



SOCIETY FOR CALIFORNIA ARCHAEOLOGY

The Status of California Archaeology

by

Michael J. Moratto

SPECIAL REPORT NO. 3

May, 1973

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The Society for California Archaeology
Central Business Office
Department of Anthropology
California State University, Fullerton
Fullerton, California 92634

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A report prepared by the California
State Archaeological Task Force,
published in cooperation with the
University of California, Archaeological
Survey, Los Angeles, and Archaeological
Research Unit, Riverside.

Thomas F. King
N. Nelson Leonard III
Herrick E. Hanks
Editors

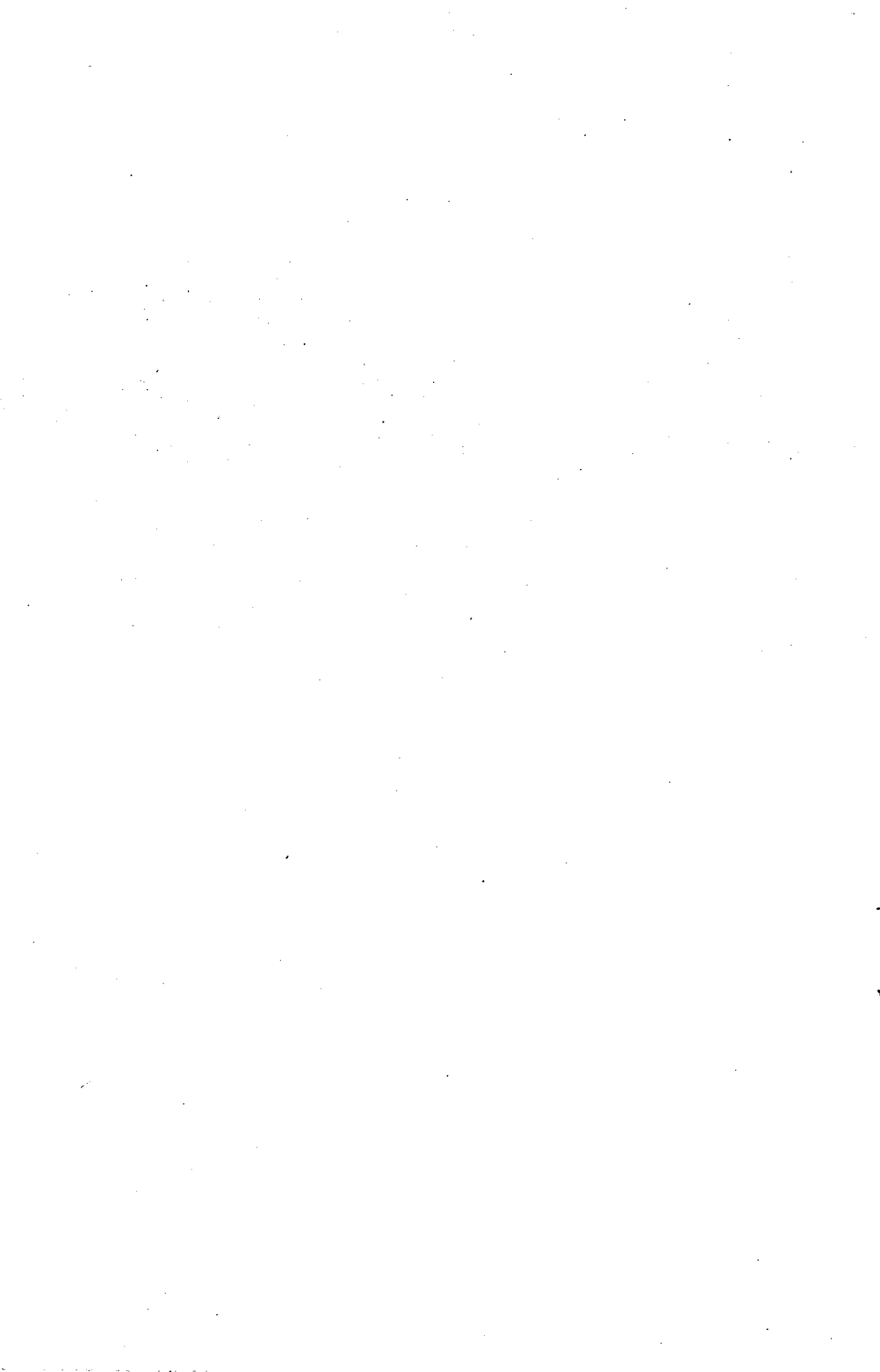


EDITORS' PREFACE

This report is the first of several planned for production jointly by the Society for California Archaeology and the Archaeological Survey and Research Unit at the University of California, Los Angeles and Riverside. These publications are designed to help planners, management agencies, and lawmakers understand the problems of archaeological resource planning, and to assist them in developing efficient means of implementing planning programs. In large measure these publications are the result of the problems that archaeologists and planners have faced in recent years in attempting to implement the California Environmental Quality Act of 1970 as it pertains to "historic environmental qualities".

The California Archaeological Task Force was appointed by the Governor in 1972 at the direction of the State Legislature, to explore ways to protect and enhance the state's archaeological, historical, and paleontological resources. The Task Force is chaired by R. Jack Stoddard; Dr. Michael J. Moratto of the Department of Anthropology, California State University, San Francisco, serves as vice-chairman. Dr. Moratto, a former president of the Society for California Archaeology and a member of the Society for American Archaeology's Committee on Public Archaeology, drew on his extensive background in California archaeology and resource management, and on the experience of many other professional and avocational archaeologists, in preparing the background document that the Task Force has generously permitted us to publish as THE STATUS OF CALIFORNIA ARCHAEOLOGY.

Thomas F. King
N. Nelson Leonard III
Herrick E. Hanks



PREFACE

On October 1, 1971, Governor Ronald Reagan approved Senate Bill No. 215, an act which created a task force:

which shall conduct a study of the state's total effort to preserve and salvage the archaeological, paleontological, and historic resources of the state. The task force may develop a plan or recommend legislation for the preservation and salvage of the California archaeological, paleontological and historical heritage (Pub. Res. Code, Sec. 1, Ch. 1. 75, Par. 5097.91).

Pursuant to this act, early in 1972 Norman B. Livermore, Jr., State Secretary for Resources, announced the appointment of a State Archaeological, Paleontological, and Historical Task Force. Subsequent to its formation, Task Force subcommittees were created to assess the status of various resources and programs related to the prehistory and history of California. This report is a synthesis of information concerning archaeology in the State.

Because there were no comprehensive studies regarding archaeological activities and remains in California, the preparation of this report caused me to seek unpublished data and expert advice from a great many respected archaeologists. Acknowledgements are gratefully extended to the following persons and institutions for information used in this report:

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Dr. Thomas Durbin	Mr. Don Miller
Mr. Robert Edwards	Mrs. Margaret Molarsky
Dr. Albert Elsasser	Mr. William Olsen
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Dr. Michael Glassow	Mr. William Pritchard
Dr. Richard Gould	Mr. Francis Riddell
Mrs. Roberta Greenwood	Dr. Payson Sheets
Mr. Ron Hansen	Mr. Darold Smith
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Archaeological Research, Incorporated
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California State University, San Francisco
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Michael J. Moratto

California State University
San Francisco

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THE STATUS OF CALIFORNIA ARCHAEOLOGY

Michael J. Moratto

It is an ironic fact that the importance of New World archaeological investigation is becoming apparent at a time when the evidence is being eliminated at an accelerating rate. In a few decades, the expansion of cities, agriculture, dams, and roads will have obliterated many important sites. The farther this process goes, the less chance there will be to reconstruct the details of New World prehistory. If the data are not collected before the record becomes too fragmentary to read with confidence, mankind will have forfeited one of the most precious keys to self-understanding. (Meggers 1972: 5)

INTRODUCTION

When Spanish explorers first entered America more than 450 years ago, California was settled by an estimated 275,000 Indians (Cook 1971: 72). Speaking not fewer than 21 separate languages, the Native Californians were grouped into hundreds of tribelets, each with its own distinctive political organization. Remarkable, too, were the elaborate trade networks and diversified subsistence practices by which the Indians adapted themselves to desert, foothill, riverine, lake, mountain and coastal environments (Beals and Hester 1960). In stark contrast to the traditional stereotype of lethargic "Diggers" (cf. Barrows 1893: 16), it is now known that the California Indians participated in vigorous and complex cultural systems, interacting with one another and with their natural surroundings.

There is solid evidence of Indian activity in California as early as 10,000 years ago (Davis et al. 1969; Davis 1973), and equivocal clues suggest even earlier dates (cf. Krieger 1964). Thus, prehistoric California witnessed the development of rich and varied cultures over the span of 100 centuries or more. But since these Indians kept no chronicles, a knowledge of their ancient heritage can be gained only from the detailed study of abandoned villages, ceremonial places, burial grounds, rock art, and other remains which have survived the ravages of time, nature and later men. Archaeology, therefore, is the only source of information regarding over 95% of California's cultural story.

DEFINITIONS

The Task Force distinguishes among archaeological, historic and paleontological sites and Indian cemeteries. As used here, archaeological site means any mound, midden, settlement location, burial ground, mine, trail, rock art, or other location containing evidence of human activities which took place before 1750 A. D. This arbitrary date separates archaeological remains from Indian cemeteries and historic sites. Accordingly, Indian

cemeteries are burial grounds, crematory places, or other locations--whether marked or unmarked--used after 1750 A. D. by the Indians for the disposal of their dead. A historic site is any structure, place, or feature which is or may be significant in the state's post-1542 A. D. history, architecture, or culture. Historic sites established prior to 1750 A. D. are also, concomitantly, archaeological sites. Whereas archaeological and historic sites and Indian cemeteries are the products of man, paleontological sites are places with fossil plant or animal remains of public or scientific interest. Together, all of these vestiges of the past constitute the state's heritage.

California's cultural and paleontological remains may be considered as valuable resources to be managed for the pleasure and edification of the public and as sources of data for the advancement of human knowledge. But because of the critical distinction between "renewable" and "non-renewable" status; heritage remains stand apart from many natural resources. Most of the latter are renewable: with appropriate technology, polluted water or air may be purified; cut forests may be reseeded; and even endangered wildlife species may proliferate with protection and careful management. In contrast, each and every heritage site is unique and, therefore, non-renewable. Whenever such a site is destroyed, its priceless story is permanently erased.

CALIFORNIA'S ARCHAEOLOGICAL RESOURCES

No one knows exactly how many prehistoric sites there are in California because only a small fraction of the state has been surveyed by archaeologists and there are no complete records of modern site attrition. At the dawn of the full historic period--say, 1769 A. D. ---there may have been as many as 90,000 archaeological sites of various kinds, a composite figure based upon the county-by-county estimates of 38 specialists, including myself (cf. Preface: iii; and Appendix I). From the original 90,000, the number of extant sites has plunged to an estimated 45,500 today. Statewide, therefore, approximately 50% of all archaeological sites have already been lost, with 19% to 81% destroyed in the counties for which data are available (Appendix I). It is stressed that these values are not precise, since no California county has ever been fully and systematically searched for prehistoric remains. County areas covered by surveys vary from ca. 3% to 90%. Only 15% to 30% of the areas of most counties have been examined by archaeologists.

The above figures do not reflect the full magnitude of the actual damage, i. e., the prehistoric information and cultural values lost. The main centers of the Indian cultures were located in the prime areas for modern development: bay and lake shores, river valleys, stream banks, mountain passes, coastal terraces, etc. Consequently, a far greater proportion of important village sites has been obliterated than is suggested by the simple percentage figures of sites destroyed. It is clear that the nature and scientific value of archaeological sites are of greater concern than sheer numbers. In this light, perhaps 80% of the large, deep, and ancient prehistoric sites in the state are gone entirely, and a significant percentage of those left is badly disturbed or faces imminent destruction.

FACTORS IN ARCHAEOLOGICAL SITE DESTRUCTION

The loss of archaeological resources in California is not a recent phenomenon but has persisted for thousands of years, caused primarily by natural means at first, later principally by man himself.

Erosion by water and wind has been a major factor in the destruction of an untold number of prehistoric sites while fairly recent lava flows may have destroyed completely or at least covered sites so they may never be found (Johnson 1972: 1).

The pace of site removal has gradually accelerated over the past twelve decades. As early as the 1850's and 1860's, countless important sites in the mountains of eastern and northern California were eradicated by hydraulic gold mining and river dredging. As the state's population grew, logging and agricultural work added to the tally of vanished prehistoric sites. Slow urban growth, road construction, and small reservoirs also took their toll during the half century after 1875, but the wholesale modification of the landscape and its archaeological record has been a hallmark primarily of the last thirty to forty years.

As an example, the anthropologist Nels C. Nelson discovered about 450 Indian mounds, most in excellent condition, when he surveyed the San Francisco Bay shore area in 1908 (Nelson 1909). Today archaeologists would be hard pressed to locate the remnants of forty. Few of these sites have escaped damage altogether, and most are jeopardized by the same urban sprawl which claimed their peers. Urbanism in other parts of the state has been even more lethal, especially in parts of the Los Angeles Basin where less than 5% of the archaeological record is still intact.

Although extremely destructive, urbanism is not the only factor adversely affecting archaeological resources. Statewide, residential and industrial developments, highways, water projects, and vandalism are all major contributors to archaeological site removal. Other detrimental forces include agriculture, logging, recreation developments, military activities, off-road vehicles, and natural erosion. The relative importance of these agents varies from county to county, depending on topography, population density, facility of access, etc. (cf. Appendix I).

In earlier decades, mining, agriculture, and logging were relatively more damaging than they are today. Recently, vast dam and canal projects have eradicated thousands of archaeological sites, and thousands more are threatened by similar planned construction in the Sierra Nevada, Coast Ranges, and other highlands. In repeated cases, hundreds of prehistoric or historic features have been obliterated by single reservoirs (Appendix II: case #26).

...over 600 sites have been recorded in conjunction with the construction of Oroville, New Melones, and Auburn Reservoirs, and over 800 sites were noted at the location of the proposed Dos Rios Dam at Round Valley...

...prior to its filling, 128 prehistoric sites were recorded at various locations in Camanche Reservoir. By projecting from what was discovered in these areas, it was estimated that at least 30 additional villages had been destroyed by previous dredging and well over 100 historic sites went unrecorded. Of those visited, 56 sites including all of the major villages, were inundated by the reservoir. It was possible to partially excavate only 17 sites and even this amounted to very limited test excavation of a few units at each site. ...Since it was also discovered at one

site that the reservoir locality had been occupied for over 4,000 years, it is apparent that the information recovered represents only a small part of the prehistoric record (Johnson 1972: 3-4).

Notwithstanding the incalculable damage being done by such water projects, across the state urban growth accounts for the greatest depletion of heritage resources. Considering all of the abovementioned factors, it is estimated that roughly 16,000 archaeological sites have been totally eradicated since 1960 and that ca. 1400 sites are now annually destroyed in California.

THE STATUS OF PROTECTIVE LEGISLATION

At present, there are a number of state, county, and federal statutes relating to California's archaeological heritage. Many of these laws are reprinted in Archaeology and Government (Rozaire 1969). Selected passages from this and other sources are given on the following pages.

California Public Resources Code, Chapter 1.7, Section 5097.5 (July, 1965): No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated upon public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.

California Administrative Code, Title 14, Section 4307: No person shall remove, injure, disfigure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

...
Section 4309: Upon finding that it will be for the best interest of the State Park system and for state park purposes, the director may grant a permit to remove, treat, disturb, or destroy plants or animals or geological, historical, archaeological or paleontological materials; and any person who has been properly granted such a permit shall to that extent not be liable for prosecution for violation of the foregoing.

California Penal Code, Title 14, Part 1, Section 622 1/2: Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or thing of archaeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.

California Senate Concurrent Resolution No. 43, Chapter 87: Resolved by the Senate of the State of California, the Assembly thereof concurring, That all the agencies of the State, with their present staff and facilities are hereby requested to co-operate in current efforts by state and private agencies by reporting all archaeological discoveries of Indian culture in this State to the Division of Beaches and Parks of the Department of Parks and Recreation, and, when feasible and consistent with the reasonable exercise of powers of such state agencies, to preserve such findings.

United States Act for the Preservation of American Antiquities (34 Stat. L. 225, Public No. 209, June 8, 1906): Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that any person who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.

In addition to these measures which focus directly upon the preservation of archaeological resources, there are also state laws regarding trespass (Calif. Penal Code, Section 602, Chapter 1299, approved 1963) and cemetery protection--both of which may entail antiquities preservation. In the latter case, six or more human bodies buried at one place constitute a cemetery, even if the graveyard is not public (Calif. Health and Safety Code, Section 8100). Indian cemeteries, even though unmarked, qualify under the law as cemeteries. Furthermore, Section 7052 of the California Health and Safety Code makes every person guilty of a felony who, without authority of law, mutilates, disinters, or removes from the place of interment any human remains except those of a relative or friend for reinterment (Midthun 1971).

Recent federal and state environmental protection acts carry far-reaching implications for archaeology:

Reference is made in both the state and federal acts to "historic" preservation. The California Environmental Quality Act (Public Resources Code Section 21001) declares the policy of the state to be that of taking all action necessary to provide the people of the state with enjoyment of aesthetic, natural, scenic and historic environmental qualities. The National Environmental Policy Act calls upon the Federal Government to use all practicable means to preserve important historic, cultural, and natural aspects of our national heritage (42 USCA par. 4221 et. seq.) (Younger 1972: 1).

The California act further stipulates that measures must be taken to preserve remains representative of the major eras of California history (CEQA, Section 21001 c). The

reference to "historic" environmental qualities in these acts is taken to indicate (1) that cultural resources must be considered in the preparation of Environmental Impact Studies and (2) that provisions for the mitigation of impact must be realized whenever contemplated developments jeopardize such resources.

Other useful federal policies are included in Executive Order 11593 (Protection and Enhancement of the Cultural Environment, May 13, 1971, 36 F. R. 8921), the Reservoir Salvage Act of 1960 (Public Law 86-523; 74 Stat. 220), the Historic Sites Act of 1935 (Public Law 74-292; 49 Stat. 666), and the National Historic Preservation Act of 1966 (Public Law 89-665; 80 Stat. 915). The Historic Preservation Act permits the registration of, and provides protection for "significant" historic places (including archaeological sites), regardless of ownership status. And, on the international level, recent UNESCO accords govern the entry of antiquities across California's southern border.

Lastly, there are at least three California counties (Humboldt, Inyo, and Marin) which have enacted archaeological ordinances. The Marin County code is exemplary:

Marin County Ordinance No. 1589, Section 5.32.020: It shall be unlawful for any firm, corporation, or copartnership to knowingly disturb in any fashion whatsoever, or excavate, or cause to be disturbed or excavated any Indian midden without a permit being issued therefor by the Department of Public Works (cf. King 1968: 506).

Many other counties are moving to establish similar measures, including Orange, San Diego, Riverside, San Mateo, Santa Clara, Santa Cruz, Ventura, Santa Barbara, Los Angeles, and San Luis Obispo.

From the foregoing, it would seem that California's archaeological resources are amply protected by county, state, federal and even international laws. Nothing could be farther from the truth! It is known that some 1400 archaeological sites are annually destroyed in California (p. 4), including hundreds of "protected" sites on federal and state lands. Although the federal government, and to a lesser extent, the state and counties, have moved responsibly to protect California's cultural heritage, the multiplicity of laws clearly does not accomplish the desired end. The chief reasons for this lamentable situation are (1) incomplete statute coverage, (2) public ignorance of extant laws, (3) inadequate numbers of enforcement personnel, and (4) lack of a systematic state-sponsored heritage management program.

Excepting Title 14, Section 622 1/2 of the State Penal Code, the antiquities laws do not cover private lands, and even the Penal Code allows private land holders to demolish their "own" archaeological sites. Thus, ranchers, farmers, industrial developers, residential builders, etc. may legally modify or obliterate archaeological remains on their property. In certain cases, however, this destruction may be prevented if impacts upon archaeological resources are identified and mitigated through effective environmental planning. In general, though, guidelines for Environmental Impact Reports remain vague enough that destruction continues virtually unabated. Therefore, California law implicitly gives precedence to private control over the greater potential public worth of archaeological resources. Further, the law explicitly values contemporary economic growth and development more highly than heritage preservation, as this citation illustrates:

No archaeological program conducted by the Department of Parks and Recreation shall impair, impede, or delay any state construction project (California Public Resources Code, Chapter 1.7, Section 5097.4, July, 1965; cf. Rozaire 1969: 11).

The number of enforcement personnel for existing laws is also a matter of concern. No federal or state agency, with the possible exception of the National Park Service, retains even a minimally adequate staff of public-service oriented archaeologists. This means, of course, that standing laws are not being fully enforced and countless irreplaceable sites are being despoiled illegally simply because there are too few officers to protect the prehistoric resources on public lands. This situation is described, agency-by-agency, in the following section (Archaeological Programs).

Finally, since no adequate programs presently exist to manage, study, and interpret archaeological resources on a statewide basis, many important sites needlessly fall prey to public construction projects or destructive digging by curious, but uninformed, citizens. Remedial action is recommended in the final section of this report.

THE STATUS OF ARCHAEOLOGICAL PROGRAMS IN CALIFORNIA

California has no statewide integration of archaeological programs except for the Senate Resolution which requests all state agencies to cooperate in reporting Indian cultural sites to the Department of Parks and Recreation (p. 5). There are, however, dozens of agencies throughout the state doing archaeology in a disarticulated manner (Appendix III). The programs are operated mainly by (1) the federal government, (2) the state, (3) private enterprise, (4) professional archaeological firms, (5) avocational societies, (6) community colleges and, (7) archaeological "cooperatives".

The National Park Service Archaeological Center in Tucson, Arizona, supervises the archaeological work in all of the National Parks in California. In general, the N. P. S. is better organized and its personnel are better trained to manage archaeological resources than is the case with any other governmental bureau. The Park Service "in-house" program focuses upon the preservation, management, salvage, stabilization, and interpretation of prehistoric features within the parks. Periodically, the N. P. S. also administers temporary archaeological programs outside of the parks for other branches of the federal government (such as the U. S. Army Corps of Engineers when dams are being built). The Park Service archaeological program is basically management oriented with little attention being given to the overall archaeological research and interpretive needs of California.

The U. S. Bureau of Land Management plans to hire its first California archaeologist in 1973, but at present the B. L. M. does not conduct or sponsor archaeological work. The latter insufficiency also characterizes the Department of Defense, whose sprawling lands in California have essentially never been surveyed for archaeological remains. Aside from the N. P. S., the U. S. Forest Service is the only division of the federal government with an archaeological operation in this state. With merely one archaeologist to look after all of the vast National Forests in California, the Forest Service's emphasis is necessarily upon prehistoric resources management and in-forest ranger training, rather

than stabilization, research, or public interpretation activities. Limited funds are sometimes allocated to non-Service archaeologists for the salvage of sites unavoidably jeopardized by Forest Service construction or logging work.

State Archaeological Activities

The state government has long had a concern for the cultural resources of California. However, the translating of this concern into programs which are effective in the preservation of this resource is another matter. With no intent to minimize the importance of the several programs established and still operative, they do not have the legislative nor the popular mandate to do the job facing them (Riddell 1972: 1).

The State of California is engaged in archaeology through its colleges and universities, Division of Highways, and Department of Parks and Recreation. Most state agencies do not conduct archaeological work, however, and there exists little coordination among the institutions that are active in the field. For example, the several dozen archaeologists in the state's colleges and universities are customarily retained as professors of anthropology. On their own time, or occasionally with outside support, these archaeologists independently plan and execute their field work according to local needs, the availability of funding and student help, etc. Only rarely do two or more university departments cooperate in regional archaeological programs; this has never been done for the state as a whole, except for the financially-strangled University of California Archaeological Survey:

A pioneer program in archaeology on a statewide basis came about by the establishment of the University of California Archaeological Survey at Berkeley in 1948. This was followed some years later by the establishment of a Survey Office on the UCLA campus. These two offices have served over the years as the focal point for California archaeology. Their programs were tied closely to student training and development, thus not staffed or oriented to give a wider service in depth to other governmental agencies. There was an acknowledged specialized function which was of immense help to the problems facing California archaeology, but with the limited staff and budget the two survey offices could not meet the demands of the times (Riddell 1972: 1).

Nonetheless, it is at these Archaeological Survey centers in Berkeley and Los Angeles that the state maintains its most extensive collections of archaeological field notes and manuscripts. The University of California facilities have also produced a greater number of publications dealing with the state's archaeology than has any other agency (see Appendices III, IV, and V).

Archaeological salvage work is also sponsored by the Division of Highways in selected projects where important sites are to be destroyed by construction. Both in Sacramento and at the district level, Division of Highways personnel are unusually sensitive and responsive to archaeological needs. During the past few years, the Division has expended on the order of \$100,000.00 per annum to fund archaeological "salvage" excavations. While the Division of Highways cannot be faulted for its very considerable support of archaeological salvage, it is also true that the highway archaeological program is inadequate in

light of the Division's vast construction projects and the magnitude of the concomitant damage to heritage resources. Because the Division of Highways has no staff archaeologist, all salvage work is done by outside specialists on a contract basis. One problem with highway archaeology is that salvage excavations are restricted to the right-of-way, even if research priorities or active vandalism dictate the advisability of recovery work on both sides of the right-of-way line. A crucial debility of the program, however, is that the Division of Highways is legally unable to fund reconnaissance surveys prior to construction; consequently numerous sites are lost to bulldozers before their presence is recognized (Appendix II: cases nos. 1, 5, 6, 15, and 28).

The State Department of Parks and Recreation functions very much like the National Park Service with respect to archaeology, but its personnel and facilities are infinitely more limited. With a staff of two archaeologists, the Parks and Recreation Department is expected (1) to maintain the state's archaeological survey records and maps; (2) to manage archaeological resources within the state parks; (3) to coordinate salvage projects within the parks and upon certain other state lands; (4) to design and implement interpretive programs throughout the state, including the preparation of exhibits for the various state park museums; (5) to manage the archaeological elements of the National Historic Landmarks Program in California; and (6) to coordinate archaeological objectives with the goals of other agencies in the preparation and periodic renewal of master plans for the state's development. Clearly, with present levels of support, the Department of Parks and Recreation cannot even begin to organize the state's archaeological efforts.

SUMMARY OF ARCHAEOLOGICAL PROGRAMS

To summarize, the Federal Government presently conducts archaeological work in California only through the National Park Service and the Forest Service. The managerial "in-house" orientation of these bureaus does little to integrate the design or results of piecemeal field work with the larger task of reconstructing and explaining California's prehistory. Much worse, there are still extensive federal holdings in California--particularly Department of Defense and Bureau of Land Management lands--which have been greatly modified without the slightest attention to archaeology.

There are also many state institutions involved in archaeology to some degree, but none of these is funded, staffed or empowered to conduct a meaningful statewide program. Each state agency uses its own site-numbering and data filing system, and nowhere in California is there a unified archaeological information center.

While California archaeologists have traditionally viewed private land developers as arch-villains in the battle to preserve heritage resources, in fairness it must be said that increasing numbers of developers are proving the compatibility of archaeology and construction. Residential builders, for example, have funded archaeological surveys as part of the early project design work. Discovered sites were then scheduled for inclusion in open space, parklands, or golf courses instead of being razed to accommodate buildings. Unfortunately, this sort of enlightened compromise is still exceptional in California.

The archaeological programs of private enterprise, avocational groups and community colleges are, as a rule, no less disintegrated and myopic than those of state and federal agencies. There are several dozen such colleges, societies, museums, free-lance professionals, and corporations presently doing archaeology--mostly salvage work--in the state

(cf. Appendix III). Nevertheless, this array of archaeological practitioners contributes relatively little to the understanding of California prehistory, largely because of provincialism and inadequate financing.

Stuart Struever's recent assessment of Illinois archaeology seems appropriate also as a summary of the California situation:

The major reason for the widening gap today between the ideas and performance in archaeology is that the institutions which perform archaeology--museums and universities--are not prepared to assemble the necessary funds, equipment, facilities, and expertise necessary to conduct long-term, multidisciplinary archaeology (Struever 1972: 14).

Recognition of this crisis has caused professional and avocational archaeologists to band together into "cooperatives". During the past few years, California has witnessed the formation of the California Desert Archaeological Committee, the Bay Area Archaeological Cooperative, the San Luis Obispo County Archaeological Society, the Santa Monica Mountains Archaeological Committee, and similar groups seeking to coalesce the expertise and material wherewithal necessary for acceptable archaeological programs. While the cooperative model is admirable, it is now patently clear that no organization save the state itself will be able to generate successful programs to cope with California's multitude of archaeological problems.

CONCLUSIONS AND RECOMMENDATIONS

There are conditions about which we must do something soon or we will lose a special thing. . . There are also situations in which conditions are rapidly deteriorating and in which a small injection of environmental improvement and amelioration would cause drastic changes in a trend (Krieger 1973: 452).

From the foregoing discussion, these conclusions emerge with respect to California archaeology:

(1) California has never been systematically searched for prehistoric remains. Previous surveys usually have been limited in area and undertaken to locate sites within construction projects, rather than to provide usable information about the state's ancient inhabitants.

(2) The state has no centralized archaeological information repository. Standardization of records and reports is lacking, and the disparate aggregates of archaeological documents, maps, and notes are scattered among scores of institutional and private libraries.

(3) The destruction of California's non-renewable archaeological resources is progressing at an alarming rate. It is estimated that ca. 50% of the original number of sites (perhaps 90,000) have already been lost, and roughly 80% of the large village sites are gone. An estimated 1400 sites are annually obliterated by urban growth, water projects, highway construction, agriculture, vandalism, etc.

(4) The many laws intended to protect antiquities are largely ineffective because of public ignorance regarding these statutes and inadequate enforcement staffs.

(5) California has no archaeological accreditation program. Anyone, regardless of qualifications, may call himself an archaeologist and legally undertake fieldwork.

(6) California's numerous practicing archaeologists are not coordinated in any meaningful way. None of the state's departments or universities is able or empowered to operate the desperately needed program of pan-Californian archaeological management, study, and interpretation.

(7) The prehistoric interpretive program for California's citizens is basically limited to static exhibits in cramped museums. There are no provisions for the integration of fascinating archaeological findings into the school curricula or for organized public involvement in supervised fieldwork.

(8) Lastly, there is no recognized single archaeological organization to which private developers or public agencies may turn for consultation in the preparation of archaeological elements for environmental impact statements. The California Environmental Quality Act of 1970 and more recent state court interpretations have confirmed that all projects, whether public or private, which entail significant earth disturbance must be preceded by studies of their potential impact upon cultural resources. There is no practical way for either the state or its citizens to comply with the EQA's requirement for the evaluation and preservation of "historic environmental qualities." There can be no doubt that considerable increases in the number of, and level of coordination among, the state's archaeologists will be necessary if the terms of this act are to be met.

Considering the overall status of archaeology in California, the Archaeological Task Force strongly recommends the establishment of a state agency to coordinate and streamline the state's archaeological programs. There is an urgent need to generate statewide guidelines and strategies for the long range management, preservation, and interpretation of California's prehistoric resources. The state is the only entity capable of, or responsible for, such a restructuring of archaeological operations.

Specific programmatic recommendations in the form of a legislative proposal are to be introduced by the Task Force in the near future. The contemplated measures for archaeological preservation deserve the vigorous support of all citizens because the benefits of archaeology are enjoyed by all sectors of the society:

(1) As a social science, archaeology provides information that allows man to better understand his own ways. Such understanding is clearly necessary to planning a humane and positive future for the citizens of the state and nation.

(2) Archaeological information is useful to other sciences and to industry. It enables scientists to reconstruct past geological, geophysical, and ecological events: for example, the rate of activity along certain geologic faults and the long term population trends among commercially important species of fish and shellfish.

(3) Archaeology provides exciting and educationally profitable leisure-time activity for many Californians. Retired people, school children, people in all walks of life enjoy participation in archaeological research when trained archaeologists and facilities are available for their use.

(4) Archaeology provides an engrossing medium for education, in the colleges and secondary schools, in the social sciences, natural sciences and history.

(5) Archaeology is the only device by which modern California Indians may learn of their ancient past. To permit continued devastation of archaeological sites is literally to deprive these citizens of their heritage.

(6) National archaeological "salvage programs", funded by the Federal Government, are proliferating. A state with an efficient coordinated archaeological program can make most efficient use of such funds. Local government agencies and private enterprise are increasingly willing to fund archaeological salvage, if an effective state agency is available to coordinate such work and provide for feedback to the funding agent.

(abstracted in part from Society for California Archaeology 1971: 1-2).

Beyond these merits, it is obvious that no one may fully judge the ultimate worth of archaeological remains. As surely as their numbers will diminish and the sophistication of archaeology will increase, the value of archaeological resources will also increase. It is incumbent upon the State of California to act swiftly to improve the deteriorating archaeological situation.

... the state which does not actively support an adequate program of archaeological research also fails to avail itself of a means of obtaining outside resources for the program itself and, in even larger measure loses a rich source of direct and indirect income for its citizens, which can develop because of the program's results. Of greatest importance it deprives its present and future citizens of knowledge and enjoyment which are rightfully theirs, and of the enriched cultural atmosphere upon which history has shown time and again the quality of a civilization depends (McGimsey 1972: 25).

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APPENDICES

- I The Status of Archaeological Sites in California
- II Selected Examples of Archaeological Site Destruction in California
- III Repositories of Archaeological Data and Material Remains
- IV Numbers Recorded Archaeological Sites by County
- V A Listing of Serial Publications With Significant Coverage of
of California Archaeology

APPENDIX I: THE STATUS OF ARCHAEOLOGICAL SITES IN CALIFORNIA

County	est. # of sites in 1800 A. D.	max. # of recorded sites in 1972	est. # of sites destroyed (total)	est. # of sites destroyed since 1960	est. % of sites destroyed (total)	AGENTS OF DESTRUCTION														
						1	2	3	4	5	6	7	8	9	0					
Ala	650	344	350	90	54%															
Alp		100																		
Ama		115																		
But	1750	531	600	240	34%															
Cal	1100	413	580	200	53%															
Col		32																		
CCo	625	349	505	110	81%															
DNo	175	24	70	20	40%															
Eld		140																		
Fre	5000	462	1400	300	28%															
Gle		102																		
Hum	450	223	225	80	50%															
Imp		114																		
Iny		1560																		
Ker		528																		
Kin		39																		
Lak	700	266	300	140	43%															
Las	4800	346	900	550	19%															
LAn	1000	481	550	200	55%															

Agents of site destruction are coded relative to one another by county. The most destructive factor in a county rates 1; larger values reflect a lower relative level of impact.

Residential Develop.	Industrial Develop.	Roads & Highways	Dams & Water Pjcts.	Vandalism	Agriculture	Logging & Forestry	Military Activities	Recreation Activity	Natural Erosion
1	2	3	4	5	6			9	8
3	7	5	2	4	1	6		8	9
3	9	6	1	4	2	5		8	7
1	2	3	6	4	5			7	8
5	1	1	4	4	2			6	3
6	7	3	1	5	2	4		9	8
5	1	1	4	1	2			6	3
				1				2	
					1				
1	6		4	3	7			2	
7	4	4	5	2	1	3		6	8
1	2	4	7	5	3		6	8	9

APPENDIX I

APPENDIX I: THE STATUS OF ARCHAEOLOGICAL SITES IN CALIFORNIA

County	est. # of sites in 1800 A. D.	max. # of recorded sites in 1972	est. # of sites destroyed (total)	est. # of sites destroyed since 1960	est. % of sites destroyed (total)	AGENTS OF DESTRUCTION									
						Residential Develop.	Industrial Develop.	Roads & Highways	Dams & Water Projects.	Vandalism	Agri culture	Logging & Forestry	Military Activities	Recreation Activity	Natural Erosion
Mad	2400	243	1200	700	50%	4	8	6	1	3	2	5	9	7	
Mrn	800	410	450	125	56%	1	2	3	5	4	6	9	7	8	
Mrp	1800	277	600	150	33%	7	8	3	1	4	3	2	6	8	
Men	3500	790	600	200	25%	6	8	3	9	5	1	2	4	7	
Mer	1900	137	800	250	42%	4	6	5	2	3	3	1	7	8	
Mod		403													
Mon		558													
Mnt		396													
Nap		327													
Nev		109													
Ora	850	306	490	100	75%	1	3	2	5	6	4	7	8		
Pla		167													
Plu		109													
Riv	5500	519	3000	1800	55%	1	4	7	6	5	3	8	2		
Sac	1000	306	300	75	30%	3	6	4	5	2	1		7		
SBn		15													
SBr	8000	563	3000	1000	38%	1	8	4	6	3	5	10	7	9	
SDI	6500	1304	1800	900	36%	1	2	4	7	3	6	8	10	9	
SFr		24			95%	1	2	3	4			5	6	7	

Agents of site destruction are coded relative to one another by county. The most destructive factor in a county rates 1; larger values reflect a lower relative level of impact.

APPENDIX I (cont.)

APPENDIX I: THE STATUS OF ARCHAEOLOGICAL SITES IN CALIFORNIA

County	est. # of sites in 1800 A.D.	max. # of recorded sites in 1972	est. # of sites destroyed (total)	est. # of sites destroyed since 1960	est. % of sites destroyed (total)	AGENTS OF DESTRUCTION														
						Residential Develop.	Industrial Develop.	Roads & Highways	Dams & Water Picts	Vandalism	Agriculture	Logging & Forestry	Military Activities	Recreation Activity	Natural Erosion					
SJo		154			80%															
SLO	3500	610	400	250	7%	1	7	6	9	2	8									
SMA	600	148	375	75	63%	1	2	3	4	5	6	5							3	4
SBa	2100	1101	1700	200	81%	1	4	3	5	2	6								7	8
SCI		55				1	2	3	4	5	6								7	8
SCr	350	52	175	80	50%	1	2	4	5	6	3									
Sha	650	468	250	180	38%	4	6	3	1	2	5								7	
Sh	400	53	150		38%	5	7	1	3	4	6									
Sis	3000	322	2400	800	80%	8	2	1	5	6	7	3								
Sol		255																		
Son	2500	466	600	275	24%	1	5	4	6	9	7	2						3	8	
Sta	1000	142	650	150	65%	2	6	4	2	5	1	7						8		
Sut		52																		
Teh		619																		
Tri		280																		
Tul		411																		
Tuo	2800	405	1600	500	57%	3														
Ven	1200	295	600	50	50%	1	5	2	2	6	4							7	8	7
Yol		131																		
Yub		28																		

Agents of site destruction are coded relative to one another by county. The most destructive factor in a county rates 1; larger values reflect a lower relative level of impact.

APPENDIX II

SELECTED EXAMPLES OF ARCHAEOLOGICAL SITE DESTRUCTION IN CALIFORNIA

1. Construction of the Indio bypass on Interstate Highway 10 in the Coachella Valley Riverside County, destroyed an archaeological site nearly 60 feet deep with 16 occupational strata. Located on the shore of the now-extinct Blake Sea, this site was apparently settled thousands of years ago when environmental conditions were significantly different. Local collectors report that ancient houses, cemeteries, and vast numbers of artifacts (including pottery, stone tools, and textiles) were obliterated. No archaeological work was undertaken since the Division of Highways had no funds for archaeological surveys during the late 1960's when the damage was done (Thomas F. King, U. C. Riverside).

2. In Sierra County and adjacent regions, youthful vandals are looting cave and open sites to acquire artifacts which can be sold to support their "free" life style and to purchase drugs. At some known site locations all indications of prehistoric occupation have been erased (Louis A. Payen, C. S. U. Sacramento).

3. A Marin County entrepreneur spent the early 1960's bulldozing local Indian mounds to sell the midden material as "top soil." This activity was stopped only when it was learned that the earth from the mounds would kill many domestic plants (Michael J. Moratto, C. S. U. San Francisco).

4. One of the most important Wintu Indian villages in Shasta County gradually suffered total devastation at the hands of local "pot hunters." The land owners permitted the vandals to dig into this site (4-Sha-47) but persistently refused to allow archaeological research. In the same county, the Point McCloud site contained remains dating from historic times back to 3000 B. C. or earlier. Although this critically important site was on state property very near a State Forestry station, collectors from all parts of California and Oregon mined artifacts with impunity until nothing was left. In spite of protests from concerned archaeologists, State Forestry officials remained apathetic to the end (James D. Dotta, Treganza Anthropology Museum, San Francisco).

5. The complete destruction of a vast village and burial ground site (4-SJo-91) near French Camp Slough, San Joaquin County, resulted from the construction of Interstate Highway 5. While volunteer crews rushed in to salvage 151 burials and village remains dated as early as 1000 B. C., most of the artifacts and an estimated 1850 additional graves were destroyed. Among the latter were several human body "molds" preserved for centuries in the silty soil. These rare finds came to light just as they were being ripped apart by heavy machinery (Jerald J. Johnson, C. S. U. Sacramento).

6. On the northern side of Padre Juan Cañon in Ventura County a highly significant prehistoric site was removed as part of a "borrow pit" during the construction of State Highway 1. Archaeologists were not forewarned of the site's impending fate. Last-minute

* Sources of information are cited in parentheses.

observations suggested that the site had been a specialized fishing camp unique to the area (Chester King, U. C. Davis).

7. The San Francisco Bay shore was found to contain nearly 450 shellmounds when it was first systematically studied in 1908. During the past 60 years, more than 90% of these sites have been totally destroyed or excessively damaged by urban sprawl. Included among the casualties were huge village mounds up to 1000 feet long and 32 feet deep. Virtually all of the sites crucial to an understanding of Bay Area prehistory have vanished, most without the slightest archaeological investigation (files of U. C. Perkeley and C. S. U. San Francisco).

8. The 5000 year old Zuma Creek site on the Malibu coast of Los Angeles County lay in the path of residential construction. When some unauthorized bulldozing exposed human burials, swarms of souvenir hunters and looters appeared and began to dig. Lacking finances and hard pressed by other emergency projects, archaeologists could do nothing to remove the vandals or preserve the site. A last ditch effort by avocationalists salvaged some valuable data, but much more was lost. At times, the site appeared to be a battlefield with ragged holes and strewn with fragmented human bone (files of the UCLA Archaeological Survey).

9. Twenty-six lineal miles of the Tuolumne River Valley and tributary creekbeds were inundated in 1971 when New Don Pedro Reservoir was completed in Tuolumne County. Archaeologists were not permitted to work in the area until the fall of 1970. By that time, more than 100 Indian sites and Gold Rush era structures had already been razed in the course of defoliation and earthmoving operations. Not a single old Indian village site or historic feature remained intact (files of C. S. U. San Francisco).

10. Agricultural activities and road construction have obliterated numerous invaluable archaeological resources in Lassen County. One rancher at the mouth of Baxter Creek at Honey Lake destroyed one of the largest and most important sites in the area when he levelled a sandy rise on his land. Other key sites, including Karlo (4-Las-7), have been hauled away for county or private road fill. Lassen County sites have also suffered immeasurably from the scores of private collectors who have systematically gleaned vast areas of their artifacts without documenting any finds (Francis A. Riddell, California Department of Parks and Recreation).

11. The Indian Wells site in Riverside County was one of the largest ethnographic villages in southeastern California. The name is derived from large walk-in wells constructed by the Indians. The site covered nearly four square miles of dunes at the head of the dry Blake Sea, and it was apparently in use both before and after the desiccation of the area. The vast remains at Indian Wells have been thoroughly destroyed by (a) flood control projects, (b) construction of the Indian Wells Country Club, (c) development of large-scale parking facilities for the Bob Hope Desert Classic golf tournament, (d) construction of water storage facilities by the Coachella Valley Water Agency, and (e) erection of private homes and condominiums (Thomas F. King, U. C. Riverside).

12. In Siskiyou County, the U.S. Forest Service constructed a district ranger office, barracks, and compound on the Karok site of Katamin at the confluence of the Salmon River with the Klamath. The construction desecrated at least three separate Indian cemeteries. This site is held by the Karok to be their "center of the world" where the world

renewal rite is still performed. The Forest Service facility obviously intrudes upon the sacred and religious value of the site. In the same county, the continued development of State Highway 96 has destroyed or damaged at least 30 known sites between Happy Camp and Orleans (Joseph Chartkoff, Michigan State University).

13. A sprawling, complex village site once occupied both sides of a creek at Paradise Cove in the Santa Monica Mountains of Los Angeles County. A UCLA field team sampled less than 0.01% of the site before it was sold to a trailer park developer. The new owner adamantly refused to permit further archaeological work, all the while continuing to modify the ancient deposits. After seven years of work, the site was totally lost (Nelson Leonard, UCLA Archaeological Survey).

14. Near the city of Blythe, on federal land and in violation of the U. S. Antiquities Act of 1906, petroglyphs are being quarried off rock faces, presumably for sale as decorations, fireplace stones, etc. (Thomas F. King, U. C. Riverside).

15. About one third of the important Del Mar Hills site (San Diego Museum # W-20) in San Diego County was removed in 1964 during the construction of Interstate Highway 5. Additional damage was wrought in 1970 by a developer who bulldozed sand over most of the remaining area in conjunction with home building activities. Archaeological work in 1968 had shown the site to be as much as 8000 years old, which fact prompted the San Diego Gas and Electric Company to preserve the last one acre of W-20 as an archaeological park. This lofty goal is being eroded daily as motorcycles, jeeps, and vandals strip the site of its artifacts and vegetation (Ronald V. May, San Diego Museum of Man).

16. The largest known Pomo cremation and mortuary site, located on the south bank of Santa Rosa Creek in eastern Santa Rosa, Sonoma County, was ground to oblivion by a gravel crushing plant in the early 1950's. Small school children ravaged the bulldozed heaps of earth, and hauled off wagons full of mortars, pestles, charmstones, points, beads, and human skeletal remains. Most of the prehistoric remains, as well as the adjacent hillside, were sent through the crusher (Michael J. Moratto, C. S. U. San Francisco).

17. The University Village site (4-SMa-77) in San Mateo County, the oldest known village site in the southern San Francisco Bay area, was eradicated when student housing was constructed at Stanford University in the early 1950's. Limited archaeological work brought to light a previously unknown culture and showed that the biological traits and economic activities of the University Village Indians were significantly different from those of later Bay peoples. This interpretation notwithstanding, most of the data from this site were lost (Bert Gerow, Stanford University).

18. When Shasta Lake was under construction during World War II, limited funding precluded adequate archaeological reconnaissance. Only the area where the McCloud River enters the lake was investigated. The 37 recorded sites in that zone constitute but a tiny fraction of the number ultimately erased by the rising water (Jerald J. Johnson, C. S. U. Sacramento).

19. It is estimated that more than 600 Yokuts Indian villages, campsites, and cemeteries in Merced and Stanislaus Counties have been levelled during agricultural earth-moving. Nearly all of the Northern Valley Yokuts prehistory has been lost because of such agricultural work and recent urban expansion (Thomas Durbin, Stanislaus State College).

20. The Rodriguez Site in Lassen County had been visited by local collectors for many years before it came to archaeological attention in 1964. At that time, road crews sliced through house floors, caches, and cemeteries. Most of the material was destroyed or removed for fill. By the time that archaeologists from the Nevada State Museum learned of the situation, the cut had been nearly completed. Little could be done except to take carbon samples and remove the 17 burials then exposed (files of U. C. Berkeley).

21. During the past few years, great tracts of Sonoma and Napa County land have been cultivated for the first time as new vineyards. This activity has disturbed or altogether ruined countless known Pomo and Wappo Indian village sites. Because of pressing emergencies elsewhere, no archaeologist has been able to record the sites being lost, much less save any of the information they contained (Darold Smith, Calistoga).

22. Site 4-SDI-1179 in San Diego County was a significant late milling stone center with artifacts suggestive of occupation from ca. 100 B. C. until 1870 A. D. When San Diego County excavated a road through the center of this site, pottery jars, milling stones, and other artifacts were either crushed under the machinery or carried away by the equipment operators to their homes (Ronald V. May, San Diego Museum of Man).

23. A recent survey has shown that nearly all of the Yurok Indian coastal villages in Del Norte and Humboldt Counties have been eradicated during the past 20 years by a combination of logging, highway construction, and rampant vandalism. Nearly all of the key villages, ceremonial centers, and exploitative sites are gone (including numerous sites on federal and state lands). The most tragic examples are the old, now-vanished Yurok towns of Orekw, Espau, Ossegen, Orau, Sigwets, Tsekwe, Welkwau, Omen, Omenhipur and Tshapekw (Michael J. Moratto, C. S. U. San Francisco).

24. Site 4-Fre-(FSC-21) on the Kings River, below Pine Flat Dam, was removed during the construction of sanitation and transportation facilities for a new Fresno County park. This loss could have been easily avoided if the county had consulted with an archaeologist in the planning phase of the project. No accurate estimate can be made of the loss to science except that the site was one of considerable antiquity in an area where almost nothing is known of the prehistory (Calvin Jennings, Fresno State College).

25. A very large, comparatively undamaged mound in San Pablo, Contra Costa County, was recently replaced by a trailer park. Archaeologists who attempted to salvage some of the remains were harassed and finally removed by the contractor. However, dozens of "pot hunters" were allowed to dig and carry off their finds (Albert Elsasser, Lowie Museum of Anthropology, Berkeley; George Coles, Contra Costa College).

26. Literally thousands of valuable sites have been inundated in recent years by the construction of Shasta, Trinity, Britton, Clair Engle, Black Butte, Oroville, Folsom, Bullards Bar, New Melones, Pardee, Camanche, New Don Pedro, Buchanan, and Terminus Reservoirs--as well as countless others. Archaeological surveys were conducted in most of the flooded areas, and excavations were undertaken in about 75% of the projects; but nowhere did the salvage work approach adequacy in terms of scientific research or saving materials of high public interest value. Almost none of the cultural features was restored or relocated. Documented losses due to such reservoir building include Gold Rush era cabins; towns, wells, fences, mines, etc.; Indian villages, camps, mortuary areas, petroglyphs, pictographs, rock shelters, and bedrock grinding places; and signifi-

cant Mexican, Chinese, and Anglo-American features. History will doubtless record California's dam building episodes as a monumental and senseless waste of the state's patrimony (files of C. S. U. San Francisco and C. S. U. Sacramento).

27. The prehistoric and historic Yokuts Indian village of Gewatchiu was a huge earth mound rising out of the agricultural lands along the San Joaquin River until 1963, when its owner decided to push it into an adjacent slough to level the land. The site was entirely razed without investigation, except for the work of two amateur archaeologists. Aside from exceedingly limited collection by these individuals, the site with hundreds of houses, artifacts, graves and other vital data were lost to land levelling and vandalism (files of C. S. U. San Francisco).

28. A very large midden occupying several city blocks on a hill overlooking San Pedro, Los Angeles County, was obliterated by an extension of the Harbor Freeway in 1968. When archaeological salvage work was initiated, it was found that the midden had been thoroughly disturbed by an old housing development and that it was nearly impossible to find strata intact for interpretive purposes (Roger J. Desautels, Archaeological Research, Inc.).

29. During the summer of 1969, when most archaeologists were in the field on research and salvage projects, home building activities in San Pablo, Contra Costa County, exposed burials and artifacts. The site was a monumental shellmound representing at least 2000 years of human habitation. Student volunteers from Contra Costa College and San Francisco State College raced to the scene to salvage what they could, sometimes meeting heavy opposition from the contractor. Builders and archaeologists nearly came to blows in the days that followed, and much publicity unfavorable to the contractor was generated. Letters flowed in from all over the Bay Area calling the destruction "disgraceful" and a "forfeiture of the public interest for selfish motives." These missives notwithstanding, the site was destroyed (files of C. S. U. San Francisco).

30. In the Eastbluff region of coastal Orange County, at least 40 to 50 of 81 recorded sites have been removed during the past decade. The lost sites included aboriginal villages and cemeteries as well as Fossil Canyon--the largest deposit of Late Pleistocene fossils in the Western Hemisphere. These ancient sites were sacrificed in favor of a golf course, residential developments, and shopping center with no provision made by the builder to mitigate his impact upon the archaeological resources (Aileen McKinney, Pacific Coast Archaeological Society).

31. Late in 1972, a southern California off-road-vehicle club announced its intent to hold a cross country race on federal (B. L. M.) land. The race was planned without federal approval. Considering the potential trespass violations and the likely destruction of fragile archaeological sites in the proposed race area, the regional director of the Bureau of Land Management sought a restraining order against the planned race. The judge failed to act, on the grounds that insufficient time remained before the race to hear "both sides", and the race was held as planned. While it is known that many archaeological remains were damaged, an accurate assessment must await field studies now under way (Dr. Sylvia Broadbent, files of U. C. Riverside).

32. The Fernandez Site (CCo-259) in Contra Costa County was long known to the Berkeley Archaeological Survey as an important site which should be excavated carefully when time and funds were available. The land owner promised to protect the site until the Survey

could organize the project. When the Survey was ready, the landowner confessed with some shame that he had sold the site to a topsoil company for 25¢ per yard and that the site was no longer in existence (Dr. Robert F. Heizer, U.C. Berkeley).

33. A large and deep midden (Son-299) on the shore of Bodega Bay in Sonoma County was sampled by the Berkeley Archaeological Survey. Enough data were gathered to indicate that the site would play a key role in the reconstruction of the locality's prehistory. Two years after the University of California excavations, the owner destroyed the site with a bulldozer in order to discover materials for his private collection. He found little by this method, but he effectively destroyed a very important site (Dr. Robert F. Heizer, U.C. Berkeley).

APPENDIX III

REPOSITORIES OF CALIFORNIA ARCHAEOLOGICAL
DATA AND MATERIAL REMAINS (partial listing)

* Indicates the location of major collections

A. Universities

California Polytechnic University, San Luis Obispo
California State College, Chico
California State College, Dominguez Hills
California State College, Fresno
California State College, Fullerton
California State College, Hayward
California State College, Humboldt
California State College, Northridge
California State College, Sonoma
California State College, Stanislaus
*California State University, Long Beach
California State University, Los Angeles
*California State University, Sacramento
California State University, San Diego
*California State University, San Francisco
California State University, San Jose
San Diego University
*Stanford University
*University of California, Berkeley
*University of California, Davis
*University of California, Los Angeles
University of California, Riverside
University of California, Santa Barbara
University of California, Santa Cruz
University of Nevada, Las Vegas
University of Nevada, Reno
University of Oregon, Eugene
University of San Francisco

B. Community Colleges

American River College	Columbia College
Antelope Valley College	Contra Costa College
Bakersfield City College	Cuesta College
Barstow City College	Foothill College
Cabrillo College	Fresno City College
Canada College	Gavilan College
College of Marin	Imperial Valley College
College of the Desert	Laney College
College of the Redwoods	Merced College
College of San Mateo	Mesa College

APPENDIX III (cont.)

Modesto Jr. College	Santa Barbara City College
Monterey Peninsula College	Santa Rosa Junior College
Moorpark College	Shasta College
Occidental College	Ventura College
Ohlone College	West Valley College
Orange Coast College	
Pierce College	

C. Museums

- American Museum of Natural History, New York
- British Museum, London
- *California Academy of Sciences, San Francisco
- Catalina Island Museum, Catalina Island
- *Charles Bowers Memorial Museum, Santa Ana
- *Clark Memorial Museum, Eureka
- Colorado River Indian Tribes Museum
- Far West Museum, Willits
- *Haye Foundation for the American Indian Museum, New York
- Hermitage Museum, Leningrad, U. S. S. R.
- Hollister Adobe, Cuesta College
- Hugh Coddling Museum, Santa Rosa
- *Lowie Museum of Anthropology, Berkeley
- Malki Museum, Morongo Indian Reservation
- Maturango Museum, China Lake
- Mendocino County Museum, Willits
- Mojave River Museum
- Museum of Anthropology and Ethnology, Moscow, U. S. S. R.
- *Natural History Museum of Los Angeles County
- Novato Prehistory Museum, Novato
- *Oakland Public Museum, Oakland
- Ojai Valley Museum
- Palm Springs Desert Museum, Palm Springs
- Peabody Museum, Harvard, Cambridge
- Porterville Museum, Porterville
- *Public Museum of the City of Milwaukee, Milwaukee
- Riverside Municipal Museum, Riverside
- *San Bernardino County Museum, San Bernardino
- *San Diego Museum of Man, San Diego
- *Santa Barbara Natural History Museum, Santa Barbara
- Santa Cruz Natural History Museum, Santa Cruz
- Santa Rosa Jr. College Museum, Santa Rosa
- San Mateo County Historical Society Museum, Redwood City
- *Smithsonian Institution, Washington, D. C.
- *Southwest Museum, Los Angeles
- Stanford Museum, Stanford
- *State of California, Department of Parks and Recreation (museums throughout the state at forts, missions, parks, etc., especially the Indian Museum at Sutter's Fort, Sacramento).

Museums (continued)

- *Treganza Anthropology Museum, San Francisco
- University of Oregon Natural History Museum, Eugene
- *U. S. National Park Service
(museums in Lassen, Yosemite, and other National Parks)
- Yreka Natural History Museum, Yreka

D. Avocational and Professional Societies

- Antelope Valley Archaeological Society
- Archaeological Research Associates
- Archaeological Research Inc.
- Archaeological Survey Association of Southern California
- Bay Area Archaeological Cooperative
- California Desert Archaeological Committee
- Central California Archaeological Foundation
- Desert Avocational Archaeology Society
- Miwok Archaeological Preserve of Marin
- Monterey County Archaeological Society
- Northern California Archaeological Association
- Northridge Archaeological Research Center
- *Pacific Coast Archaeological Society
- *San Luis Obispo County Archaeological Society
- Santa Clara Archaeological Society
- Santa Cruz Archaeological Society
- Society for California Archaeology
- Society for Santa Clara County Archaeology
- Ventura County Archaeological Society

E. Government Agencies

- California Department of Parks and Recreation, Sacramento
- California Division of Highways, all districts
- U. S. Bureau of Indian Affairs
- U. S. Bureau of Land Management, Bakersfield and Riverside
- *U. S. Forest Service, San Francisco
- *U. S. National Park Service, Arizona Archaeological Center, Tucson

APPENDIX IV
 NUMBERS OF RECORDED ARCHAEOLOGICAL SITES
 BY COUNTY

FILES COUNTY	U. C. Berkeley*	U. C. L. A.	Calif. Dept. Parks & Recreation, Sacramento
Ala	344	75	339
Alp	68	8	100
Ama	115	11	86
But	300	492	531
Cal	302	82	413
Col	32	9	22
CCo	349	0	0
DNo	24	10	11
Eld	87	20	140
Fre	462	31	387
Gle	96	20	102
Hum	223	25	180
Imp	67	109	114
Iny	444	1507	1560
Ker	266	291	528
Kin	38	39	38
Lak	151	4	266
Las	346	12	224
LAn	220	472	481
Mad	243	27	165
Mrn	410	3	383
Mrp	277	5	277
Men	-790	238	616
Mer	97	106	137
Mod	403	3	170
Mon	558	468	558
Mnt	385	27	396
Nap	306	1	327
Nev	104	94	109
Ora	261	306	276
Pla	108	16	157
Flu	109	94	101
Riv	164	511	519
Sac	305	4	269
SBn	15	0	0
SBr	374	499	563
SDi	332	1265	1304
SFr	24	0	0
SJo	154	126	152
SLO	234	610	610

APPENDIX IV (cont.)

<u>FILES:</u> <u>COUNTY</u>	U. C. Berkeley*	U. C. L. A.	Calif. Dept. Parks & Recreation, Sacramento
Sma	148	5	5
SBa	576	380	1 101
SCl	55	4	5
SCr	52	0	0
Sha	468	33	259
She	48	9	53
Sis	322	1	4
Sol	255	0	248
Son	466 ⁺	57	461
Sta	141	7	142
Sut	35	24	52
Teh	619	71	302
Tri	140	66	230
Tul	354	58	411
Tuo	264	39	405
Ven	160	295	275
Yol	131	43	104
Yub	23	22	28
Anacapal	8	24	
SClemI	6	127	
SMiguelI	51	26	
SnicI	68	114	
SBarbI		6	
SCatI	105	911	
SCruzI	159	96	
SRosaI	155	155	

* Approximately 2000 sites from various counties have been entered in the files of the University of California at Berkeley since this manuscript was prepared.

APPENDIX V:

A LISTING OF SERIAL PUBLICATIONS WITH SIGNIFICANT
COVERAGE OF CALIFORNIA ARCHAEOLOGY

American Antiquity, Society for American Archaeology, Washington, D. C.

Archaeological Reports, California Division of Beaches and Parks (now California Department of Parks and Recreation), Sacramento.

Contributions of the University of California Archaeological Research Facility, University of California, Berkeley.

Contributions to California Archaeology, Archaeological Research Associates, Los Angeles.

Diggers Digest, Northwestern California Archaeological Society, Petaluma.

Northwestern California Archaeological Society Papers, Northwestern California Archaeological Society, Petaluma.

Pacific Coast Archaeological Society Quarterly, Pacific Coast Archaeological Society, Costa Mesa.

Robert E. Schenk Memorial Archives of California Archaeology, Society for California Archaeology, retained at California State University, San Francisco.

Sacramento Anthropological Society Papers, Sacramento Anthropological Society, Sacramento.

San Diego Museum of Man Papers, San Diego Museum of Man, San Diego.

Society for California Archaeology Newsletter, Society for California Archaeology, San Francisco.

Southwest Museum Papers, Southwest Museum, Los Angeles.

Treganza Anthropology Museum Papers, California State University, San Francisco.

UCLA Archaeological Survey Annual Report, University of California, Los Angeles.

University of California Anthropological Records, University of California, Berkeley.

University of California Archaeological Research Facility Manuscripts, University of California, Berkeley.

APPENDIX V (cont.)

University of California Archaeological Survey Reports, University of California, Berkeley.

University of California Publications in American Archaeology and Ethnology, University of California, Berkeley.

