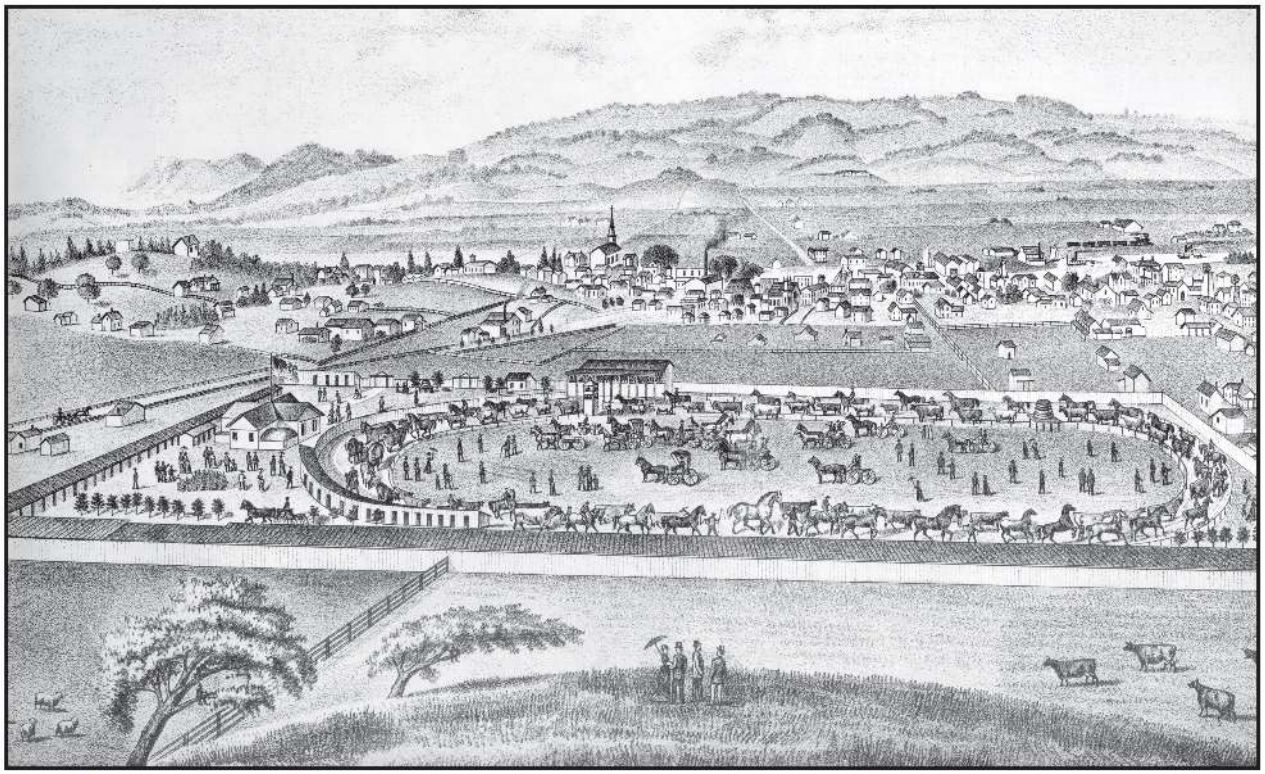
A study of such arrangements undertaken by the United States Department of Education concluded that teachers should have dwelling quarters in the schoolhouse in order to avoid these problems. In 1926 George Matthews built a cabin for the teacher at the Mendocino School.

With the closing of local schools in the 20th century, Lake Sonoma Area children became more integrated into town life. During the school year, the women and children of some sheep-ranching families lived in town during the week, leaving the men to run the ranch. Other children were driven by school bus or parents to class in the nearest town. The time spent in commuting shortened the time that could be spent at home, and the town became increasingly the focus of social life and recreation.

Some of the second generation of settlers went further out into the community to attend college. Education was highly prized, even if the graduate were to return to the ranch and continue his father's role. As one Lake Sonoma Area mother advised her college-student son, "you say your studey is harder than labour but your labour would be all most a wast of time unless you had a little education" (16).

Town Events

With the chores at home and the long distances to town, outside social events were rarely sought. A few activities were of sufficient magnitude, however, that they could draw even the most sober families. Religious revival meetings, held on Dutcher Creek Road off Dry Creek Valley, drew some people from the farms and ranches. Political rallies, usually occasions for large gatherings and orations, also brought some families from the hills. Holidays were occasions for large picnics. Fourth of July celebrations began with a reading of the Declaration of Independence and patriotic speeches, followed by



The fair at Petaluma in the 1870s (from Thompson's *Historical Atlas Map of Sonoma County*, 1877)

huge barbecues, fireworks displays, band music, and dancing from evening until dawn. Food was provided to the public, though an announcement of a local Fourth of July fish-fry advised that "those who can make it convenient would do well to bring a loaf of bread" (17). An elaborate May Day celebration in 1901 was described by the teenaged granddaughter of an early settler: following a picnic at a nearby grove, she was anticipating a big dance at a cannery "about six miles from here." One room was to be reserved for dancing, one for a gentlemen's smoking room, one for gentlemen's card playing, one for ladies' card playing, one for social gathering, one room to seat 100 guests, a table to play all kinds of games, and a large dining room with food ready to eat from eight o'clock in the evening until morning. Whether or not the event lived up to all her expectations, it was clearly a celebration on a grand scale (18).

Of all these events, the county fair may have had the most universal appeal—anticipated for several months and remembered long afterward. The fairs began as promotional activities of the State Agricultural Society, an organization established to instill pride in California agriculture, disseminate agricultural information, and encourage farmers and their children to stay with the soil rather than flock to the cities. The annual addresses given on these occasions were inspirational messages, imbued with all the idealism of a sermon. Every citizen ought to attend these exhibitions, the audience was told, "not simply to gratify idle curiosity, but for the purpose of coming into contact with earnest men, and to derive new inspiration for the labors of every day life" (19). While such high ideals may have motivated some of the fair's visitors, many more no doubt came purely through "idle curiosity." For them, the fair served as a peak social activity at a time when the slightest diversion, such as the arrival of the stage coach and, later, the train, was cause for a crowd.

The fair had much to offer: in addition to speeches and displays of agricultural products, the weeklong event in 1860 featured a band, a trial of fire engines, and daily horse racing. For some the fair was a time to tout one's product—be it livestock, jam, or needlework—and perhaps gain recognition and business for the effort. Sylvester Scott entered his bulls, cows, and "jacks" in the state district fair's livestock competition in 1885, returning home with $78.50 for seven entries—the equivalent of about two months' pay for a skilled laborer at that time. Fair

awards could also serve as precious memories. In her sparse autobiography, in which only life's major events are singled out, Mrs. Gregson of Green Valley, about 20 miles south of Lake Sonoma, placed the following in a separate paragraph: "At healdsburg the first county fair we received a silver butter knife for the best butter" (20).

Lake Sonoma Area Resorts

Quite a different kind of interaction came from use of the area as a resort; the direction of flow was turned, and the outside world entered the Lake Sonoma Area. When Alexander Skaggs first established his small hot springs resort sometime in the late 1850s, it must have been a simple affair: tents were the only available accommodations, and Skaggs was taxed by the Internal Revenue Service in 1863 for an eighth-class hotel. The hills were crowded in that year with mining prospectors and investors, and these men may have been the guests Skaggs was originally catering to. Despite the crude facilities, 20 people were said to be registered each day of the season. In response to his success, Skaggs built a redwood hotel in 1864, and more facilities were added the following year. Soon there were sufficient accommodations for 300 people. While considered "first class" a few decades after its inception, the resort intentionally retained a rustic flavor; because it catered to a city clientele, it was important to maximize the contrast between home and the country springs. Most of the guests at Skaggs were San Francisco Bay Area families, with occasional visitors from other areas. The majority were members of the upper middle class: successful businessmen or professionals, along with occasional celebrities, such as a fighter in training and, later, a movie actor.

In the 19th century, concern for health was a principal preoccupation. Those who could afford it were constantly traveling for their health, sometimes taking far more rigorous journeys and undergoing more stringent regimes than the healthy would consider today. Among the most popular cures were retreats to mineral springs, where bathing in and drinking the spring waters was believed to attack a variety of morbid conditions, while sustaining the good health of the few who could list no complaints. In the late 19th century, health resorts developed around almost every large thermal spring in California, with half a dozen important spas within 30 miles of the Warm Springs Creek area. Over the years, Skaggs Hot Springs became one of the best.

With heavy infusions of sulphur, borax, magnesium, iron, and soda, the spring water was repellent to some guests, and the hot water could make bathing painful. The fact that one might have to recuperate after such health visits was humorously detailed by S.P. Mead, a California correspondent to an Indiana newspaper:

> I managed here for my health. I am boiled morning and evening in the hot spring water and roasted in the sun between times. . . . I shall not attempt to give the chemical ingredients which an analysis of the water discloses, but the plain English is that without soap it will take the dirt off a few layers deeper than any reparation I have seen. . . . I shall have to play that I am cured in order to escape from here (21).

Other writers lauded the pools; one claimed that the waters, of "any temperature from scalding to tepid [were] of the most delightful nature . . . with just enough soda to make your skin feel like ivory" (22).

Originally the waters were believed to have general curative powers, working especially well for rheumatism and gout, but capable of curing all "unwholesome" conditions. An 1876 advertisement for the springs claimed that "either bathing or drinking cures cases when doctors fail." Later, as competition among resorts increased and a scientific basis for the medicinal value of mineral spring water was established, remedies for organ-specific and bacterial-specific diseases were claimed. Healthful benefits accrued not only from the mineral waters, but from the effects of fresh air, exercise, and relaxation. To take full advantage of the setting, guests often stayed through the summer. Usually the wife and children were permanent guests for the season, while the husband commuted to the city for the work week.

Rates at Skaggs Springs included meals, which were considered excellent. Evidence of these sumptuous meals was discovered in the 1970s, when archaeologists excavated trash pits at the resort site. Leg of mutton, ham, and the finest beef roasts comprised most of the fare, in contrast to local homesteaders' meals of rabbit, chicken, and venison (23). Guests also had a dining option after the turn of the century: the home of Annie Bourdens, just outside the project area about two miles southeast of Skaggs, where "French chicken dinners," featuring home-

A Skaggs Springs postcard, circa 1909 (courtesy of Ed Mannion)

raised poultry and vegetables, were offered. A single-wire telephone line connecting Skaggs with the Bourdens was used to inform the little restaurant how many guests to expect. A wagonload of diners would leave in the afternoon by the dirt road south of the resort, returning home through the woods in the evening. Such rustic outings had great appeal to the primarily urban clientele.

The following idyllic report appeared in a local paper in 1874, ostensibly describing a typical day at the resort:

> On the piassas of the cottages parties of ladies are congregated with their books or work in view of the children who are swinging and running and playing at housekeeping with good, happy innocence. While the nurses stroll the babies in their carriages over the lawn or collect in merry groups in the shade, in the yard of the hotel where the grass is short a gay party are playing croquet while down the creek a few rods away some sturdy boys are paddling a boat loaded with girls in perfect safety as the waters are only a foot deep. This is indeed a paradise for children and birds, and they seem equally happy. In fact it seems adapted to create enjoyment for everybody. The ladies freed from the trammels of fashion wear their neat calicos all day, walking, riding, washing, sewing, or chatting, occasionally joining a fishing party or taking a ride to Healdsburg or Geyserville to do a little shopping for the children. The gentlemen take longer excursions, sometimes going out with McMuray, the keen-eyed hunter of the establishment, bringing in deer, grouse, and quail in which the neighboring hills abound or riding lengths of six or eight miles to a famous trout stream to return in triumph with several pounds of scaley beauties to be prepared by the excellent cook for a late epicurean dinner (24).

Contrast this picture with what must have been a typical day on the farms and ranches surrounding Skaggs Springs: the men at work at their 12-hour days of physical labor; the women engaged in the endless

cooking, cleaning, sewing, and gardening tasks; and the children, after a hot summer day in the classroom, milking cows and slopping hogs. How did these two lifestyles—side by side throughout the summer—affect one another? Although some local residents occasionally took advantage of the resort to eat out at the restaurant and join in special parties, the gulf between the two ways of life was probably great enough to limit most interaction (25).

Other local landowners took advantage of the recreational value of the land and California's fondness for "rusticating." The railroad annually issued a publication entitled *Vacation*, which

> furnishes information so that you can arrange to stop at a hotel or private home in some town, at a mineral spring resort, rusticate on some farm, or enjoy the camp life so dear to the Californian (26).

One of the notices in the railroad's publication advertised "Samuels' Ranch," a landholding in the Dry Creek uplands just west of the Lake Sonoma Area:

> Good country home; splendid deer hunting and trout fishing. Open for guests from July 15 till September 15. Can accommodate 4. Adults $7, children under 10 half price. Address: R. Nobles.

Vacations like these probably appealed to more outdoors-oriented families, less interested in social activities than in spending a few days in the rugged country away from crowds.

Some campers chose still more informal, roving vacations. Old timers from Healdsburg and Geyserville recalled horseback rides up Skaggs Springs Road to the coast, taking several days to a week and camping out at night. The more adventurous hunted for their meals, while others hired a cook complete with a grub wagon to accompany them. In the remote hill land, an overnight stay in a meadow no doubt went unnoticed by landowners. Down in the Dry Creek bottomlands, the impact of vacationers was more apparent. In the summer of 1900, a teenaged girl living near the present damsite wrote a friend: "Do you have many campers out your way? The roads are lined out this way. So many stop here to buy hay, eggs, and to camp on the creek" (27). Having outsiders on the land may have presented some inconveniences, but catering to their needs must have provided a welcome side income. And to the young people, such as the letter writer, urban campers on the farm might have been an exciting diversion.

The informal camp run by George Matthews for his large number of Marin County relatives is described elsewhere in this volume (Chapter 8). Another service that Matthews and other local landowners provided family and friends was a retreat from the city for reasons of health, either due to illness or, in several cases, alcoholism. One friend wrote Matthews regarding a young man whose doctor had advised that he must "positively cut out alcohol."

> I am asking you to take the boy under your care while up that way and see that he follows the Doctor's orders. . . . The Doctor says the water in your sulphur spring will be fine for him, and I am in hopes that a week or so of your delightful mountain air, with the water and exercise; will send him back feeling all right again. Make him get out and catch his own trout, and make him milk, and feed the calves and the pigs, and put him in bed every night so tired out that he can't hold his head up. It's just what he needs (28).

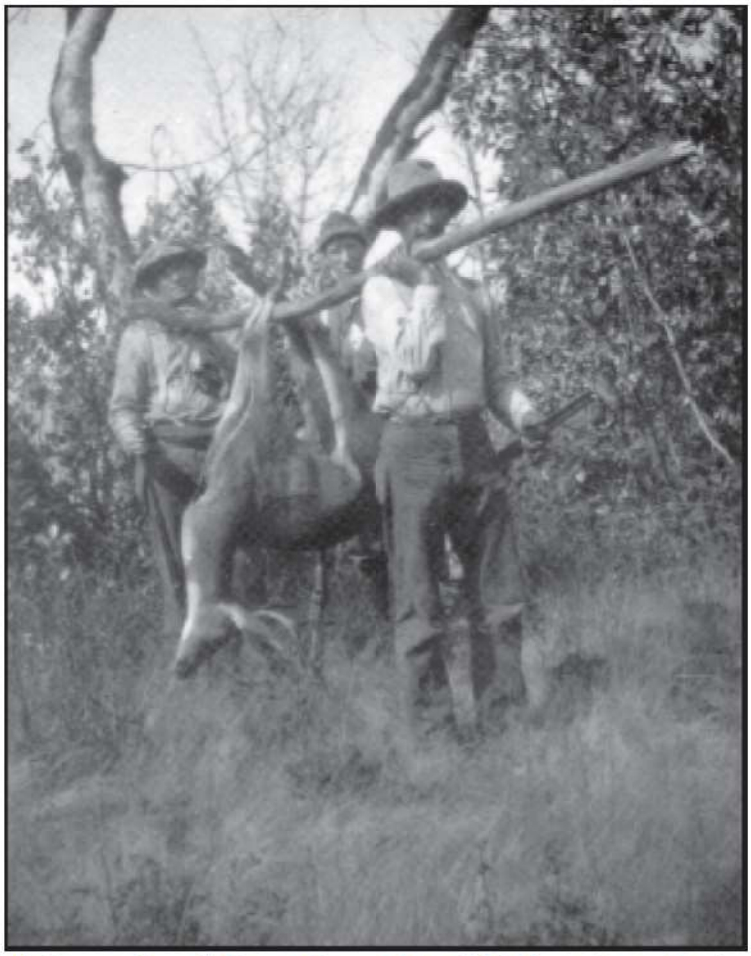
Matthews was well aware of the value of his sulphur springs and of the resort potential of his property. In a letter to a prospective buyer of the ranch, he claimed:

> The ranch could be made a very profitable enterprise if sufficient capital is used to start a watering resort on part of the land, which contains a number of valuable mineral springs, water all year round in abundance. . . . The sale of water and a good Hotel alone could be the means of earning between $20,000 and $30,000 per year if correctly handled and pushed by the right parties (29).

Interest in the area's resort potential was still present 30 years later. When the Rockpile Ranch was first developed, among the listed purposes of the corporation was to "maintain clubs, hotels, and resorts" (30). And, of course, with the creation of Lake Sonoma, recreation continues to be important to the area.

Hunting Clubs

The superior hunting in the area attracted outsiders early. Sylvester Scott, the man who claimed that he killed a bear and a panther for every day of the



Elk Range Gun Club members, circa 1909 (from GM collection

year, may have started the area's first hunting club in the 1870s. An article in the local newspaper upon Scott's death was entitled "Death of a Famous Hunter." Scott's fame as a bear hunter, the newspaper claimed, was worldwide: "Perhaps no man in the country in those days enjoyed the visits of so many prominent people. . . . Dukes, princes, and other titled people" were drawn to his reputation (31). Scott apparently saved the pelts as trophies, rather than selling them at market; the paper reported that at the time of his move to Idaho, he had a collection of 300 bear skins from the hills surrounding upper Dry Creek.

Later, recreation was combined with business and politics in the hunting clubs of the Lake Sonoma Area. George C. Matthews, the son of an early subsistence rancher, paid his way through St. Mary's College with cash earned by his prowess as a deer hunter. It was apparently at St. Mary's that he made friends with a number of young men who were to become prominent San Francisco businessmen. After Matthews returned to his father's Dry Creek ranch in 1887, these men began to make regular visits to the area. Soon Matthews established the Elk Range Gun Club, with his influential friends as members. From club correspondence, we learn that annual dues in 1903 were $20 per person (12 members), a sizable sum at the time. The club met in Santa Rosa to vote on rules and new members, which were subject to Matthews' approval by letter. Among the members in 1905 were a judge, a district attorney, an attorney, and the county assessor. Matthews did more than simply allow the members access to the land: he participated in the hunting and social activities; favors passed back and forth through the mails; and members were willing to speak for Matthews on matters of roads and land claims.

Hunting clubs became increasingly popular through the years. The 15 investors in the Rockpile Ranch, incorporated in 1911, initially amassed their

huge acreage to form a hunting club. Sheep ranchers began leasing exclusive rights on their lands; in these transactions, they negotiated the number of men per club on the basis of how many deer the rancher wanted taken (restricted by law after 1907 to two per hunter per season). Unlike the Elk Range Gun Club and Rockpile Ranch, most clubs were not formally organized but were simply groups of men who enjoyed hunting together.

Hunting rights could be sold or exchanged both formally and informally between landowners and hunters, and they became an actively negotiated item in the terms of any sale or lease of property. Later, in the late 1970s, landowners just outside the project area received an average annual income of $1.00 per acre for leasing hunting rights. With some ranches including more than 10,000 acres, hunting was an important source of income. Hunting clubs had several benefits to the landowner. As we saw in the case of Matthews, they could be an important source of social and business connections. By curtailing the deer and feral pig populations in the uplands, hunting clubs also helped ranchers maintain the range for livestock, as well as providing welcome income (32).

INTERGROUP CONFLICTS

Most of the interactions described above were characterized by cooperation between groups. But conflict often arises between groups if they each seek the same limited resources or their lifeways are so different that cooperation appears untenable.

Intertribelet Conflicts

Among the Southern Pomo, intertribelet conflict was not unusual. Revenge after a supernatural poisoning has been identified as the major impetus for warfare, while disputes over boundaries and fishing rights may have been the second greatest cause. Usually poachers were given a warning: force was brought to bear only in cases of persistent disregard of another group's property rights. Battles were also fought to avenge the abduction of Makahmo women and children by other groups. With revenge as a frequent cause of these skirmishes, it is not surprising to learn that the same groups fought recurringly, with one dispute giving rise to another. Most of these conflicts were waged against close neighbors. The Cloverdale Makahmo fought most frequently with the Geyserville Wappo, the Yobakeya Pomo of Pieta Creek, and the Cokoa Pomo of Hopland. Occasionally battles were fought with nonlocal groups: an Upper Lake Pomo man reported that his people often battled with the Cloverdale Pomo when they passed through Makahmo territory on their way to the coast (33).

Warfare was often a highly formalized affair, presided over by a specialized war leader who established the battle plan, selected the place of battle, and set the time for the pre-war dance and dinner. Retribution was equally formal. War leaders from both sides met at the "winner's" village to arrange for an agreeable settlement. The losers were required to give the victors payment of shell or magnesite bead money, animal skins, and blankets. Surprise attacks, according to one Makahmo elder, were also common:

> Scouts, who were sent to watch the enemy village to determine its vulnerability, used 'hoot-owl calls' to signal to one another. The consultant said that people in the village were taught to listen carefully when they heard an owl call: 'If it comes from high up, it's a bird; if it's low, it's a man' (34).

While such attacks, as well as those of more formal warfare, could often be brutal, relatively few deaths occurred compared with national warfare in historic times, with the first death often signaling the end of fighting. Occasionally no one was killed, and the conflict was ended simply because one side gave up and went home. At other times, there were several deaths before the fight was conceded.

Alliances were sometimes established between groups—frequently the same groups with whom trade, intermarriage, and ceremonial relations had been cemented. Such "confederations" were reportedly common in the upper Russian River drainage, but their presence among the Southern Pomo has not been recorded. Certainly some help from friendly groups would have been expected when a tribelet was being threatened from outside. Once Euroamericans entered the area, Indians had a more urgent reason for banding together, and warning systems, such as that which alerted other groups to approaching Mexican slave raiders, were established. By the time of Vallejo's military attacks on the northern frontier, a man named Daniel was said to have been the "chief of the Cainamero" (Southern Pomo), implying far broader political alliances than had occurred before contact.

Conflicts with New Settlers

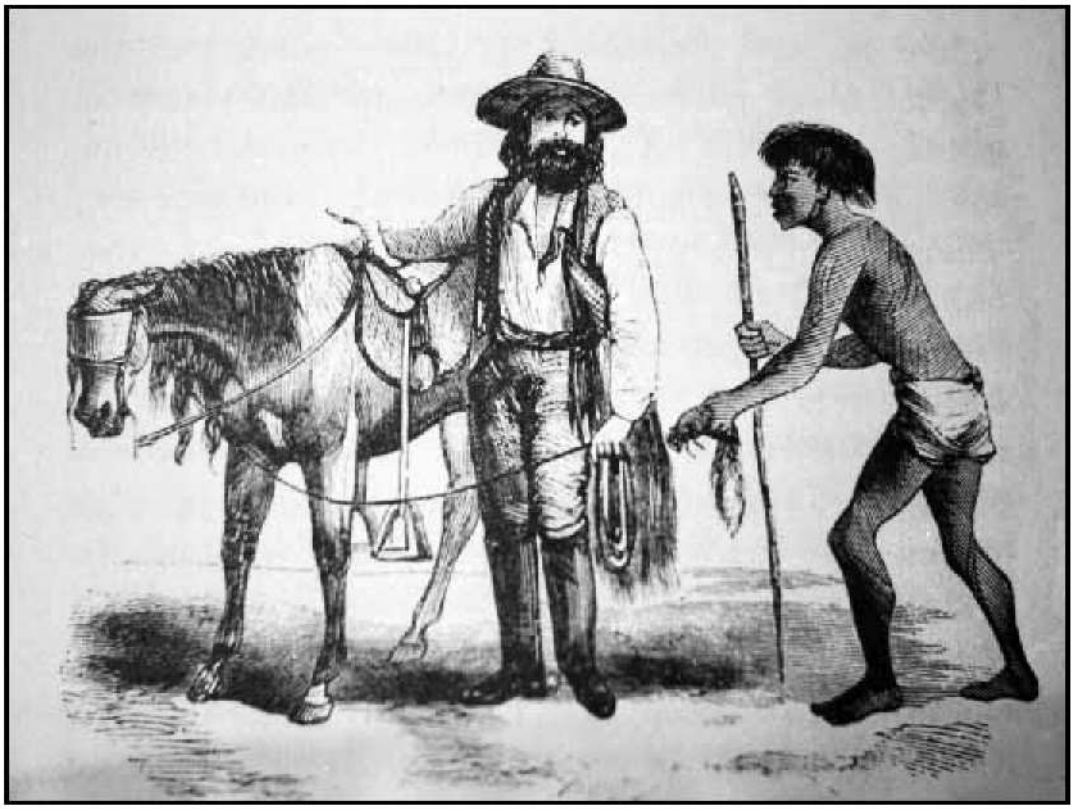
During the Spanish and early Mexican periods, military attacks in the North Bay were focused on

Makahmo Men's Dance Costume (drawing by Rusty Rossman)

finding and retrieving escaped Indians from the missions. As the mission system declined, the nature of the military campaigns against the North Bay Indians changed. The horse- and cattle-stealing activities of the interior and North Bay Indians were the cause of continuous fighting. Instead of organized punitive retaliation, military encounters degenerated into small skirmishes, often turning into slave-hunting raids.

The life of a captured Indian on the ranchos ranged from dull forced work to demeaning enslavement. At Sutter's Fort, for example, 600 to 800 Indians were said to have been fed together at wooden troughs in the broiling sun, while at Vallejo's Petaluma Rancho, one observer noted that the Indians "vegetate rather than live" (35). On some land grants, such as the Peñas' Rancho Tzabaco, Indians and rancheros came together for mutual benefit: the rancheros needed the labor and, in isolated areas, perhaps the company as well, while Indians needed a home and protection from the military. In retrospect, some ranchos gave Indian people an opportunity to learn ranching and farming skills they would need for survival in the more densely populated California of the mid-1800s.

After tribelet life was disrupted in the mid-19th century, the Big Times that had been vital to group interaction were held with less frequency. The



José Ramon Carillo of the Santa Rosa de Cabeza Rancho with an Indian worker, drawn in 1850
(from Marryat's *Mountains and Molehills*, 1856)

population had been so reduced that not enough local people could be gathered to perform some dances, and ceremonies—when they were held—drew participants from a wider region. Then, in the spring of 1872, a message of hope for Indian people was transmitted throughout northern California. The new religion that resulted, called the Earth Lodge Cult by anthropologists, prophesied the end of the world with all its misery and suffering and a return to the former way of life. Clear Lake became the center of this new religion for Pomoans. There, semisubterranean houses were built to shelter Indian people from the ensuing cataclysm, and people went to Clear Lake from throughout the Russian River Valley and the Dry Creek area in what was described as "an almost continual procession" (36).

Indians working for settlers obtained two- to three-week leaves of absence (required by law), but the ceremonies at Clear Lake continued without interruption for months, angering ranchers and farmers. Many settlers were frightened by the large gatherings; unaware of the ceremonial significance of the assemblies, they often assumed that the Indians had convened to plot against them. Whites banded together to put an end to all such gatherings and return Indians to their work.

Once sent back home, many local groups again convened to continue their ceremonies. In the 1870s, people from Ukiah, Hopland, and Lake County gathered with the Dry Creek Pomo near the Warm Springs/Dry Creek confluence. A group of worried settlers met at the schoolhouse, organized men into an armed posse, and sent it to investigate. The settlers were assured of the peaceful intent of the gathering, and the Big Time continued (37). In other areas, Whites were far less tolerant; dances were frequently broken up by armed settlers, and in some cases, dancehouses were burned. Occasionally it was the military, not the settlers, who disrupted gatherings, and some Indian groups were even forcibly driven by soldiers to reservations.

Thereafter, each local group held its own ceremonies, inviting only close neighbors. This localizing of ceremonies, with each tribelet having its own dreamer or prophet, resulted in each group

developing its own particular version of the new religion, while providing a focus about which each group could rally and organize itself. Many Indian communities of the 1980s continue to hold traditional dances, with people convening from throughout northern California for the celebrations.

The forced removal of California Indians from their own land is perhaps the best known of the hardships suffered by Native Americans (see Chapter 7). Less well known are the continued injustices which occurred for many decades after Indians lost their land. Although slavery was outlawed, the theft of Indian children and their sale to rancheros was a regular occurrence during the Mexican period, while new American settlers continued the practice for several years. In 1850 a form of slavery was legalized—indenture. The Act for the Government and Protection of Indians, as its title implies, was written to improve conditions for California Indians, protecting them from inhumane treatment by Whites. In reality, however, the act gave free labor to settler families, effectively requiring Indian children to remain in service until 25 to 30 years of age. Although the act was repealed in 1863, indentured children and young adults were bound to serve out their terms—until the 1880s in some cases.

For decades, Indians could not vote or hold office, nor could they testify in court against a White. Until 1921 most Indian children could not attend local schools. Instead they were separated from their families and sent to schools at the Round Valley Reservation or at the Sherman Institute in southern California, where education was often minimal and treatment usually ranged from negligent to severe. A Makahmo elder described her unhappy experience when, at age 11, she was sent 80 miles from home to the Indian school at Covelo in Round Valley:

> At that time I could not yet speak English and soon found myself unable to follow simple dressing and eating chores of the daily existence because we children were not supposed to speak Indian, a rule of most government Indian schools at that time. . . . They tried to keep me busy giving me cards that had holes in them through which I was supposed to twist some yarn. It seemed so useless (38).

Well into this century, Indians were not permitted in White churches, they could not enter beauty parlors or restaurants, and they were segregated in theatres. In stores they were required to wait to the side until the last White customer was served; at some places, they were not served at all (39). At best, Indians were subjects of curiosity, more often of ridicule. Reading the newspapers of the late 19th century, one is struck by the overt racism that was casually handed to the public. A lead newspaper story in 1871 referred to a Sebastopol political rally/picnic, to which "Men, women, boys, girls, babies and Digger Indians flocked." Before describing the Indians' "nasty squalidness," the writer contrasted the crowd: "Digger Indians, sat on the ground a little apart from the tide of civilization, which surged here and there in beautiful, intelligent Saxon purity" (40). At the time, this attitude was expected by the readers, many of whom were still seeking to justify their usurpation of Indian lands.

As Californios became a minority during the early years of settlement, many of them also became the butt of racial jokes and discrimination. Called simply "Spaniards" in newspaper accounts, Mexican Californians were often characterized by the same disparaging stereotypes used to describe Indians. José Jesus Peña, brother of ranchero José German and executor of his estate, met a violent end in what may have been a racial brawl:

> A Cold Blooded Murder. — Jesus Penia was murdered by William Eller, in the upper part of this county. . . . An eye-witness states that Eller and a Spaniard were in a quarrel about a horse race; that some one struck the Spaniard on the head with a tumbler, when Penia interfered to settle the difficulty, and some one sung out to Eller to shoot him, whereupon he drew his revolver and fired, the ball entering Penia's head, who died in a few minutes. The murderer then jumped upon a horse and made good his escape. No arrests have yet been made (41).

Some of this hostility toward Mexican Californians was formalized in a number of legislative acts which outlawed traditional Californio entertainments, while an antivagrancy bill, officially known as the "Greaser Act" and specifically aimed at Mexicans and Indians, was passed in 1855 (42).

Conflicts among Settlers

Major conflicts also occurred among the new settlers. The Squatters' Wars of the 1850s and 1860s

are described in Chapter 5. These stubborn contests between large landowners and the families who eyed their holdings ranged from name-calling and animosity, to murders and the burning of homes and property.

Local political disagreements over the Civil War were as emotionally violent as the Squatters' Wars, although not as destructive of life and property. Sonoma County was bitterly divided over the issue. North of the Petaluma-Russian River divide, the population was primarily Southern Democrat, while most Petalumans were Yankees and staunch Republicans. For several years a verbal battle was fought between the Santa Rosa *Sonoma Democrat* and the Petaluma *Journal & Argus*, with each issue slinging insults at the opposition. The Democratic faction was particularly strong in Healdsburg, where it was reportedly asserted that "no recruits to join the Federal army would ever live to cross the Russian River." Colonel Norton, a colorful and influential Sonoma County resident, claims to have been among the few to defy the Healdsburg Democrats:

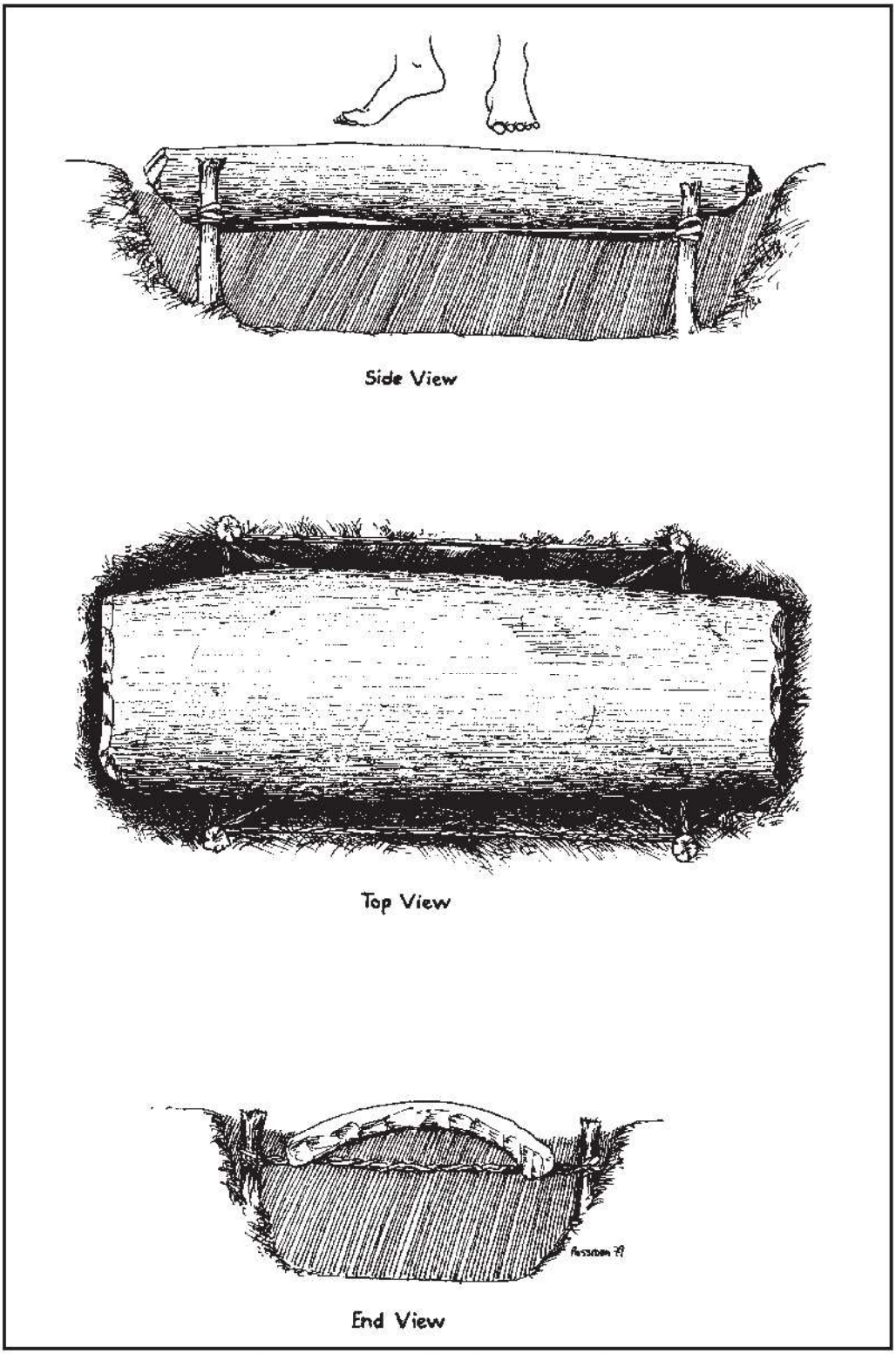
> When it was said that no Union flag should ever float in Healdsburg, he went immediately to Petaluma, purchased one, placed it on the top of his carriage, carried it through the country to Healdsburg, and nailed it to his balcony, where it continued to wave (43).

Local Healdsburg historian William Shipley described Sonoma County residents as "Tire-eating, blood-spilling roistering Southern Democrats who had a chill, frothed at the mouth and gnashed their teeth every time they saw a Lincoln Republican" (44). Given the majority sentiment, according to Shipley, "all Union sympathizers kept their mouths shut." It is interesting to speculate how two farmers on Dry Creek in 1860—Andrew Miles from Indiana and Sanford Bennett from New York—fared living next to the Bishops from Tennessee.

The Democratic Party sentiment became so strong in northern Sonoma County that celebrations were held in the Santa Rosa square after each Confederate victory, and Sonoma was the only county in the state to return a vote in favor of General McClellan in the 1864 election, considered primarily a vote against Lincoln and the Union. Lincoln's assassination subdued the political fervor. By the late 1860s, the *Sonoma Democrat* was no longer filled with political commentary, although anti-Union statements continued to be published for at least a decade.

Over the next century, the nature of conflicts between the people of the Lake Sonoma Area changed. Previously, group interest had been a unifying force, uniting squatters against land-grant holders and settlers against Native Americans. As land title became more firmly established, the basis for much of this discord was undermined, and the scale of disputes was reduced to the individual or family level. Few details of these squabbles have come down through the years, although some were undoubtedly over land boundaries and the exact placement of fencelines. It seems likely that such issues were the cause of the long-standing feud between the Hallengren and Pritchett families, who owned contiguous tracts in the upper Dry Creek Valley. Other disputes, such as that between the Woods and the Pattons, had more immediate causes: in this case, a brawl following a local dance ended in Patton being shot by Wood. In the late 19th century, the Hamilton School District Board was the only public forum wherein local factions could vie for dominance. At least in the early days, successive boards seem to have been concerned almost as much with local politics as with matters of education.

In more recent years, the area once again became deeply divided, this time over an issue that would affect both it and the county as a whole: the Warm Springs Dam-Lake Sonoma Project. The dispute waged for several years, with many county residents in the early 1970s actively taking sides. Landowners within the area viewed the development differently: some considered sale of their holdings to the government to be an economic windfall, while others were frustrated and saddened by the forced sale of generations-old homesteads. Nearby farmers could not agree on the benefits of flood control versus annual, nutrient-rich flooding of the fields; townspeople were divided over the virtues of the potential economic stimulus of increased tourism versus home-town values; and environmentalists and sport enthusiasts disagreed on the appropriate use of the land. Like most disputes during the area's history, time has softened this conflict, and by the mid-1980s, most residents no longer found the building of Warm Springs Dam an important issue for debate.



Makahmo foot drum (drawing by Rusty Rossman)

The Southern Pomo and their neighbors (map by David Bieling)

CHAPTER 10

THE OUTSIDE WORLD: TRAVEL, TRADE, AND COMMUNICATION

INTRODUCTION

Since the first occupation of the Lake Sonoma Area, trade and travel have linked residents with outside groups. Imported materials present in the 5000-year-old archaeological deposits indicate the beginnings of trade. Over the centuries, trade items increased, reflecting an ever-growing interaction between prehistoric groups. After the first years of Euroamerican settlement, goods and information were reaching the area from throughout the world.

For groups to interact, they need to reach each other; trails, messenger systems, roads, railroads, telephones, and automobiles closed the gap between communities. As technology aided contact between groups, the recognized community became larger, and the outside world was continually being redefined and growing in importance.

TRADE AND TRAVEL

Native American Trade

Few locations in the world have matched the California North Coast Ranges' diversity of human groups at the time of Euroamerican contact. In this 150-mile stretch of coastal mountains and valleys, four separate language families were represented, and 11 distinct languages were spoken. Within the area of the seven Pomoan languages, there were an estimated 75 tribelets—each a separate autonomous political unit. Although anthropologists have recognized a great similarity in the cultures of these groups, each tribelet saw its way of life as unique and was acutely aware of the many subtle differences between peoples in the area. Differences were more marked between Pomoan tribelets and neighboring groups speaking unrelated languages, like the Coast Miwok to the southwest and the Wappo to the east. Thus after a few hours walk in any direction, one crossed the border of a new "nation."

The North Coast Ranges also provide an extraordinary diversity of ecological zones, so that each small group usually had proprietary access to chaparral, riverine, oak woodland, and coniferous forest communities. But never did one tribelet have all the resources its members considered necessary for survival. Basic food items were the most broadly distributed: every tribelet territory held acorns, green plants, fish, and game animals, but a temporary surplus in a neighboring territory was often the occasion for trade. The Makahmo often traded for tan-oak acorns with the Danokeya Pomo of Yorkville and occasionally traveled further, into what is now Mendocino County, to collect army worm caterpillars in the Ukiah Valley. Trade was more important with groups who controlled the unique resources of the Clear Lake area and the coast: sea salt, seaweed, marine fish, and shellfish were restricted to the coast, and certain kinds of fish were available only at Clear Lake (1).

Nonfood resources were more geographically restricted. Chert could be quarried within most territories, but materials of special texture or color might have made one region's source more valuable. Far more limited was obsidian, one of the most broadly traded items in central California. For people in the Lake Sonoma Area, quality obsidian was found only at three locations: Annadel Mountain near present-day Santa Rosa, Napa Valley, and the Clear Lake area. A major change in the use of these obsidian sources occurred during the long occupation of the area.

Lake Sonoma Area archaeologists found that chert was the primary stone tool material during the Skaggs Period, the first occupation of the area beginning about 3000 B.C. Most obsidian dating to the Dry Creek, or intermediate, Period was from Mt. Konocti, a major obsidian source on the southern shores of Clear Lake. Mt. Konocti continued in importance in the early Smith Period, beginning about A.D. 1300. A decided shift occurred in the late Smith Period, perhaps as late as A.D. 1800, when obsidian was predominantly from Napa Glass Mountain. This shift reflected a major change in social interactions, probably linked to population changes resulting from the arrival of Euroamericans. Nineteenth-century Euroamerican trade was primarily oriented toward the region due south of the Lake Sonoma Area: the lower Russian River Valley, the Santa Rosa Plain, and the San Francisco Bay Area. In contrast,

archaeological evidence shows that prehistoric occupants traded to the east and north. There was a remarkably small quantity of Santa Rosa area obsidian found in project-area sites, while artifact styles were shared with people to the north and east, not with the Santa Rosa region.

The Cloverdale and Dry Creek tribelets controlled no rare commodities, but the abundance and variety of their food resources were often sought out. Their most valuable trade asset, however, was their skill as craftsmen: Southern Pomo groups, along with the Coast Miwok, were the primary manufacturers and traders of clam disc beads in north-central California, and the chert and obsidian drills they made—considered exceptional—were also widely traded. Disc beads, made from the shell of the large Washington clam, served as currency throughout central California. The shells were broken up, ground to a disc shape on sandstone, bored, strung, and then finished by being rolled on a slab. The value of disc beads was based on their diameter and thickness—the larger the bead, the greater its buying power—as well as on their degree of polish:

> Old strings were prized highly. The handling of a lifetime imparted a gloss unattainable in any other way, and was appreciated as fully by the natives as by any ethnographic collector (2).

Beads were used to purchase goods within and between groups; they were also wagered in gambling, given as gifts at weddings, and worn as attractive ornaments and displays of wealth.

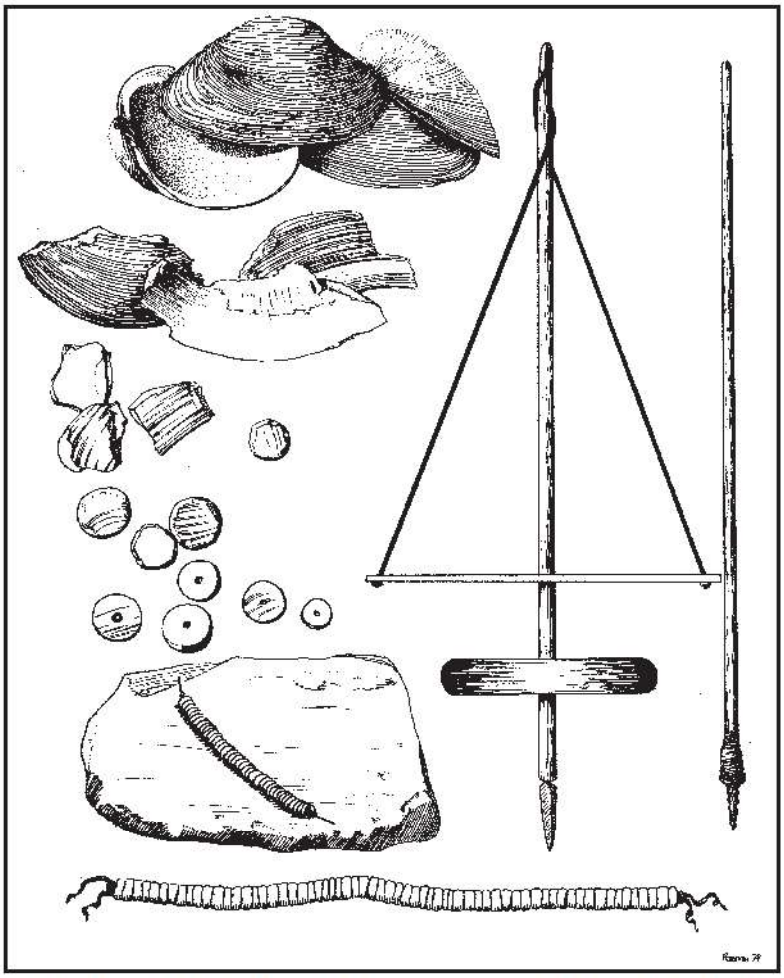
Like obsidian, beads are a major indicator of trade in prehistoric archaeological sites. Clam disc beads were found at several Lake Sonoma Area sites, as were some early historic glass trade beads. In addition, there was ample evidence that the people of the area engaged in the Southern Pomo specialization of bead making. In one large village site (CA-Son-593/H on upper Dry Creek), 140 clam disc bead drills were recovered during excavation, while 35 drills were discovered in a single housepit at another upper Dry Creek site (CA-Son-568). Even in this outlying area, bead making was clearly important.

Trade trips were sometimes quite formal, sometimes relatively casual, affairs. Individuals made two or three trips a year to the coast near Stewart's Point, where they collected abalone and mussel meat, seaweed, and salt, packing them home in large burden baskets. Trips to Bodega Bay were of a different nature: they served as a vacation for the whole family as well as a food-getting mission. The journey took two or three days, and the families remained at the coast for a week or two, camping with friendly groups and spending the evenings in entertainments. Some seafood was eaten while camping, but the majority was dried in the sun and packed home. Bodega Bay was also the source of the thick Washington clamshells that were used to make beads. The Coast Miwok who controlled Bodega Bay allowed inland groups free access to gathering areas. In return, they could freely collect food that was not available on the coast within Dry Creek and Cloverdale territories. At least once a year, small groups of men traveled from Cloverdale to Clear Lake to collect obsidian. Visitors were free to mine their own materials, although it was appropriate to offer a gift for this privilege.

Other trading expeditions were much more formal, involving trade specialists and complex agreements between the two groups. A trading captain, chosen for his fluency in languages as well as his physical stamina, made the arrangements. He determined the needs of his people, then visited the group to be traded with to arrange for the trade items and set a date for the exchange. The exchange itself was carried out by the trade captain and a small group of men who represented those left at home.

The most formalized and entertaining exchange activity was the trade feast, held when one tribelet experienced a superabundance of a particular food item. If the chief of the invited tribelet accepted the invitation, he brought together the men in his village and asked each to contribute clamshell beads to the common fund. On the appointed day, the whole group traveled to the host village and presented their beads. Several days of festivities preceded the trade, with guests freely fed and entertained.

Anthropologist Andrew Vayda described one such trade feast in the Clear Lake area, involving two Pomoan tribelets. On the day of the trade, men of the host village brought extra fish from their individual stores, taking in exchange commensurate shares of the accumulated beads. Once this exchange was completed, the guest chief distributed the fish equally among his people. Vayda emphasized the outcome of this system: while each guest had given different quantities of beads according to his wealth, each received an equal portion of fish in return. In this way



Steps in making clamshell disc beads; after contact, the Spanish drill (shown here) replaced the traditional chert drill (drawing by Rusty Rossman)

differences in wealth within the guest community were temporarily equalized. Within the host community, however, differences in wealth were maintained. Since each fisherman gave the surplus from his particular sector of the creek, the men controlling the more valuable fishing areas received more money. They had "banked" their surplus with the neighboring community.

> By accepting an invitation to a trade feast, the Pomo Indians who had previously "banked" food would be getting food back, and they might be doing this at a time when the food would be more needed by them for consumption than had been the case with the goods that they had traded earlier to other communities (3).

Gambling, an essential entertainment at all such gatherings, provided an interesting twist to the assembly's main economic function—the trade. Since winning was primarily based on luck, and great quantities of shell beads and other wealth items were wagered, a second flow of wealth could pass unpredictably within and between groups.

Ease of travel in this rugged region was of primary importance in trade relations. Throughout the North Coast Ranges, the land was crisscrossed by a complex network of trails. In the Lake Sonoma Area, 14 trails, with an additional 10 alternatives, led south through Sebastopol, north to the Ukiah and Redwood valleys, and east and west to Clear Lake and the coast. These were the major trade routes; in addition, there were numerous paths linking villages to hunting and collecting areas. The ethnographer and journalist Stephen Powers, who traveled on foot

through northern California in the early 1870s, was frustrated by the road system, which seemed to favor the highest, steepest mountains in any area. American roads followed native trails, he learned, and Indians had good reasons for preferring ridges in rugged terrain:

> When the whole face of the country is wooded alike, the old Indian trails will be found along the streams; but when it is somewhat open they invariably run along the ridges, a rod or two below the crest—on the south side of it, if the ridge trends east and west; on the east side, if it trends north and south. This for the reason . . . that the west or north side of a hill is most thickly wooded. The California Indians seek open ground for their trails that they may not be surprised either by their enemies or by cougars and grizzly bears (4).

Such routes were also preferred because a ridge line often extends for miles through mountainous terrain with relatively little variation in elevation, providing an easy walk. Powers' observation that American roads followed Indian trails is borne out in Sonoma County as well; most county roads today follow the routes of the earlier system.

These routes were always traveled on foot—often at a run, especially if important messages were to be relayed. The Russian Baron von Wrangell related the response of a group of Indian men near the Russian River when he requested that a message be sent to their village:

> The eldest among them immediately chose a young man as deputy. The latter fastened his light cloth around his hips, took his bow in hand, and disappeared so fast from view that we had no time to reward him with a small gift for his readiness to serve (5).

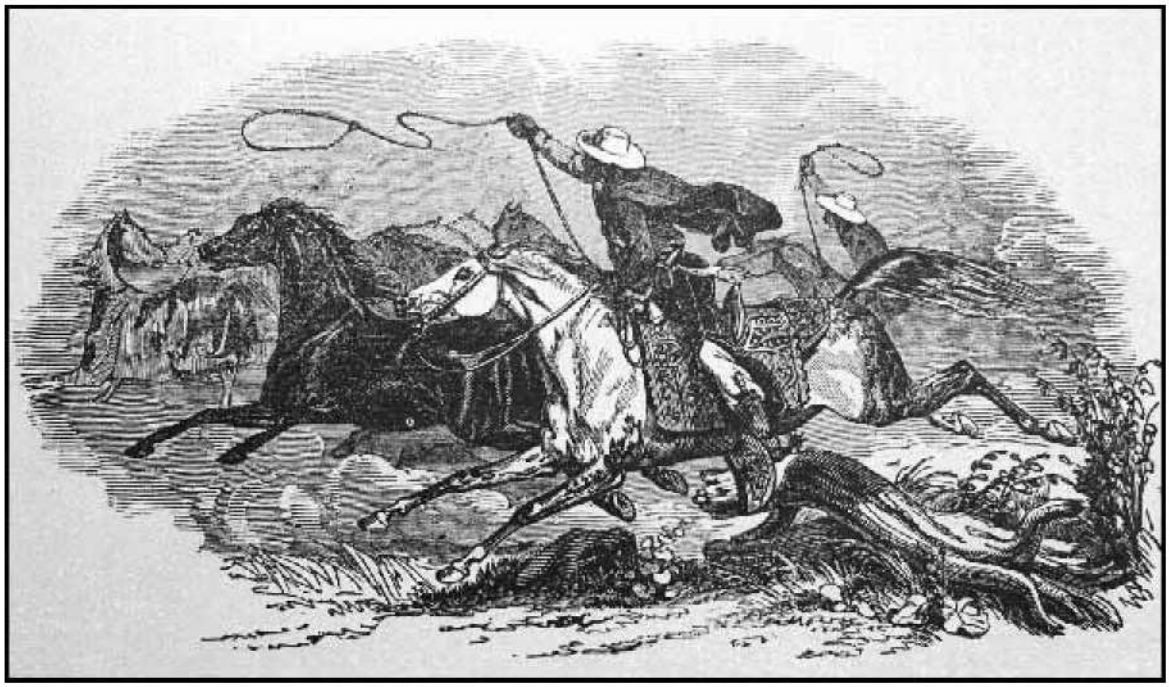
The young man may have been an official messenger, a specialist position among some Southern Pomo groups.

Mexican Period Trade and Travel

Unlike the good access to food, technological items, and luxuries in precontact California, few goods were manufactured in the Mexican period of California, and there were numerous limitations on trade. These restrictions led to a lifestyle of high contrasts, with even the wealthy often living under crude conditions. An account by an American who visited several ranchos in the 1840s describes the legendary hospitality of the Californios, who insisted on heaping luxuries on their guests. The traveler was fed a sumptuous meal, lavishly entertained, and encouraged to stay indefinitely. "At the same time, you are offered a stool or beef's head, as a substitute for a chair, if there happens to be one convenient, if not, you are expected to sit upon the ground." Peña's Rancho Tzabaco adobe in the Dry Creek Valley provides another example; described as "substantial" by his neighbor Cyrus Alexander, Peña's home had only a piece of rawhide to serve as a door-covering (6).

The hide and tallow trade reigned for more than 20 years as the major economic pursuit in Mexican California. Demand for hides was insatiable on the East Coast, while tallow was especially desired in Peru for making candles and soap. Even cattle horns were exported and turned into shoe buttons. Due to the dominance of the trade and the virtual absence of cash, hides came to be known as "California banknotes." What rancheros could buy with these banknotes was almost entirely at the mercy of the traders and the stock of the last port they had entered. Traders were after hides, and they would get them by catering to the Californios' reported vanity: while farm implements, furniture, and food items were often scarce, there was usually an abundance of Chinese silks, tassels, stockings, and silver spurs. Goods were taxed with enormous and constantly fluctuating duties, as much as 80 to 100 percent of their value, figured on the high cost of transportation across the Pacific Ocean or around the Horn. Traders offered a system of extended credit as an enticement, keeping rancheros in constant debt (7).

Just east of the Lake Sonoma Area, Peña and his two northern neighbors, Berryessa and Feliz, had taken up the most outlying lands in the Mexican land-grant system. In fact, the area was of so little importance to the Mexicans that the Russian River is not shown on an otherwise detailed 1845 map; in another 1840s account, the river was said to issue more than 100 miles north of its actual headwaters, indicating little knowledge of this region (8). Despite their location on the fringes of Mexico's northern frontier, Peña and his neighbors did have access to trade goods. Traders, well adapted to the problems of a thinly spread population, employed horses, mules, or boats to reach the most remote rancho. These traveling merchants announced new goods and



California vaqueros with their legendary horses (from R.R. Olmsted's *Scenes of Wonder and Curiosity from Hutchings' California Magazine: 1856-1861*, 1962)

services, delivered merchandise ordered the previous year, and took orders for the next.

Transportation was difficult in Mexican California, with rough, often useless, wagon trails and the clumsy caretta, a cart with two crudely cut stone wheels. These conditions made moving goods and groups of people a slow process, but the speed at which an individual could travel drew raves from American visitors. One traveler claimed:

> One hundred miles a day, are as frequently driven by the Mexicans as fifty are by our people, in truth, with them, it is but an ordinary day's ride. . . . The gait at which those horses are driven is at a fast gallop, at which gait they are frequently kept, for many hours in succession, with very slight intervals of rest. . . . I have frequently ridden those horses, over the plains of California, upon a fast gallop, for five or six consecutive hours, without the least intermission (9).

With such remarkable steeds, Peña and the other northern frontier residents could have ridden to San Pablo Bay, where numerous embarcaderos lined the northern shores, in half a day. The most important of these stations was St. Louis, a town south of Sonoma consisting of little more than docks and a saloon, where boatmen waited to hire out their services, and goods ordered from San Francisco were unloaded.

Some trade centers were present north of the bayshore: we know from Peña's will that he traded with Nathan Spear, the former San Francisco merchant who was then operating a grist mill and sawmill and dispensing medicines and other goods from a Napa rancho. The account books of Jacob Leese, another major North Bay trader, show the purchases of Peña's neighbor, Henry Fitch of the Rancho Sotoyome (10). While Fitch did not live on his rancho, his overseers—first Cyrus Alexander and later Moses Carson—bought goods for the ranch in his name. Leese, like all resident traders during this period, served as accountant, banker, and business representative for his customers. Fitch's personal debts were paid by Leese, his workers were advanced cash when necessary, and transportation of his hides and tallow was arranged "to the beach." Most of Alexander's and Carson's purchases consisted of items necessary for running the ranch: livestock, saws, sheep shears, large kettles for rendering tallow, and barrels for transporting it. Other purchases were apparently made to maintain the Indian workers on the rancho: 10 blankets, 7 shirts, and 4 pairs of corduroy pantaloons were bought during one three-day period, while 11 pounds of beads were also

purchased during the same week. Accounts could accumulate unpaid for months; they were eventually offset by goods, rather than cash. Indians on the Sotoyome Rancho must have engaged in soap production and milling, as soap and boards were the most frequent means of payment to the merchant.

To offset the limitations of trade in Mexican California, the wealthier Californios participated in a wide-ranging network of exchanges. The population of rancheros was small, and at least some of the activities of most land-grant holders have been well documented. Because there is so little information on Peña, we can infer that he was neither a wealthy nor a influential man. Yet his 1847 will (one of the very few available documents regarding him) gives a fascinating glimpse of his participation in the network. In addition to his debt of "one hundred Dollars in wheat" to Nathan Spear ("Don Natan Espear"), Peña listed the following account of his debtors and creditors:

> Also, I declare that I am debtor to Don Manuel Torres [Rancho Muñiz] to the amount of [not specified].
> Also that I owe Moises [perhaps Moses Carson, caretaker of Sotoyome Rancho] thirty dollars in produce.
> Also, that I owe to Marcos West [Rancho San Miguel] Ten dollars in same.
> Also, that I have in my possession one hundred mares of Don Mariano G. Vallejo for the term of ten years, which when concluded we were to divide the halves of the increase.
> Also, that if I die my Executor may deliver the one hundred mares to said Señor Vallejo, retaining in his possession for the benefit of the heirs the increase that belongs to them.
> Also, that Don Gupe Vallejo owes me Sixty Seven Dollars; and that I have received Seven; remaining in my favor Sixty Dollars.
> Also, that Sebero Alviso owes me twenty dollars for a horse.
> Also, that Don Manuel Torres owes me four picked colts for two horses that I sold him.
> Also, that Juan Bojorques owes me two young Bulls.
> Also, Ignacio Balenzuela owes me one wild mare.

A final statement is appended to this document:

> Note: There are in my possession Eighteen colts belonging to Don Juan Cooper [Rancho El Molino] to break them to reins at a rate of six dollars each, which my Executor will deliver if I die, excepting those colts that may meet with accidents, which will be for account of said Señor Cooper (11).

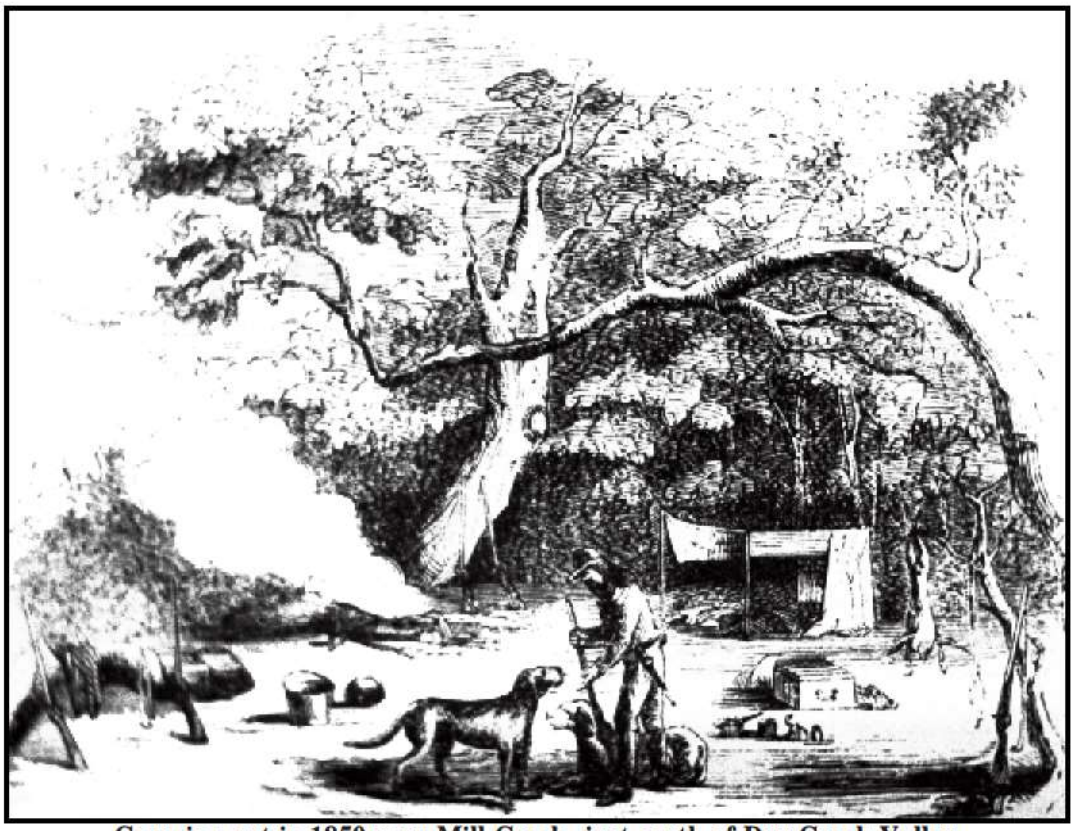
We can see that Peña traded throughout the northern frontier with some of the area's most prominent figures, and that he may have been a specialist in horses; perhaps he had unusually adept vaqueros or was himself a proficient horseman. A symbolic, as well as economic, significance of horses in Mexican California is suggested in one of Peña's last requests: "Also, that those commissioned with the burial of my body pay with the horses that are used in my hearse."

Local Development

Ever since hunters and trappers first traveled through northern California, small groups had used the Russian River Valley as a trail to the north. This trail jogged into the Dry Creek Valley for a short distance, following the route of an Indian trail. An 1851 map shows the trail crossing the Russian River at "Fitch's," traveling up Dry Creek to "Pinos," then returning to the river just north of "Berryessas," probably along the route of the present-day Dutcher Creek Road (12). As it was more common for traders and families to take steamers up the coast to Union (later Arcata) and Eureka, the nearest early northern settlements, the overland route would have been little used.

A picture of the remoteness of the general area emerges from population figures presented in the 1850 federal census, which counted only the non-Indian residents: 32 adult males, 8 adult females, and 11 children lived in eight dwellings between present-day Ukiah and Healdsburg, a distance of about 50 miles. Many of the single men must have been hunters or trappers, while others may have been testing the mineral potential of this region. The families may represent the area's first squatters, who hoped to obtain possessory rights to land-grant lands.

A stage stop was established in Geyserville in 1851, signaling the first major step in connecting the Lake Sonoma Area with the outside world. Shortly thereafter, the first general store north of Sonoma was established in an adobe on Fitch's Sotoyome



Camping out in 1850 near Mill Creek, just south of Dry Creek Valley
(drawing from Marryat's *Mountains and Molehills*, 1856)

Rancho, while a trading post was established by Harmon Heald in 1852 between Dry Creek and the Russian River. Then, in 1854, a trading post was set up in Cloverdale. Clearly the squatters had arrived in relatively large numbers by this time to warrant so much activity.

Just what was available at these early stores is not recorded. Some goods might have been especially procured for the Indian trade, while nonperishable staples, such as sugar and flour, and consumable necessities, such as lead and powder for firearms, would surely have been available. But it is unlikely that many of the needs of the new families were met. Immigrants were usually advised to bring most items from home—even window glass from one report—to start their new life; the Millers, whose granddaughter married Sylvester Scott, brought their tombstones with them across the Plains.

Certainly little variety would have been available at the trading post and small stores. For farming equipment, boots and shoes, household utensils, and fabric for clothing, the settlers had to travel to St. Louis—a two-day trip on foot—or do without. Lumber was hewn from the trees nearby or purchased from March's Mill on Mill Creek. If seed was not brought from home, the cost of putting in crops could be crippling: in the first years, seedling fruit trees sold for as much as $1.50 each; a decade later, 100 trees could be had for that amount. Even those able to buy expensive seed found it was not readily available; a ride to Sonoma or Stephen Smith's Bodega settlement was necessary in the first years. The town of Santa Rosa, later an important trade center, was no more than "a cluster of houses with neither doors nor windows" in 1851 (13).

Then, in 1856, a general store joined Heald's trading post, and the focal point of the area—originally called Stringtown—had its inception. This was a year that marked new activity throughout the county. The autobiography of a pioneer women who had settled about 20 miles south of the Lake Sonoma Area in Green Valley near Graton in 1850 tells of the change:

An overloaded wagon brought across the plains (photo from National Archives)

> in 56 our country around sonoma county begins to improve, towns spring up all over & the people building houses & leaveing old cabbins to be used for outhouses. & the people beginning to talk county fairs & improve their stock. & farms improveing more & better fences & more useful emplements to work with (14).

That year also brought the first long-term settlers to the Lake Sonoma Area: William and Mary Board and James and Elizabeth Pritchett, who claimed tracts of Dry Creek bottomland near the confluence of Warm Springs and Dry creeks. It may not be a coincidence that 1856 was also the year that Dry Creek Indians were removed from their homes and land and taken to the Round Valley Indian Reservation in Mendocino County. Santa Rosa had become the county seat only a few months before, and this shift from Sonoma must also have been taken as a sign that the west side of the county was worth developing.

In 1857 Heald laid out the first town lots for sale, and the town grew rapidly thereafter. At first it appeared that Healdsburg might become the county's leading community: in 1858 the town was chosen as the site of the first Sonoma County agricultural fair. By the 1860s, many needs could be met within the local community. Healdsburg supported a newspaper, a fire department, a concert hall, several stores, and fraternal organizations.

Cloverdale, the nearest town for the upland Dry Creek settlers, also offered multiple services. Nonetheless, many Dry Creek people traveled to Donahue's Landing on the Petaluma River to buy supplies in the 1860s and 1870s: the savings in freight was apparently worth the more than 100-mile round trip (15).

For several decades, settler families remained relatively self-sufficient. Most plant foods were grown in the family garden, livestock was raised for milk, meat, and lard, and hunting provided variety for the table. Root crops could be stored in the stone-lined dugouts that were identified by archaeologists at several Lake Sonoma Area historic sites; canning sheds were also features on some homesteads, indicating that people here, as in other rural areas, put away supplies of fruit and vegetables for winter

use. Men repaired and fashioned simple farm implements themselves; some settlers had worked at the blacksmith's trade before moving to the area, and at least two blacksmith shops have been identified on project land. Women knitted or sewed all clothing for themselves and their children; only shoes and men's trousers and overalls were bought in town. This pattern was shared by rich and poor alike, for self-sufficiency was as much an ethic of 19th-century rural America as it was a necessity.

Despite the self-sufficient lifestyle, many items could only be obtained in town, and credit—rather than cash—was necessary for people whose incomes varied throughout the year. Before the turn of the century, bills were cumulative, listing the purchases made from month to month. After six months to one year, usually when crops were in and sold, the bill could be paid off in farm or ranch products, with any balance remaining paid for in cash or extended to a later date. Customers of a Healdsburg store in 1870 used a variety of goods to pay their bills: eggs, butter, meat, and lard headed the list; wool, wheat, sacks, and shingles were not uncommon, while one customer even paid with a piece of embroidery (16). There was an additional advantage to having good credit at a store: personal debts could be paid by offering credit on one's account. Thus goods and services could be obtained throughout the year, even at times of no income, to be paid off only when money was available after harvest. The store also served as a bank, loaning money when necessary and holding cash for customers who felt uneasy keeping large sums at home.

The barter system was prevalent beyond the local store as well. In the late 1850s and early 1860s, local boys gained entrance to the circus in Healdsburg by bringing wheelbarrow loads of crushed tanbark, and similar practices must have occurred throughout the town (17). The *Sonoma Democrat* of Santa Rosa offered subscriptions in exchange for firewood in 1863. This was apparently more reliable than credit, which the paper seemed unusually tolerant in extending: "Some of you who have had our paper for several years without paying for it—give us an agreeable surprise by paying up" (18).

Early American Travel

The earliest settlers claimed the most accessible tracts in the Lake Sonoma Area, but even the most conveniently located homesteads were 12 miles from Healdsburg or 8 from Cloverdale. Access to goods required more than mere proximity to trade centers; a means of transportation was needed, and there was a variety:

> Missourians were happy to have their 'jacks' [the stubborn, but hardy, mule] as transportation. Others walked or rode as funds allowed. Those who came overland had ox-teams ready to do service both as farm labor and transportation (19).

The settler with a fine team of horses had far greater access to town than the man on foot or one who possessed a single old horse. Once there, it mattered little how much the growing town had to offer if all that could be conveyed home were the most vital necessities. Trips to town, therefore, were rarely taken. Also keeping people home were the innumerable chores about a ranch or farm, especially for those who could not afford a farmhand and whose children were too young to help. Most of the children listed on the 1860 census of the Lake Sonoma Area were young, and no hired hands were counted.

The inadequate road system was an additional deterrent to travel. Although the road to the Pritchetts was described as a "fine carriage road" in 1863, the way past this point was rough and steep. Mid-19th-century travelers, who were used to shifting their mode of transportation several times mid-journey, "had to leave [their] buggy and take to the saddle" at the Pritchetts' farm (20). For ranchers living near the Skaggs Springs resort, the way to that point was clear riding—sufficient for a stagecoach. Beyond there were little more than narrow, rocky trails leading to isolated homesteads, and the trip on home might take as long as the first leg from Geyserville to Skaggs. For settlers living in Cloverdale Township, a road scaled the steep divide west of the Russian River, then followed Yorty Creek to Dry Creek and jogged from ranch to ranch; an alternative route was labeled on an early map as "Trail from Scotts to Cloverdale." It was also possible to travel from Cloverdale Township to the city of Healdsburg by following the route of the old Rockpile Road. (Early maps of the project area depict the road system; see Chapter 7).

The road to Skaggs Springs was probably the best maintained in the Lake Sonoma Area, at least during the summer when crowds flocked to the resort. The country vacation began for guests when they left Geyserville via special stagecoach for the eight-mile ride to the springs. Most accounts of early visits to

The Skaggs Springs stage in 1913 (photo from the Obed Bosworth collection)

Skaggs included a description of this experience. Country stagecoach drivers were notorious for their lively rides, and the trip up the narrow, winding route had its daring curves to excite urban passengers.

Even with good access to a road, trips to town were undertaken only with difficulty when the weather was fine and stopped almost entirely in wet weather. While some routes were passable in winter, they were usually avoided. When an emergency, such as riding to town to fetch the doctor, required a trip in the rainy season, it was made on horseback, since iron buggy or wagon wheels created deep ruts in the road.

Problems with roads were not limited to this remote area. In the winter of 1865, the local newspaper claimed that "there is scarcely a road in the county passable for a distance of ten miles without liability to accident to person, or machine being stuck in the mud" (21). Even in summer the roads around the early prosperous city of Healdsburg were hard to navigate. On the main route just outside Healdsburg, a traveler in 1859 noted that "our wheels sank into a foot of dry, black powder" (22). Continuing northeast towards Knight's Valley, he found conditions worse:

> More than once, the road was arbitrarily cut off, and turned from its true coarse, by the fencing in of new fields. This was especially disagreeable where a cove of level bottom land had been thus inclosed, and we were forced to take the hill-side, where the wheels slipped slowly along, one side being dangerously elevated above the other. . . . The course of the highway is wholly at the mercy of the settlers, each of whom makes whatever changes his need or convenience may suggest (23).

In addition to fencing off roads, farmers were said to have dismantled bridges for use as lumber, thus constantly undermining county improvements.

To deal with the problem of maintaining roads, county supervisors passed a law in 1864 which required each able-bodied man between the ages of 21 and 50 to work two 10-hour shifts per year building or repairing roads in his district. Those who were unwilling were fined $3.00 for each day they refused to work. Over the years, the system was altered: general property taxes included funds for roads, and road work was done by paid, part-time county employees. Each district had a roadmaster, whose job was to regularly maintain roads and to hire and

oversee a crew of local men when larger projects were necessary. Around the turn of the century, rancher George Matthews was road tender in the Dry Creek uplands, while farmer Edwin Higgs held the position in the upper Dry Creek Valley. Higgs and his team of horses became a colorful feature of the valley, with the bells on his gravel wagon announcing his presence.

Gates across county roads were legal, a stipulation of right-of-way deeds to the county. They required the traveler to stop frequently, dismount his horse or wagon, and open the gate before going through, closing the gate after him to prevent straying livestock. There were 14 gates between George Matthews' ranch and the town of Cloverdale, a distance of only as many miles. Other obstacles slowed travel. Anywhere between grazing country and market towns one might turn the bend and find the road clogged with slow-moving cattle, sheep, or hogs. To cross the river near Healdsburg in the early days, one had to holler for the ferry boatman, who as often as not had docked his craft on the opposite bank.

Given the problems with the road system, San Francisco was little more accessible to local settler families than it had been to the fast-riding Californios. Coaches left daily for the docks on San Pablo Bay in good weather, but all movement was halted in heavy rains. There was also no adequate transportation for heavy, bulk goods at a time when farms and ranches had vastly outgrown the local market and needed to move their produce and livestock greater distances. The solution to these problems was a railroad. Rivalries between competing companies, however, slowed the progress, and San Francisco was connected by railroad to the eastern United States before it had developed a system north of the bay (24).

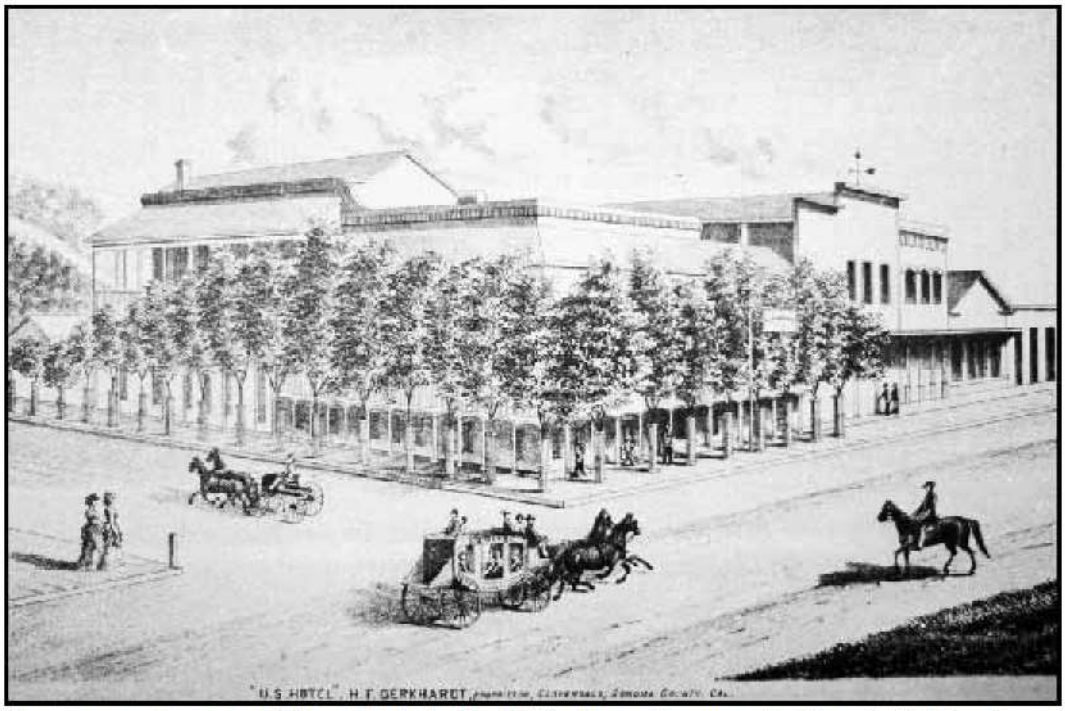
Californians had anticipated a financial boon following the transcontinental connection in May 1869, expecting that goods shipped from the Orient to the West Coast would be in high demand in the eastern states. Instead most of this trade passed through the Suez Canal, which had been opened the same year. The effect of this new East Coast-Orient trade was crippling to California traders and manufacturers, but many other people benefited from the new railroad. Suddenly there was virtually no restriction on the availability of goods; the markets were glutted with eastern products at prices that the middle class could easily afford. Woolgrowers were among those who profited; before the railroad, eastern buyers bought most of their wool from the sheepraising regions of South America, Africa, and Australia, since California was little more accessible than these countries. Afterwards, eastern buyers came to San Francisco, and California production soared (25). The new connection must have had a positive psychological effect as well: Californians were no longer living in an isolated backwater—they communicated with the whole nation.

Construction of the railroad track in the North Bay was finally completed in the spring of 1872, and Cloverdale became the northern terminus of the San Francisco and Northern Pacific Railroad. The position was an enviable one, suddenly making this small town of major importance for miles around. The station became the point to which all trade from Mendocino County, western Lake County, a large portion of Humboldt, and the upper part of Sonoma came for shipping. The editor of the *Sonoma Democrat* wrote enthusiastically of the changes the railroad brought to Cloverdale:

> Business had been at a stand-still for many years and it was thought by many here that it would never amount to much, but the completion of the railroad has stirred the people up again, and everybody is up and doing and business has assumed a lively air (26).

Scores of new buildings were being constructed, and the newspaper reported that only a scarcity of building materials prevented more construction.

In the same decade that other parts of California and the rest of the United States were experiencing a depression, Cloverdale, Healdsburg, and the areas surrounding them were economically vitalized. Now there was an immediate shipping point for the wool, wine, and tanbark of the area. Cattle and sheep were driven the relatively short distance to the cars and transported to markets in the south. Lists of railroad exports from Healdsburg and Cloverdale in 1876 reflect lively commerce in the area (27). There was variety—grapes and other fruits, vegetables, wool, tanbark, hops, hides and tallow, wine, grain, lumber and livestock; there was also considerable quantity in some categories, such as the 1-1/2 million pounds of wool from Cloverdale—more than the entire wool clip for California in 1858 (28).



The prosperous town of Cloverdale in the 1870s (from *Thompson's Historical Atlas Map of Sonoma County*, 1877)

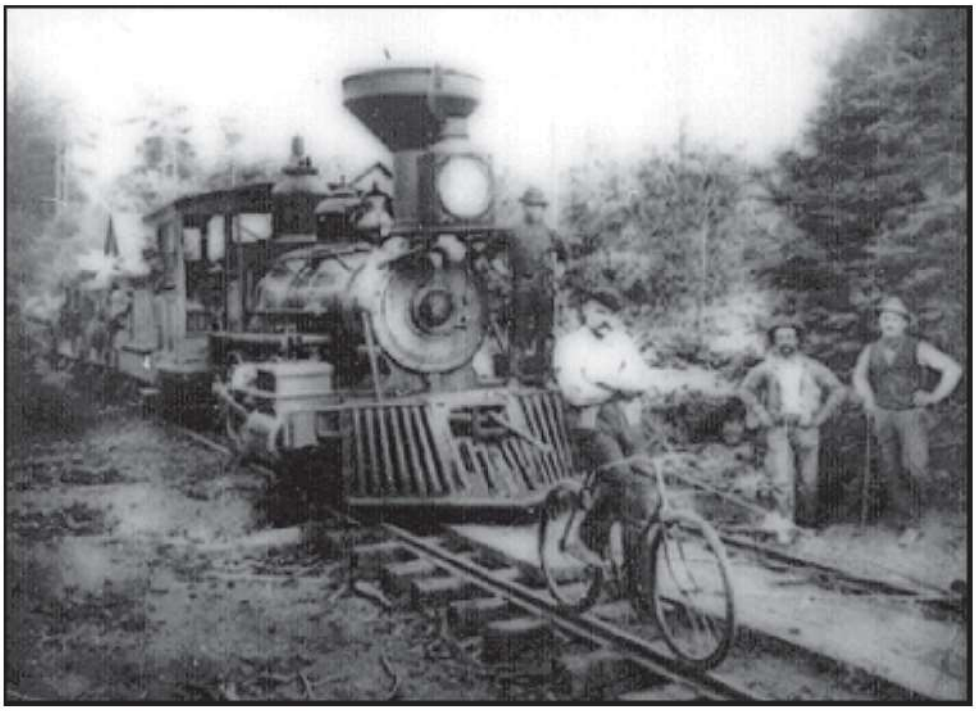
Passenger travel also increased once the trains started running. Cloverdale was the point from which all the travel to the Geysers Hot Springs—considerable traffic in those days—left the cars. Skaggs Hot Springs, served by the Geyserville Station, also saw scores of guests arriving each day by railroad. Every day two trains made the round trip between Cloverdale and Donahue's Landing. The trip to the landing once took four-and-a-half hours; the train cut the ride to only three. The trains had speed, but this was only one of their advantages. More important, they were reliable. Major storms might wash out a bridge or a section of track, but usually the trains rolled. And trains were comfortable; the cars were enclosed and the ride was smooth. Stages were hot and dusty in summer, cold and often wet in winter, and they always provided a jostling, bumpy ride.

> Coaches will be overloaded, it will rain, the dust will drive, baggage will be left to the storm, passengers will get sick, a gentleman of gallantry will hold the baby, children will cry, passengers will get angry, the driver will swear, the sensitive will shrink (29).

After experiencing these discomforts, travelers took enthusiastically to the trains, and even residents in the Lake Sonoma Area began to travel to "the metropolis" frequently.

In the late 1880s, this network of trade and travel began to change and expand. Cloverdale lost its position as the northern terminus of the San Francisco and Northern Pacific Railroad when the tracks were forged through to Hopland and finally on to Ukiah in 1889. The Cloverdale station was still the center of shipment for northern Sonoma and southern Mendocino counties, but Cloverdale was no longer a focal point for a broad region, and what had promised to be a bustling community reached a plateau and grew no more.

To the west, a new link to the coast was opened up in 1890 by the county extension of the Skaggs Springs Road to Stewart's Point. The road followed an Indian trail that had been used for foot travel for centuries, and Native Americans were among the beneficiaries of the route: Kashaya Pomo families near Stewart's Point could now travel by buckboard to seasonal field work in the Russian River Valley, while Dry Creek and Cloverdale Indians used the route for their regular summer trips to the coast. The



Checking the tracks on the local railroad (photo courtesy of Edwin Langhart Museum, Healdsburg)

Skaggs Springs resort could now advertise that they were 20 miles by road from the coast, allowing guests excursions to the seashore. Of more economic importance to some of the western residents of the area, the new road gave access to the coastal landings around Stewart's Point and Gualala, where ships carried timber and tanbark to San Francisco. Given the poor roads in the area, one old timer stated, "If you could get it on a ship, you could haul it across the Pacific cheaper than you could haul it to Healdsburg by team" (30). We have no record of how much the coastal route was used by area residents, but there is no doubt that for ranchers living near the Gualala divide, shipping goods to the west would have been the easier route.

A third major change in the travel network was a shift in the southern terminus of the railroad, which reduced the San Francisco-Cloverdale ride by a full hour. The bay steamers had plied between San Francisco and Donahue's Landing until 1884, when the railroad was extended to Tiburon, and the steamer trip to San Francisco then took only a mere half hour. With fast trains and the new steamer connection, it took little longer to reach San Francisco from Healdsburg or Cloverdale than it did a century later.

EARLY COMMUNICATIONS

Changes in communications kept pace with those in transportation. With the coming of the first stage stops in the early 1850s, mail was delivered by Wells, Fargo and Company to Healdsburg, Geyserville, and Cloverdale. Most early mail from the rest of the United States came to San Francisco by ship. Carried around the Horn, the mail from the East Coast was painfully slow, taking as much as eight months to arrive. It is easy to imagine the anxiety of separated families, when the "news" in a letter might have been completely reversed by the time of delivery. With the establishment of overland mail service in 1858, letters took only 25 days from posting in midwestern cities to delivery in San Francisco.

The transcontinental railroad made an enormous difference in communications speed: an express train from New York to the West Coast took only seven days. With two trains leaving San Francisco for Cloverdale daily, mail from the border states of Virginia, Kentucky, and Missouri—the previous home of many Lake Sonoma Area settlers—could be in the recipients' hands within a week, on a par with pre-airmail delivery in the 20th century. Since some settlers rode to town only every few months, however,

The Cloverdale post office in the early twentieth century (photo courtesy of the Sonoma County Room, Sonoma County Public Library, Santa Rosa)

the last few miles between post office and resident could be the longest.

Mail was more readily accessible to lowland residents in 1877, when the little settlement of Cozzens was established in Dry Creek Valley about two miles downstream from the present dam. Mail was delivered daily to the Cozzens store, where there was also telegraph service and, after 1890, a telephone. From directories of the area, we can see that some residents took advantage of this new service. Mail service was also instituted at the Skaggs Springs resort and at Throops on the Rockpile Ranch, bringing even remote ranches into closer contact with the outside, although some residents still preferred the trip to one of the three towns to retrieve their mail. There were ways to speed up communication: when expecting an urgent telegram, rancher Orville Baldwin relates that he asked the post office to deliver it promptly to a Cloverdale livery stable, which sent a rider with the message immediately upon arrival.

Without telephones, and with the long rides between houses, neighbors often communicated by letter. Messages were usually hand-delivered, presumably by a ranchhand, another family member, or a settler who happened to be riding that way. In the Matthews collection, the majority of these messages alerted the recipient that his livestock had strayed onto the writer's property. For more complex messages, the writer would suggest a meeting "at the usual place," no doubt some point on the range midway between the two homesteads. Many letters between neighbors, however, were delivered through the mails, so that a message generated only a few miles away might take a week or more to be received.

CHANGING TIMES

The Lake Sonoma Area was constantly reacting to changes in the outside world and changing itself in the process. The pace accelerated toward the end of the 19th century, and soon it became difficult to distinguish between the local community and the outside. Clearly the area retained its identity, but it was rapidly becoming assimilated into the rest of the world.

In 1896 a simple but important change in mail delivery was instituted in the country. That was the year in which rural free delivery was established, and people no longer had to hitch up their horses and leave their property to send and receive mail. Mail was left by the resident in a sack hung from a wire by the roadside in front of his house. The sack was picked up by wagon on one leg of the trip; on the return trip a sack containing mail for the resident was left on the wire by the wagon driver.

A decade later, a revolutionary change occurred with the coming of the telephone. Telephone service had connected major towns since the 1880s, and residents frequently made calls when in town. In 1905 this service was brought to the resident's door, when a main line from Healdsburg was extended to the Higgs house at the head of the valley, while an intermediate line left Hendricks place on the slope overlooking Warm Springs Creek and connected with Geyserville. Cloverdale Township joined the system in 1909. Rural service carried as many as 15 customers on one line, each with a distinctive ring. In addition to its function of transmitting messages, the telephone came to be used as a kind of community entertainment. When receiving a call, it was understood that neighbors might also pick up the phone, and it was not uncommon for three- and four-way conversations to ensue.

The advantages of the telephone were great enough that service was quickly adopted. Acceptance of the automobile into the area came more slowly. While some automobiles were available well before the turn of the century and the first Model T Ford was introduced in 1909, use of these machines was initially restricted to urban areas. In 1913 Albert "Mug" Pritchett, son of one of the area's original settlers, became the first Ford dealer in Healdsburg. But poor roads in the Lake Sonoma Area made the automobile of questionable use. Upper Dry Creek resident Orville Baldwin described the problem:

> We did not begin using cars until about 1917 and then only Fords and Chevrolets. We had seen too many of the heavier cars bog down in our roads in the winter time. Even in the summer few cars could make the last mile from the Benson land up to our house, parts of which rose four and one half feet to the rod [16-1/2 feet] (31).

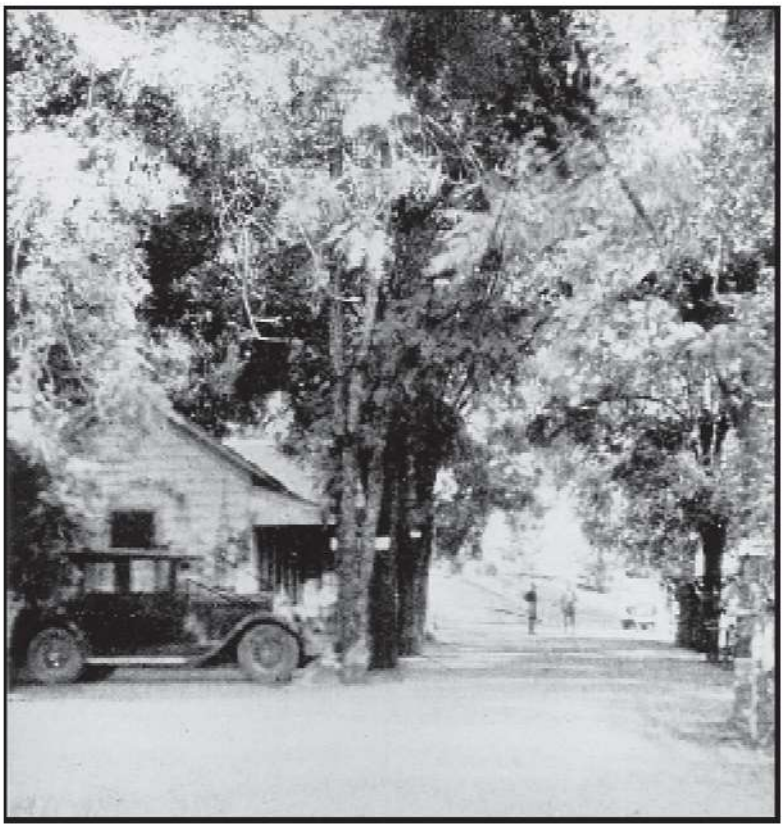
Outsiders, however, wanted to make the trip to Dry Creek by car: George Matthews received more than one letter from city friends querying, "Can I bring my machine?" Skaggs Springs guests also came into the area by machine—in this case a Mooreland truck, which replaced most of the horse-drawn stages by 1912. Slowly local residents purchased automobiles. Edwin Higgs, the Dry Creek roadmaster, first purchased an automobile in 1921 and sold most of his horses. Horses remained the only transportation over the range, and they were still needed to pass storm-damaged roads. In the uplands bordering the Lake Sonoma Area, the ordinary automobile is still no match for winter roads, and the four-wheel drive, not the sedan, has replaced the horse.

Another innovation entered the area at about the same time as the automobile—the radio. According to Baldwin, both the radio and the automobile had a negative effect on ranch life, speeding the pace and making residents dependent on their new conveniences:

> The radio tempted men to stay in the house for some special program or to hurry away from work to be on time for it. When any trifling article was needed, forty minutes took one to town in the car, whereas by team of horses all day was consumed on the round trip (32).

The Skaggs Springs resort, always quick to offer the latest conveniences and entertainment, announced in a 1925 advertisement that the hotel had "a Modern Radio receiving set." In the late 1920s, electricity was brought in to most of the Lake Sonoma Area, a final link to the outside which brought refrigeration, care-free lighting and heating, and numerous other conveniences.

The demise of the Skaggs Hot Springs resort was another major change to affect the area, dramatically reducing the number of people in the Lake Sonoma Area. The hotel had shifted its emphasis several times in its history, first catering to the health conscious,



The automobile comes to the Skaggs Springs resort (photo from the Obed Bosworth collection)

then to the social elite and the socially ambitious who wanted to be seen vacationing in the right company. Competition among resorts after the turn of the century led Skaggs Springs to promote its recreational advantages, leading to a more active, family clientele. The introduction of the automobile, in part, led to the decline of the resort and its closing in the early 1940s. With the opening of the Golden Gate Bridge in 1937 and widespread road improvements, the resort was within a two-hour drive of the city. But many other vacation possibilities were open as well. Travelers were no longer forced to follow the most popular paths, and drives could be taken in virtually any direction. Other factors also acted to reduce the resort's popularity. The quicksilver mining operation at Skaggs in the 1930s. while perhaps interesting to a few industrial buffs, could not have added to the resort's appeal. More important, the Great Depression of the 1930s sharply reduced the number of people who could afford resort life. Then, America's intervention in World War II further sobered the nation; men were needed in the armed forces, women were needed at home to work in the war effort, and vacations were a thing of the past. In 1942 the last daylight passenger train ran through Cloverdale, the same year that Skaggs Springs closed. A brief attempt to revive the resort in 1950 failed.

One proposed change which would have made an immense difference in the area never materialized. Beginning in 1903, plans were made to forge a railroad through the Dry Creek uplands. In that year, the San Francisco and North Pacific Railroad consolidated with six other carriers to form the Northwestern Pacific Railroad. Two of the goals of the new company were a direct line from San Francisco to Humboldt County and construction of several new spurs from the main line, including a proposed route from Healdsburg up Dry Creek, past Yorty Creek, and on into Mendocino County. A railroad stop in this remote region would have been an economic boon to most of the area's residents: wool and sheep, tanbark and timber, could have been directly exported. A station in upper Dry Creek would likely have stimulated the establishment of a small town, significantly raising land prices. As one local landowner wrote in 1903, "we will be in the swim very soon" (33). But the railroad plans were slow. An "electric road" had been surveyed through Matthews' property by 1910, a fact which he offered as an

enticement in a San Francisco advertisement for his property. The company went so far as submitting a surveyed route map to the General Land Office and the Secretary of the Interior, who approved the railroad right-of-way through public lands. Several rights-of-way were purchased from local landowners, but little more was heard of the project. Then, in September 1925, the group relinquished their claims and deeds to the rights-of-way. The plans of some speculators were certainly dashed.

The events of the 1960s to the 1980s perhaps represent the most extreme case of the outside's effect on the Lake Sonoma Area. During these years, hundreds of people—engineers, construction workers, geologists, fish and wildlife advisors, archaeologists—worked daily in an area which once had only a few score residents. The creation of the Warm Springs Dam and Lake Sonoma will doubtless have many profound effects, both planned and unforeseen, on the region. In the immediate area, roads had to be relocated, and mountainous land, once good enough only for grazing sheep, now has the potential to be developed into home sites. Canyon and Dry Creek roads, narrow country ways, carry vacationers and busloads of school children, who come to view the Visitor Center displays and the Fish Hatchery. The nearby towns of Geyserville, Healdsburg, and Cloverdale, strategically located along the freeway, cannot be left untouched by the new attraction. Municipal leaders have expressed determination to control their future, with those in Healdsburg hoping to remain oriented toward agriculture. As a flood-control device and water source, the Warm Springs Dam and Lake Sonoma will no doubt stimulate growth along the lower reaches of the Russian River.

In addition to these large-scale material effects of the conversion of the upper Dry Creek Valley to Lake Sonoma, the studies that have been done of the area's culture will affect the public at large. At the damsite, displays interpret the area's history and prehistory. Plans have also been made to bring information about the area's natural and cultural history out into the community in the form of teaching materials, movies, and booklets. The interchange between this small, once remote area and the rest of the world has increased, and the Lake Sonoma Area continues to affect, and be affected by, the outside world.

The Lake Sonoma Area, 1985

Warm Springs Cultural Resources Study

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Dorothea J Theodoratus California State University, Sacramento	Associate Investigator History and Ethnohistory
Otis Parrish Santa Rosa, California	Native American Coordinator July 1978-October 1980)
Kathleen Smith Healdsburg, California	Native American Coordinator (November 1980-1984)

For Further Reading

Related Studies

To fulfill its obligation to the public, the U.S. Army Corps of Engineers has published a final report in three volumes, to which the present volume belongs, and three pamphlets on the cultural resources studies at Lake Sonoma.

Mark E. Basgall and Paul Bouey, *Prehistory in Northern Sonoma County: The Archaeology of the Warm Springs Dam-Lake Sonoma Project* (San Francisco: U.S. Army Corps of Engineers, 1985). This highly technical volume has two parts: the first outlines the history of the Lake Sonoma studies and synthesizes the findings of the archaeological investigations at the prehistoric sites; the second part reports findings at individual sites.

Suzanne B. Stewart, *Time Before Time: Prehistory and Archaeology in the Lake Sonoma Area* (San Francisco: U.S. Army Corps of Engineers, 1985). Written in a popular style, this pamphlet explains the methods and findings of the prehistoric archaeology at Lake Sonoma.

David W. Peri and Scott M. Patterson, *The Mihilakawna Pomo of Dry Creek* (San Francisco: U.S. Army Corps of Engineers, 1985). A volume of the final report, this work describes the language, culture, prehistory, and history of the Mihilakawna Pomo.

Vera-Mae Fredrickson and David W. Peri, *Mihilakawna and Makahmo Pomo: The People of Lake Sonoma* (San Francisco: U.S. Army Corps of Engineers, 1984). This pamphlet describes the Mihilakawna and Makahmo Pomo ways of life as recorded by anthropologists working with Native American scholars.

Adrian Praetzellis and Mary Praetzellis, *Gone, but Not Forgotten: Historical Glimpses of the Lake Sonoma Area* (San Francisco: U.S. Army Corps of Engineers, 1984). A series of sketches based on individuals who once lived in the Lake Sonoma Area, this pamphlet recounts the area's history, as well as the cultural studies themselves.

Bibliography of Warm Springs Dam-Lake Sonoma Project Reports

The authors of this volume recognize that our work would not have been possible without the contributions of numerous scholars. Since Adan Treganza wrote his preliminary evaluation in 1964, many important technical reports have been compiled on the cultural resources of the Lake Sonoma Area. We used some of these extensively to create the present volume. The bibliography that follows lists reports which are general in subject matter and may appeal to nonprofessional audiences. The volumes are available for public viewing at various public libraries in California and from the U.S. Corps of Engineers:

U.S. Army Corps of Engineers
San Francisco District
211 Main Street
San Francisco, CA 94105

Baumhoff, Martin A.

1979 *Research Design: Investigation of Prehistoric Archaeological Sites*. 52 pages + appendices. Includes proposed research questions, sampling strategies, excavation methods, and laboratory procedures for prehistoric sites, and an important essay by Baumhoff entitled "The Evolution of Pomo Society."

Baumhoff, Martin A., and Robert I. Orlins

1979 *An Archeological Assay on Dry Creek, Sonoma County, California*. Contributions of the University of California Archaeological Research Facility, No. 40. 244 pages. Includes site reports on the prehistoric test excavations and a synthesis of the findings, and some tentative hypotheses regarding the area's prehistory and settlement pattern.

Fredrickson, David A., Deborah Balaam, Keith Gebhardt, Jennie L. Goodrich, Kathleen M. McBride, David W. Peri, Adrian Praetzellis, Mary Praetzellis, Suzanne B. Stewart, and Albert L. Wahrhaftig

1983 *Sociocultural Factors Review for the Warm Springs Dam-Lake Sonoma Project Candidate/Critical Habitat Zone Evaluation*. 231 pages. Focusing on areas to the north and the west of Lake Sonoma, this volume includes a prehistoric overview and discussions of Native American, historic-period, and 20th-century populations and their uses of the land.

Greenwood, Roberta S., Vance G. Benté, Michael J. McIntyre, Leo R. Barker, Richard L. Wessel, and R. Paul Hampson

1980 *Historic Archaeological Sites Investigation, Phase I*. 116 pages. Includes site reports on Skaggs Springs (Son-556/H, Son-1134, Son-1135H) and on the Mead (Son-555/H), Van Alen (Son-1127H), and Pritchett (Son-1129H) homesteads, along with a research design for future work.

Greenwood, Roberta S., Jay D. Frierman, Leo R. Barker, and MaryEllen Ryan

1980 *Historic Archaeological Sites Investigation, Phase II*. 267 pages + appendices. Includes site reports on Son-554/H and Son-1169H and on the Mead (Son-555/H) and Ireland (Son-1126H) homesteads; additional data on Skaggs Springs and on the Van Alen and Pritchett families; a ceramic analysis; and a discussion of settlement and land use in the southern project area.

Greenwood, Roberta S, Jay D. Frierman, John M. Foster, Michael J. McIntyre, Stuart A. Guedon, and Sherri M. Gust

1980 *Historic Archaeological Sites Investigation, Phase III*. 150 pages + appendices. Includes site reports on the Cherry Creek School (Son-552/H), John Ferry Homestead (Son-567/H), Jordi/Baron Ranch (Son-576/H), Abshire Homestead (Son-593/H), John F.B. Ferry Homestead and Garage (Son-1163H and Son-1165H), and a discussion of settlement and land use in the northern project area.

Greenwood, Roberta S., Michael J. McIntyre, and Stuart A. Guedon

1982 *Historic Archaeological Sites Investigation, Phase IV*. 44 pages. Site report on Cherry Creek School (Son-552/H).

Greenwood, Roberta S., Jay D. Frierman, Stuart A. Guedon, and Sherri M. Gust

1984 *Historic Archaeological Sites Investigation, Phase V*. 151 pages. The final report by the historical archaeology component, includes a summary of the work accomplished at the historical sites and discusses a number of general themes, including analysis of faunal remains, vernacular architecture, land acquisition and settlement, and local economic development.

Parrish, Otis O., and Sherry Pierce Parrish

1980 *Kashaya Use of Dry Creek Valley*. 25 pages + appendices. Presents the results of interviews with Kashaya tribal scholars about their people's use of the area around Warm Springs and Rancheria creeks, along with scholars' interpretations of archaeological sites and their probable prehistoric use.

Peri, David W., Scott M. Patterson, and Susan L. McMurray

1985 *The Makahmo Pomo: An Ethnographic Survey of the Cloverdale (Makahmo) Pomo*. 225 pages + appendices. Describes cultural practices of the Makahmo at about the time of Euroamerican settlement, with some references to their later history.

Peri, David W., Scott M. Patterson, Jennie L. Goodrich, and Richard N. Lerner

1982 *Ethnobotanical Mitigation, Warm Springs Dam-Lake Sonoma, California*. 134 pages. Discusses the project area's ethnobotanical resources, the importance of these to local native peoples, and efforts by the Corps to relocate important plants threatened by the reservoir project.

Praetzellis, Mary, with Adrian Praetzellis

1982 *Archaeological and Historical Studies of the Kelly Road Corridor, Sonoma County, California*. 136 pages. Includes results of a field survey along the Kelly Road right-of-way just outside the Warm Springs Dan project area, and an overview of the area's historic-period land use, settlement history, and demography.

Ramiller, Neil, and David W. Peri

1979 *Project History*. 223 pages + appendices. Includes a brief history of the Corps of Engineers and chronicles the evolution of the Lake Sonoma project and public controversies associated with it.

Stewart, Suzanne B., and David W. Peri

1979 *Notes on the Mihilakawna Pomo of Dry Creek*. 37 pages + appendices. A supplement to Theodoratus et al. 1975, this report discusses the probable movement of the Makahmo people into Dry Creek in the early 1800s and reviews previously unavailable archival data on territorial divisions and boundaries.

Theodoratus, Dorothea J, David W. Peri, Clinton M. Blount, and Scott M. Patterson

1975 *An Ethnographic Survey of the Mahilkaune (Dry Creek) Pomo*. 227 pages + appendices. Includes results of a field survey of "traditional" Dry Creek Pomo life from the prehistoric through the early historic period and makes the first identification of ethnographic sites in the project area.

Theodoratus, Dorothea J, with Clinton M. Blount, Connie Braito, Keith Gebhardt, Albert L. Hurtado, Kathleen M. McBride, Pamela McGuire, Jack Moore, and Kenneth Owens

1979 *Historic/Ethnohistoric Survey of the Lake Sonoma-Warm Springs Dam Project Area*. 368 pages + appendices. Includes discussions of settlement history, demography, land ownership, ethnic relationship between Whites and Native Americans, general social and economic activities, communications networks, and histories of some historic sites.

Abbreviations Used in Endnotes

CDMG	California Division of Mines and Geology
GM collection	George Matthews collection. The GM collection consists of more than 2000 letters and other papers saved by a Dry Creek upland rancher between 1885 and 1914.
HSDR	Hamilton School District Records
USACE	United States Army Corps of Engineers
WSCRS	Warm Springs Cultural Resources Study

CHAPTER 1 ENDNOTES

1. Neil Ramiller and David W. Peri, *Project History* (San Francisco: USACE, 1979).

2. For more on the legal setting of cultural resource studies, we recommend the following: Thomas F. King, Patricia Parker Hickman, and Gary Berg, *Anthropology in Historic Preservation: Caring for Culture's Clutter* (New York: Academic Press, 1977).

3. Dorothea J Theodoratus et al., *An Ethnographic Survey of the Mahilkaune (Dry Creek) Pomo* (San Francisco USACE, 1975), p. 4.

4. The *For Further Reading* section contains a selected bibliography of reports prepared for the Warm Springs Dam-Lake Sonoma Project.

5. Schuyler Ingle, "Secrets of the Earth," *New West* 6, no. 7 (1981): 88-94.

6. Robert L. Oswalt, David W. Peri, and Vera-Mae Fredrickson, *Language Study* (San Francisco: USACE, 1979), p. 29.

CHAPTER 2 ENDNOTES

1. Most of the information on climate, wildlife, vegetation, and ecology of the Lake Sonoma Area was taken from the following: USACE, *Final Environmental Impact Statement, Warm Springs Dam-Lake Sonoma Project*, Russian River Basin, Sonoma County, California (Washington, D.C.: Office of the Chief of Engineers, 1973); Roderick MacDonald and Elizabeth Honeysett, *An Ecological Survey of the Warm Springs Archaeological Project Area, Sonoma County, California* (San Francisco: USACE, 1975); Elgar Hill Environmental Analysis and Planning, "Vegetation Management Program, Warm Springs Dam and Lake Sonoma Project, Sonoma County, California," *Design Memorandum 21* (San Francisco: USACE, 1980).

2. Scientific American, *Early Man in North America* (San Francisco: W.H. Freeman & Company, 1973).

3. D. Axelrod, "Holocene Climatic Changes in Relation to Vegetation Disjunction and Speciation," *American Naturalist* 117, no. 6 (1981):847-870.

4. James G. West, "Pollen Analysis of Sediments from Tule Lake: A Record of Holocene Vegetation/ Climatic Changes in the Mendocino National Forest, California," in *Proceedings of the Conference on Holocene Climate and Archaeology of the California Coast and Desert* (San Diego, California, in press).

5. Martin Baumhoff, *Research Design: Investigation of Prehistoric Archaeological Sites* (San Francisco: USACE, 1979), p. 10.

6. Sir Francis Drake, *The World Encompassed* [1628] (Ann Arbor: University Microfilms, 1966), p. 64.

7. Drake, *World Encompassed*, pp. 79-80.

8. George Gibbs, "Journal of the Expedition of Colonel Redick McKee, United States Indian Agent, through North-Western California. Performed in the Summer and Fall of 1851," in *Information Respecting the History, Condition, and Prospects of the Indian Tribes of the United States: Collected and Prepared under the Bureau of Indian Affairs*, ed. Henry R. Schoolcraft (Philadelphia: J.B. Lippincott & Co., 1865), pp. 103, 115.

9. General Land Office, Surveyor's Notes, T11N, R11W, Mt. Diablo Base and Meridian, 1872.

10. J.P. Munro-Fraser, *History of Sonoma County, California* (Oakland, Cal.: Alley, Bowen & Co., 1880), p. 20.

11. *Russian River Flag*, 16 June 1881.

12. California State Board of Forestry, *First Biennial Report: 1885-1886* (Sacramento: State Printing Office, 1886), p. 19.

13. *Russian River Flag*, 16 May 1872.

14. General Land Office, Surveyor's Notes, T11N, R11W, Mt. Diablo Base and Meridian, 1893.

15. Orville Raymond Baldwin, *Reminiscences* (Oakland, Cal.: Howell-North Press, 1941).

16. Hill, "Vegetation Management."

17. David W. Peri, Scott M. Patterson, Jennie L. Goodrich, and Richard N. Lerner, *Ethnobotanical Mitigation, Warm Springs Dam-Lake Sonoma, California* (San Francisco: USACE, 1982).

CHAPTER 3 ENDNOTES

1. The authors wish to acknowledge an intellectual debt to Marley R. Brown III, Director of Archaeology and Conservation at Colonial Williamsburg, Virginia. In unpublished works and impromptu discussions, Marley provided much of the inspiration for the discussion of cultural landscape and environmental perception that appears in this chapter.

2. This chapter draws heavily on cultural geography for its theoretical base. For background on geographers' concept of landscape and cultural landscape, we recommend the following: David Lowenthal, "Past Time, Present Place: Landscape and Memory," *The Geographical Review* 65, no. 1 (1975):1-37; Donald W. Meinig, ed., *The Interpretation of Ordinary Landscapes* (New York: Oxford University Press, 1979); Lester B. Rowntree and Margaret W. Conkey, "Symbolism and the Cultural Landscape," *Annals of the Association of American Geographers* 70, no. 4 (1980): 454-475; John R. Stilgoe, *Common Landscapes of America*, 1580-1845 (New Haven: Yale University Press, 1982); Yi-Fu Tuan, *Landscapes of Fear* (New York: Pantheon Books, 1979).

3. Meinig, *Ordinary Landscapes*, p. 3.

4. Peirce F. Lewis, "Axioms for Reading the Landscape," in *The Interpretation of Ordinary Landscapes*, ed. Donald W. Meinig (New York: Oxford University Press, 1979), p. 12.

5. Examples of Pomoan place names were taken from two studies by the WSCRS: Robert Oswalt, David W. Peri, and Vera-Mae Fredrickson, *Language Study* (San Francisco: USACE, 1979); Robert Oswalt, *Southern Pomo Word List and Map of Native Place Names in the Warm Springs Dam Area* (San Francisco: USACE, 1981).

6. Chamay is linguist Robert Oswalt's recommended anglicization for -Hcamay, a Southern Pomo suffix added to place names to designate the inhabitants of a place.

7. Otis O. Parrish and Sherry Pierce Parrish, *Kashaya Use of the Dry Creek Valley* (San Francisco: USACE, 1980), p. 6.

8. Tuan, *Landscapes of Fear*, p. 56.

9. Robert Hine, *Californian Utopian Communities* (New Haven: Yale University Press, 1966), pp. 58-78.

10. Orville Raymond Baldwin, *Reminiscences* (Oakland, Cal.: Howell-North Press, 1941), p. 97.

11. David W. Peri, Scott M. Patterson, and Susan L. McMurray, *The Makahmo Pomo* (San Francisco: USACE, 1985), Chapter 8.

12. Dorothea J Theodoratus et al., *An Ethnographic Survey of the Mahilkaune (Dry Creek) Pomo* (San Francisco: USACE, 1975), p. 75.

13. Parrish and Parrish, *Kashaya Use*, pp. 9-10.

14. Vera-Mae Fredrickson and Rae Schwaderer, *Special Petroglyph Report* (San Francisco: USACE, 1982), p. 4.

15. Roberta S. Greenwood et al., *Historic Archaeological Sites Investigation, Phase V* (San Francisco: USACE, 1984), p. 114; Milton B. Newton, Jr., "Louisiana House Types: A Field Guide, " *Melanges* 2 (1971):7.

16. For illustrations of folk structures and discussions of vernacular building traditions, the reader is referred to the following: Henry Glassie, *Folk Housing in Middle Virginia: A Structural Analysis of Historic Artifacts* (Knoxville: University of Tennessee Press, 1975); Karana Hattersley-Drayton, "Folk Housing in Pioneer California: A Preliminary Typology," *Southwest Folklore* 4, no. 2 (1980):42-62.

17. Karana Hattersley-Drayton, "Vernacular Architecture Survey," in *Sociocultural Factors Review for the Warm Springs Dam-Lake Sonoma Project Candidate/Critical Habitat Zone Evaluation*, David A. Fredrickson et al., (San Francisco: USACE, 1983), p. 231; Roberta S. Greenwood et al., *Historic Archaeological Sites Investigation, Phase II* (San Francisco: USACE, 1980), p. 235.

18. This section has merely touched upon aspects of settlement pattern and homestead layout as landscape features; Chapter 7, on historic-period settlement pattern, describes these features in greater scope and detail.

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5. Dorothea J Theodoratus et al., *An Ethnographic Survey of the Mahilkaune (Dry Creek) Pomo* (San Francisco: USACE, 1975), pp. 51-54; Peri and Patterson, *Mihilakawna Pomo*.

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12. Theodoratus et al., *Mahilkaune Pomo*, p. 199.

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14. The Cordova Place is discussed in the following WSCRS report: Theodoratus et al., *Mahilkaune Pomo*, pp. 60-64.

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29. Winslow Anderson, *Mineral Springs and Health Resorts of California* (San Francisco: The Bancroft Company, 1892), p. 244.

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32. Baldwin, *Reminiscences*, p. 61.

33. Baldwin, *Reminiscences*, p. 169.

34. Lyle M. Stone, *A Documentation and Evaluation of Historic Sites within the Warm Springs Dam-Lake Sonoma Project Area, Sonoma County, California* (San Francisco: USACE, 1976); Roberta S. Greenwood and Michael J. McIntyre, *Historic Archaeological Sites Management* (San Francisco: USACE, 1980), Greenwood et al., *Historic Sites, Phase V*, Table 1.1.

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36. For more on the distribution of home sites, see the following WSCRS reports: Theodoratus, *Historic/Ethnohistoric Survey*, Chapter 5; Greenwood et al., *Historic Sites, Phase II*, Chapter X (southern project area); Greenwood et al., *Historic Sites, Phase III*, pp. 120-140 (northern project area).

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42. WSCRS interview, 27 January 1983.

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46. HSDR, 31 May 1878.

47. Baldwin, *Reminiscences*, p. 109.

48. Theodoratus with Blount et al., *Historic/Ethnohistoric Survey*, pp. 144-147.

49. Patricia M. Bauer, *History of Lumbering and Tanning in Sonoma County, since 1812* (Masters' Thesis, University of California, Berkeley, 1950), p. 27.

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1. For a complete discussion of these concepts, we recommend the following: Paul Bohannan, *Social Anthropology* (New York: Holt, Rinehart, and Winston, 1963).

2. Bohannan, *Social Anthropology*, p. 124.

3. For some examples of these studies, we recommend the following: Peter Laslett with Richard Wall, eds., *Household and Family in Past Time* (Cambridge: University Press, 1972); Alice S. Rossi, Jerome Kagan, and Tamara K. Hareven, eds., *The Family* (New York: W.W. Norton & Co., 1978); Michael Mitterauer and Rinehard Sieder, *The European Family: Patriarchy to Partnership from the Middle Ages to the Present* (Oxford: Basil Blackwell, 1982).

4. The authors would like to thank Dr. Mildred Dickemann, Department of Anthropology, Sonoma State University, for her extensive and valuable comments on numerous drafts of this chapter.

5. For further reading on life-course analysis, we recommend the following: Tamara K. Hareven, ed., *Transitions: The Family and the Life Course in Historical Perspective* (New York: Academic Press, 1978); Kurt W. Back, *Life Course: Integrative Theories and Exemplary Populations* (Boulder, Colo.: Westview Press, 1980).

6. Tamara K. Hareven, "Family Time and Historical Time," in *The Family*, eds. Alice S. Rossi, Jerome Kagan, and Tamara K. Hareven (New York: W.W. Norton & Co., 1978), pp. 56-61.

7. Hareven, "Family Time," p. 69.

8. John Modell, Frank Furstenberg, and Theodore Hershberg, "Social Change and Transitions to Adulthood in Historical Perspective." *Journal of Family History* 1, no. 1 (1976):30.

9. Dorothea J Theodoratus et al., *An Ethnographic Survey of the Mahilkaune (Dry Creek) Pomo* (San Francisco: USACE, 1975), p. 69.

10. Bert W. Aginsky and Ethel G. Aginsky, *Deep Valley* (New York: Stein and Day, 1967), p. 49.

11. A nuclear family is made up at most of a husband, wife, and children. An extended family is a nuclear family with the addition of at least one extra relative, for example, a grandparent, aunt, or cousin.

12. Theodoratus et al., *Mahilkaune Pomo*, p. 14.

13. Baron Ferdinand Petrovich von Wrangell, "Some Remarks about the Savages along the Northwest Coast of America," in *Statistische und ethnographische Nachrichten ueber die Russische Besitzungen an der Nordwest Kueste von Amerika*, comp. F.P. von Wrangell, ed. K.E. von Baer (St. Petersburg: Imperial Academy of Sciences, 1839), pp. 77-78, revised trans. Stephen Watrous (Sonoma State University, 1977).

14. Theodoratus et al., *Mahilkaune Pomo*, pp. 12-15.

15. Family tree legend format adapted from Laslett, *Household and Family*, pp. 41-42. The 1910 family tree is based on the census and genealogies contained in Theodoratus et al., *Mahilkaune Pomo*, Appendix V. As a result of the complex Pomoan kinship terminology, oral tradition and the 1910 census are at odds over the parentage of a number of persons who resided at the Cordova Place. The census shows four people to be descended from Joe Bill, while oral tradition recounts the more likely case that Charlie Bill

was their father and Joe Bill their uncle. The ages for old people, as listed in the 1910 census, are very inaccurate.

16. Aginsky and Aginsky, *Deep Valley*, p. 76; David W. Peri, Scott M. Patterson, and Susan L. McMurray, *The Makahmo Pomo* (San Francisco: USACE, 1985).

17. This section on Pomoan life course is taken primarily from the following WSCRS ethnographies: Peri et al., *Makahmo Pomo*, Chapter 7; David W. Peri and Scott M. Patterson, *Mihilakawna Pomo of Dry Creek* (San Francisco: USACE, 1985), Chapter 2.

18. Peri and Patterson, *Mihilakawna Pomo*, p. 45.

19. Bruce Levene, ed., *Mendocino County Remembered: An Oral History, Volume I.* (Fort Bragg, Cal.: Mendocino County Historical Society, 1976), p. 187.

20. Levene, *Oral History, Volume I*, p. 187.

21. Stephen Powers, *Tribes of California* (Washington, D.C.: Department of the Interior, U.S. Geographical, Geological Survey of Rocky Mountain Region III, 1877), pp. 183-184.

22. Levene, *Oral History, Volume I*, p. 185.

23. Robert F. Heizer and M.A. Whipple, "Number and Condition of California Indians Today," in *The California Indians*, eds. R.F. Heizer and M.A. Whipple (Berkeley and Los Angeles: University of California Press, 1973), p. 580.

24. Wrangell, "Remarks," pp. 73-74.

25. Levene, *Oral History, Volume I*, p. 187.

26. Levene, *Oral History, Volume I*, p. 17.

27. Hareven, "Family Time," pp. 64-65.

28. Bruce Levene, ed., *Mendocino County Remembered: An Oral History, Volume II* (Fort Bragg, Cal.: Mendocino County Historical Society, 1977), p. 101.

29. George Matthews (GM) collection, WSCRS, 4 May 1910.

30. GM collection, 1 May 1887.

31. Roberta S. Greenwood et al., *Historic Archaeological Sites Investigation, Phase II* (San Francisco: USACE, 1980), pp. 75-83.

32. The Matthews family is also discussed in the following WSCRS report: David A. Fredrickson et al., *Sociocultural Factors Review for the Warm Springs Dam-Lake Sonoma Project Candidate/Critical Habitat Zone Evaluation* (San Francisco: USACE, 1983), Chapter 4. For a biography of George C. Matthews, see Ernest Latimer Finley, *History of Sonoma County*, California (Santa Rosa, Cal.: Press Democrat, 1937) pp. 32&-329.

33. GM collection, 17 September 1908.

34. Louis Mead is discussed in the following WSCRS reports: Dorothea J Theodoratus with Clinton M. Blount et al., *Historic/Ethnohistoric Survey of the Lake Sonoma-Warm Springs Dam Project Area* (San Francisco: USACE, 1979), pp. 320-323; Roberta S. Greenwood et al., *Historic Archaeological Sites Investigation, Phase I* (San Francisco: USACE, 1980), pp. 14-21; Greenwood et al., *Historic Sites, Phase II*, pp. 29-46; Roberta S. Greenwood et al., *Historic Archaeological Sites Investigation, Phase V* (San Francisco: USACE, 1984); Adrian Praetzellis and Mary Praetzellis, *Gone, but not Forgotten: Historical Glimpses of the Lake Sonoma Area* (San Francisco: USACE, 1984).

35. *Healdsburg Tribune*, 16 September 1897.

36. Hareven, *Transitions*, p. 7.

37. Hareven, "Family Time," p. 61.

38. "The Gregson Memoirs," *California Historical Society Quarterly* 19, no. 2 (1940):130.

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41. GM collection, 6 March 1887.

42. WSCRS interview, 18 December 1982.

43. GM collection, 6 March 1887.

44. GM collection, 6 March 1887.

45. J.P. Munro-Fraser, *History of Sonoma County*, California (Oakland, Cal.: Alley, Bowen & Co., 1880), p. 216.

46. Seena B. Kohl, "The Making of a Community: The Role of Women in an Agricultural Setting," in *Kin and Communities: Families in America*, eds. Allan J. Lichtman and Joan R. Challinor (Washington, D.C.: Smithsonian Institution Press, 1979), p. 185.

47. Note that many people misreported their ages on the census: Lottie Hallengren was not unusual in claiming to have aged only eight years each decade.

48. The Sylvester Scott family is discussed in the following WSCRS reports: Theodoratus, Historic/ Ethnohistoric Survey; Roberta S. Greenwood et al., *Historic Archaeological Sites Investigations Phase III* (San Francisco: USACE, 1980), pp. 120-140.

49. Munro-Fraser, *History of Sonoma County*, p. 215.

50. Sonoma County Recorder, *Deed Book* 36:466.

51. *Transactions of the State Agricultural Society for the Year 1882* (Sacramento: State Printer, 1883), p. 293; *Transactions of the State Agricultural Society for the Year 1885* (Sacramento: State Printer, 1886), pp. 46, 102, 364, 367, 373.

52. Orville Raymond Baldwin, *Reminiscences* (Oakland, Cal.: Howell-North Press, 1941), p. 159.

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55. GM collection, 11 December 1886.

56. GM collection, 5 October 1886.

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58. L.T. Burcham, *California Range Land: An Historico-Ecological Study of the Range Resource of California* (Sacramento: State Division of Forestry, 1957), p. 171.

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62. *Healdsburg Tribune*, 11 January 1912.

63. *Healdsburg Enterprise*, 1 August 1878.

64. *Healdsburg Enterprise*, 21 August 1879, 23 October 1879.

65. Praetzellis with Praetzellis, *Kelly Road*, pp. 89-90.

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5. Ernest Latimer Finley, *History of Sonoma County*, California (Santa Rosa, Cal.: Press Democrat, 1937), pp. 222-223.

6. Dry Creek Neighbors Club, *Vintage Memories: Dry Creek Neighbors and Friends* (Dry Creek Neighbors Club, 1979), p. 28.

7. Orville Baldwin, *Reminiscences* (Oakland, Cal.: Howell-North Press, 1941), p. 44.

8. Information on settler social interaction comes from a variety of sources: interviews undertaken with local residents in the 1970s by Theodoratus Cultural Resources staff; interviews undertaken by this study; letters from the George Matthews collection; 19th- and early 20th-century local newspaper articles; the Dwight Richards collection, Edwin Langhart Museum, Healdsburg, California; and Baldwin's *Reminiscences*.

9. The physical setting of Lake Sonoma Area schools and their location in relation to population shifts in the area are discussed in Chapter 7, Historic Settlement Pattern.

10. Hamilton School District Records (HSDR), 29 June 1878, manuscript in the Edwin Langhart Museum, Healdsburg, California.

11. HSDR, 27 May 1879, 5 July 1879.

12. *Healdsburg Enterprise*, 6 November 1879.

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22. *Russian River Flag*, 25 June 1874.

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37. Dry Creek Neighbors Club, *Vintage Memories*, p. 16.

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CHAPTER 10 ENDNOTES

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