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An Archeological Overview of Redwood National Park

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To Earnest L. Cassel, my grandfather --
Del Norte County pioneer, woodsman, sawyer
and avocational historian -- this paper is
warmly and appreciatively dedicated.

M.J.M.
11/1/73

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Preface

This overview was written in 1973 as a report to the National Park Service, entitled "A Survey of Cultural Resources in and Near Redwood National Park, California." Minor editorial changes and the deletion of precise site-location data have been made for the purposes of this publication.

Acknowledgements

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I: Introduction

Cultural resources, such as historic and prehistoric archeological sites, are among the features of Redwood National Park. These resources are protected by the provisions of the 1906 Act for the Preservation of Antiquities, the 1935 Historic Sites Act, the 1969 Environmental Policy Act, Executive Order 11593 regarding the "Protection and Enhancement of the Cultural Environment" and by other measures. In order to design a program for the preservation and interpretation of the cultural features in Redwood National Park, the National Park Service has sponsored detailed studies of the local history and archeology. The former topic is comprehensively described in History Basic Data: Redwood National Park, by E. Bearss (1969). The archeological study, based upon three seasons of library research and field reconnaissance, provided the data for this overview.

The chapters dealing with linguistics and archeology (II, V and VI) endeavor to reconstruct the arrival and evolution of prehistoric cultures in the vicinity of Redwood National Park. Materials from these chapters may be abstracted directly for interpretive purposes. More importantly, however, the assessments of the archeological status quo form a perspective for evaluating the significance of the archeological features which remain within the park and for generating anthropological questions which might be answered through field investigations in the future.

Chapters III and IV deal with the ethnography and ethnohistory of the native peoples--Yurok, Tolowa and Chilula--of the Redwood National Park vicinity as they were known during the historic period. These chapters attempt to depict the aboriginal lifeways as they existed before AD 1800 and to recount memorable incidents in the painful era of inter-cultural hostilities. The information presented in these chapters should be useful in interpretive programs. Certainly an understanding of the archeology, ethnography and ethnohistory of the north coast Indians will contribute greatly to an appreciation of the role of Man in the redwoods; never was Man's

relationship with this environment more harmonious than when the Indians alone held the rivers and seashore.

My objectives in Chapters VII and VIII are to describe the field reconnaissance of Redwood National Park and to inventory the various archeological features discovered. Nearly 21 square miles of land were covered on foot between 1971 and 1973, resulting in the discovery of nearly two score sites or previous site locations. Each site is described in terms of its nature, condition and significance. Chapter IX provides recommendations for preserving, managing and interpreting the archeological resources described.

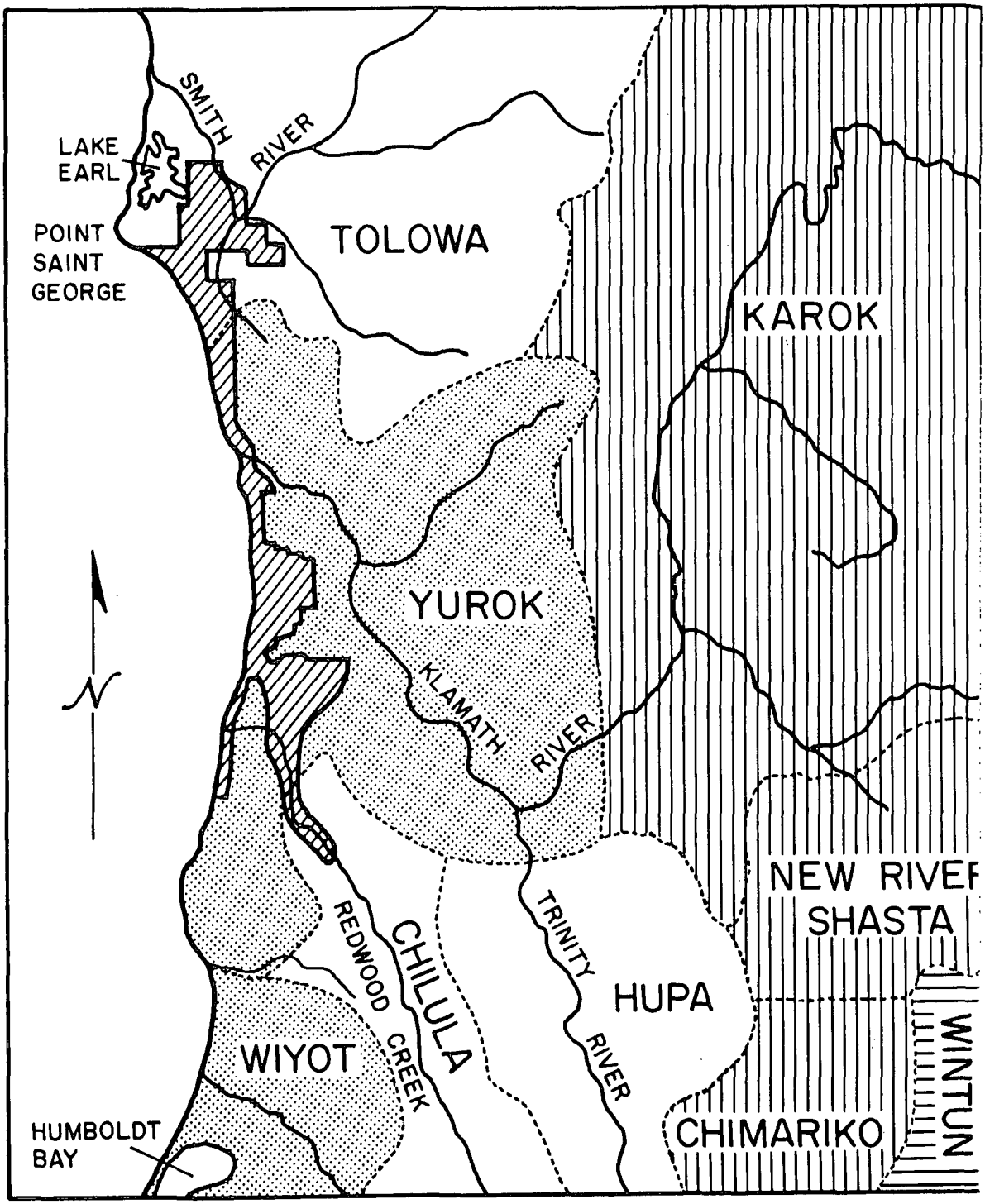
II: Linguistics in Northwestern California Prehistory

> There are three main ways in which linguistics can illuminate prehistory: (a) by establishing facts concerning the common origin and subsequent divergence of languages, implying the earlier unity and subsequent separations of peoples; (b) by discovering diffused features (of phonetics, structure, or vocabulary) among languages, which bear evidence of prehistoric culture contacts; and (c) by reconstructing the vocabulary of old stages of language in order to bring out suggestions of the physical environment and content of prehistoric cultures. (Swadesh 1959: 20)

The purposes of this chapter are (1) to describe the linguistic territories of northwest California and (2) to develop a hypothesis, based upon lexico-statistics, to account for the ethnographic diversity in the region. As a device for reconstructing the probable sequence of population movements into this part of the state, particular attention will be given to the problem of establishing the approximate dates at which languages diverged from their parent stocks.

The Distribution of Native Languages in Northwest California

Six separate languages were spoken by the historic Indians of California's northwest coast culture sub-area (Map 1). The territories of these people coincided almost exactly with stream drainages: (1) Smith River and the adjacent ocean frontage were held by the Tolowa (Drucker 1937; Waterman 1925); (2) immediately south, the Yurok occupied the lowermost dozen miles of Redwood Creek, a 40-mile stretch of the coast and the entire Klamath River watershed downstream from the mouth of the Trinity River (Kroeber 1911, 1925; Waterman 1920); (3) Karok boundaries included the Klamath River Basin upstream from its confluence with the Trinity River (Bright 1957; Kroeber 1925); (4) the Hupa claimed the lower Trinity River, an elongate valley parallel to the middle Redwood Creek homeland of (5) the Chilula (Goddard 1911, 1914a, 1914b; Kroeber 1925) and (6) the Wiyot lived along the coast around Humboldt Bay, just south of



Map 1. Distribution of na languages in northwest California.

the Yurok (Dixon and Kroeber 1913; Loud 1918; Nomland and Kroeber 1936; Teeter 1964).

These groups represent three language families: Athabascan (Tolowa, Hupa and Chilula), Hokan (Karok) and Algonquian (Yurok and Wiyot) (Dixon and Kroeber 1919; Voegelin and Voegelin 1966). The California Athabascan languages are closely related to Navajo and Apache of the southwestern United States and to Kutenai, Chipewyan, Galice, Beaver and other languages of sub-arctic and boreal Canada (Hoijer 1956; Hymes 1957). Karok has its nearest ties with six scattered groups of other Hokan languages in Nevada, California and Mexico (cf. Heizer and Whipple 1971: Map 1; Kroeber 1925). Yurok and Wiyot number among their Algonquian kin such northeastern American tongues as Menomini, Cree, Fox, Ojibwa and Algonquin (Bloomfield 1946; Reichard 1926; Sapir 1913; Voegelin and Voegelin 1966).

Although the external relationships of California's Athabascan and Hokan languages have been accepted since 1900, much controversy has attended the placement of Yurok and Wiyot within the Algonquian family. Early in this century Dixon and Kroeber (1913) and Sapir (1913) demonstrated the connection between Yurok and Wiyot and assigned these languages to the "Ritwan family" of the "Algonquian stock." Michelson (1914) and others contested this, initiating a long debate in American linguistics. Ultimately, both Yurok and Wiyot were intensively restudied in order to clarify their relationships with other languages (Robins 1958; Teeter 1964). This work has shown unequivocally that the "Ritwan" languages belong to the Algonquian family (Haas 1958).

Time-Depth of Northwest California Languages

More than 30 years ago Voegelin proposed a relative chronology of American linguistic phyla. Reasoning that internal diversity could be used to indicate time-depth, Voegelin (1945: 232-233) inferred the following temporal ordering:

(Early)	Hokan-Siouan	(25 families; 60 languages)
	Penutian	(16 families; 29 languages)
	Algonquian-Wakashan	(8 families; 50 languages)
	Na-Dene (Athabascan)	(4 families; 33 languages)
	Uto-Aztecan-Tanoan	(4 families; 19 languages)
(Late)	Eskimo-Aleut	(2 families; 4 languages)

Voegelin further assumed that "a broken distribution implies more elapsed time than a smooth, continuous distribution" (1945: 233), but he did not attempt to develop a temporal ordering based upon this criterion.

These approaches are inconclusive when applied to the languages of northwestern California. There is, of course, no certainty that the North American relative chronology holds, even approximately, for smaller regions; even if Voegelin's early-to-late Hokan-Algonquian-Athabascan ordering correctly sequences North American arrivals, the appearance of member languages in California may have followed a different pattern. The criterion of "broken distribution" also gives ambiguous results. While it may be that an older, continuous distribution of coastal Athabascans was disrupted by a more recent incursion of Algonquian speakers, it is possible that the Athabascans came later and settled around established Algonquians (Map 1). The first reconstruction (i.e., disruption of Athabascans by Algonquians) does seem more plausable on one count: as measured by the great diversity within coastal Athabascan (six languages with 14 dialects), compared with the relative homogeneity of Algonquian (two languages with three dialects), the former would emerge as older in California (cf. Heizer and Whipple 1971: Map 1).

A more fruitful approach to the matter of linguistic time-depth is offered by glottochronology. With this method, provisional dates of language separation are calculated on the basis of percentages of shared non-cultural cognates (cf. Gudschinsky 1964). An early glotto-chronological study indicated that Hupa had separated from the parent Athabascan family some 20 centuries ago and that California Hokan speakers had diverged from their linguistic relatives as much as 55

centuries ago (Swadesh 1954: 362). More conservative dates were calculated by Hoijer, who suggested that the Pacific Coast languages broke off from the common Athabascan body around 1000 to 1300 years ago (Hoijer 1956: 231).

Using Hymes (1957) data, I calculated 1062 years to be the average ($\bar{X}$) separation among the sampled California Athabascan groups (i.e., Hupa, Kato and Mattole). The arrival date of Athabascans in California may approximate the calculated time of their divergence from the Canadian Athabascans. Using Hymes' (1957: 292-293) information for 21 language pairs, I computed 1231 years ago as the ($\bar{X}$) provisional time for this separation. Thus, Hymes' detailed analysis suggests that the Pacific Coast Athabascan split from the northern branch around AD 742, a date entirely consistent with Hoijer's (1956) estimate of 1000 to 1300 years ago. The calculated date of 1062 years, or AD 911, for the divergence among California Athabascans is also in harmony with this reconstruction.

Ancillary data concerning the relative ages of native California languages were provided by Klimek's (1935) matrix cluster analysis of ethnographic traits. Using a coefficient of association (Q_6), Klimek (1935: 22 ff.) quantified the degrees of similarity among 60 "tribes" and clustered them into "strata." Each stratum was then shown to be connected with a specific linguistic group. Noting that "the definition of the ethnical nature of particular strata permits us to determine the nature of the historical facts which they represent", Klimek (1935: 61) developed an "historical sequence of California Indians." Klimek's mathematical analysis of non-linguistic traits led him to conclude that (1) the Hokan-related stratum was the most ancient in California and (2) the Athabascan and Algonquian migrations occurred very late in the sequence (Klimek 1935: 64).

Although Klimek may be faulted for assuming that high levels of shared cultural traits indicated common times of sociolinguistic origin (as between Northwest Coast Algonquian and Athabascan speakers), it should be noted that his sequence agreed in most respects with the subjective impressions of Kroeber (1935). The Northwest Coast

culture pattern was assumed to be more ancient by Kroeber (1935: 8), but both scholars agreed fully that the "Hokan stratum" was much older than the stratum associated with Algonquian or Athabascan. In retrospect, it would appear that near-complete diffusion of cultural traits among the Northwest Coast groups had masked the diversity of their origins in Klimek's study.

Cultural blending apparently was accompanied by extensive genetic mixing on the Northwest Coast. The following passage from Hulse (1960: 51) is illustrative:

> Certainly one cannot maintain that the Hupa resemble, in their blood-type frequencies, the other Athabascans.... one suspects, the influence of Northwest Coast culture, even in attenuated form, led to such extensive and long-continued intermarriage that the original Hupa gene-pool merged into another, larger one long ago.

Summary

There are adequate data to postulate a schedule of prehistoric population movements into northwestern California. The Hokan speake are considered to be the most ancient, both in California (Klimek 1935; Kroeber 1935) and in the remainder of North America (Voegelin 1945). Their presence in California is thought to date earlier than 5500 years ago (Hopkins 1965; Taylor 1961), a view consistent with the glottochronological dates of 5500 years ago for the earlies divergences among California Hokan languages (Swadesh 1954).

The Athabascan immigration occurred relatively late in Californ prehistory (Klimek 1935; Kroeber 1935). Glottochronology variously places the Athabascan entry at 2000, 1000-to-1300 and 1200 years ago (Swadesh 1964; Hoijer 1956; Hymes 1957, respectively).

It is generally accepted that the Algonquian speakers were also late arrivals in California (Klimek 1935; Kroeber 1935), but no glottochronological studies are available to fix the absolute age of California Algonquian. Nevertheless, the criterion of internal diversity does suggest that Algonquian is at least several centuries younger than Athabascan. The best order and probable ages

for the relevant ancestral languages in northwestern California, therefore, would be:

Proto-Karok	(~55 centuries?)
Proto-Hupa/Chilula/Tolowa	(~12-13 centuries?)
Proto-Yurok/Wiyot	(~ 9-10 centuries?)

III: Ethnographic Background

There are many fascinating accounts of the cultures of the Tolowa, Yurok and Chilula Indians, who once lived in the area now within the Redwood National Park. It is my intent here to review the aspects of northwestern California ethnography which may be germane to National Park Service interpretive and resource management programs. With present-day foci on ecological topics, park planners and visitors alike will be interested to learn how the Indians coped with the redwood wilderness.

Specific purposes of this chapter are: (1) to identify points of anthropological interest in and near Redwood National Park and to provide data concerning their significance; (2) to sketch the ancient life-ways of the Indians in the vicinity of the park so as to provide the National Park Service with information useful in the preparation of interpretive exhibits and literature; (3) to documen the salient cultural activities of aboriginal northwest California as a stimulus for the Park Service to encourage the perpetuation of native practices for the benefit of local Indian people and the edification of park visitors, and (4) to review a wide range of technical sources in the hope that this chapter will serve as a key resource for non-specialists who may wish to research ethnographic matters in more detail than can be provided here. Toward this end, an extensive bibliography has been appended to this report.

The Northwest California Culture Area

As a culture area, northwest California included the territori of the Yurok, Tolowa, Hupa, Karok, Wiyot, Chilula and Chimariko (cf Map 1), as well as the more southerly Whilkut, Nongatl, Mattole, Lassik, Wailaki and Sinkyone (cf. Heizer and Whipple 1971: Map 1). Although each of these cultures was distinctive in speech and certa customs, they shared the fundamentals of the northwest coastal phil sophical and socio-economic patterns. In particular, these groups were adapted to riverine, littoral and forest environments. Their

subsistence was based upon the taking of salmon, shellfish and pinnipeds--activities which contrast rather sharply with the terrestrial hunting-gathering economy of central California Indians (Kroeber 1925, 1939; Baumhoff 1963). Accordingly, Beals and Hester (1960) have included the "tribes" of northwestern California in their "Riverine" and "Coastal Tideland Gatherers" ecologic types.

Relative to other California culture areas, the northwest area is marked by numerous idiosyncratic traits. Among these are split wooden-plank houses and sweathouses; wooden dugout canoes; carved wooden pillows, acorn mush paddles, and boxes; emphasis upon wealth, with Dentalium shell money and certain "treasure" items; twined basketry caps and receptacles; special adzes, mauls, antler chisels and wedges for woodworking; carved elkhorn spoons with fancy handles; tubular tobacco pipes with wooden shafts and stone bowls, and carved antler purses for shell money. The north coastal Indians were also known for their minimal political organization and for their participation in the World Renewal religious cult (Heizer 1951b; Kroeber 1925; Kroeber and Gifford 1949).

Demographic Notes

Because of the rugged topography and dense forests which characterize the Klamath Mountains, Indian settlements were customarily located along the coast or on river banks. Small streams seem to have been virtually unoccupied, and the hinterlands served only for deer hunting, gathering firewood and collecting acorns, berries and seeds. Permanent inland villages were situated on riverine terraces well above winter flood levels. On the coast, the shores of lagoons or sheltered streamsides were most often selected as habitation places (Drucker 1937; Kroeber 1925; Waterman 1920, 1925).

Settlements of northwest California seem to have been of three types: major villages, small hamlets and temporary encampments. The first-order villages were recognized as places where there were many houses, where important ceremonies were held and where especially wealthy men resided (cf. Drucker 1937; Kroeber 1925). Subsidiary to

these villages were nearby hamlets of several houses each; often these had been settled by overflow from the main village. The third class of settlements included camp sites, which were occupied seasonally for special activities, such as smelt fishing or acorn harvesting (Gould 1966a).

Although one might suspect that a degree of political cohesion would have united the villages with their tributary hamlets, Kroeber (1925: 16) stressed that:

> ...since there was no definite community sense within a village, there was no opportunity for a larger or political community to develop out of a group of adjacent villages. One settlement in such a group--"a suburb"--was sometimes involved in a feud while another directly across the river looked on. Of course, wherever kinship existed, it formed a definite bond between towns as within them;...

Ethnographic accounts of Yurok settlements report one to 22 houses per village, in addition to sweathouses. The reconstructed averages for settlements of all sizes and kinds would be 7.5 persons per house, six houses per town and about 45 persons per town (Kroeber 1925: 17). That these figures probably apply to other north coastal groups is supported by data from the Tolowa area, where 14 villages had an average of 5.5 houses each (Drucker 1937).

Tolowa Settlements

Since the first listing of Tolowa Village names appeared in Hodge's (1910) Handbook, many other scholars have reported upon aspects of Tolowa demography. The works of Curtis (1924), Gould (1966a), Drucker (1937) and Waterman (1925) are especially valuable. The following list combines data from all of these sources and presents the various orthographies which have appeared in print over the years. Preferred spellings follow Drucker's (1937) usage.

(1) Xa'wunhwut (also Hawinwet, Huwunkut, Khoonkhwuttunne, Xawinwet or Siesta Peak Rancheria)--on the north bank of Smith River; destroyed by settlers in 1853; rebuilt on an island; 13

houses and three sweathouses; two divisions, "upriver" and "downriver," each centered around the house of a rich man (Curtis 1924; Drucker 1937; Kroeber 1925; Waterman 1925).

(2) Yə' tə́:kut (also Yontakit, Yotokut, Ataakut, Yó^{n}t'akit or Yontucket Rancheria)--on the old Burnt Ranch, north of Lake Earl; a large number of Tolowa people were massacred here by white settlers in 1853; seven houses, two sweathouses and a sacred sweathouse; two divisions, "on the hill" and "oceanward" (Drucker 1937; Kroeber 1925; Curtis 1924; Waterman 1925).

(3) Tró':let--a small suburb of Yə' tə́:kut (Drucker 1937).

(4) Mú'nsəntun (also Munsontun)--on the east bank of Smith River; site of an annual salmon weir; one house, occupied by a man from Yə' tə́:kut (Drucker 1937).

(5) Kehəslĩ'hwut (also Kehoslihwut)--an "old site" on the east bank of Smith River; three houses and an above-ground men's sleeping house; reinhabited from Yə' tə́:kut (Drucker 1937).

(6) Mĩ'litcuntan (also Melishenten)--on Smith River at a former weir site; one house on each side of the river and one sweathouse (Drucker 1937; Kroeber 1925); probably the hamlet named Minitcé'nten by Waterman (1925).

(7) Si' tragĩ'tum (also Stragitum)--an "old site" on the west bank of Smith River, inhabited by a man from E':tcūlet; one house and one sweathouse (Drucker 1937).

(8) Tcunsú'ltun--on the north bank of Smith River; two houses and a sweathouse; a suburb of Ta':tatun (Drucker 1937).

(9) Te':nĩtcuntun (also Tenitcuntun)--"at the foot of the trail"; no data on number of houses (Drucker 1937).

(10) Muslye'--abandoned in 1937; said to be a suburb of Yə' tə́:kut (Drucker 1937).

(11) Tunme:'tun--on the south bank of the Middle Fork of Smith River; two houses; a suburb of Yə' tə́:kut (Drucker 1937).

(12) Tcestú'mtun (also Chestltshtun)--on the west bank of the South Fork of Smith River, east of Crescent City; two or three houses; most inhabitants were slain in a feud during historic times;

the survivors moved in with relatives at Ta´:tatun (Curtis 1924; Drucker 1937).

(13) Na´kutat--on the north bank of the South Fork of Smith River; a suburb of Ta´tatun (Drucker 1937).

(14) E´:tcūlet (also Echulet, Echulit, Aichulet, E´tculet or Lake Earl Rancheria)--on the edge of Lake Earl; a large town noted for its wealth; 11 houses and four sweathouses (Curtis 1924; Hodge 1910; Drucker 1937; Kroeber 1925; Warburton and Endert 1966).

(15) Tucrəcku´ctun (also Tatrghatkustan)--on the shore of Lake Earl; nine houses and two sweathouses; offshoot of E´:tcūlet, established after a quarrel over whale rights ca. 1850 (?) (Curtis 1924; Drucker 1937; Waterman 1925).

(16) T'aɣi´a´te (also T'aiɣa?n, T´agiatun, Targhinaatun or Point Saint George Rancheria)--"pointing seaward"; an extremely large prehistoric town, occupied by 300 BC; used historically as a camping place for shellfish gathering and sea lion hunting; depopulated early in the historic period by an epidemic, possibly of cholera (Curtis 1924; Drucker 1937; Gould 1966a; Waterman 1925).

(17) Ta´ti?´tun (also Tati^{n}ti^{n})--northern end of Pebble Beach; abandoned early in the 20th century; possibly a suburb of Ta´:tatun (Drucker 1937; Kroeber 1925; Waterman 1925).

(18) Meslte´ltun (also Metelting, Mestethltun, Meslteln or Pebble Beach Rancheria)--near the southern end of Pebble Beach; a wealthy satellite of Ta´:tatun; nine houses and two sweathouses (Curtis 1924; Drucker 1937; Kroeber 1925; Waterman 1925).

(19) Ta´:tatun (also Tatlatunne or Tata´ten)--a village at Crescent City; moved in historic times to Senĭ´gxat (Curtis 1924; Drucker 1937; Waterman 1925).

(20) Senĭ´gxat (also Seninghat, Se´:niñhat or Crescent City Rancheria)--at the site of Seaside Hospital in Crescent City; occupied historically by people from Ta´:tatun; 11 houses and two sweathouses (Drucker 1937; Kroeber 1925; Waterman 1925).

(21) Šxme? (also Cushing or Cushion)--a hamlet along Cushing Creek; occupied during the mid-19th century; one house and a sweat-

house (Moratto 1972). Bearss (1969: Plate 1) refers to this Cushing Creek village as "Nec-Kah." This designation apparently is incorrect; it may be a misplaced reference to Neke'l, which was the Yurok name for the village (No. 22) at Nickel Creek (Drucker 1937; Moratto 1972: 22). Gould (1966a: 25) states that Nos. 21 and 23 are the same.

(22) Tšiniyat'ə (also Shinyatlchi, Cinya'lcri, Cinya'tltci or Nickel Creek Rancheria)--on the north bank of Nickel Creek; "summer fishing" place; at least two houses and a sweathouse; abandoned about 1880 (Moratto 1972; Waterman 1925; Kroeber 1925).

(23) Ltru'cme--south of No. 22; a suburb of Ta':tatun with two or three houses (Drucker 1937).

(24) Ta'geslsa:tun--along Wilson Creek, on both sides of the stream; a village with both Tolowa and Yurok residents; Drucker gives O'men as the Yurok name for this site, but Waterman (1920) shows O'menhipur as the village at Wilson Creek and O'men as a village 1/2 mile further south (Waterman 1920: Map 6).

(25) Sastaso^{n}'--"spoon holder," a settlement on Point Saint George; no data on houses (Waterman 1925).

Yurok Settlements

The Yurok inhabited the banks of the Klamath River from Bluff Creek, a few miles above Trinity River, to the ocean and along the coast from Trinidad to the mouth of Wilson Creek (Curtis 1924). The ~54 named Yurok towns either were clustered around lagoons and the mouths of streams or were strung out along the Klamath River; there were no villages on smaller streams deep in the forest. The river towns were situated on old terraces, usually 100 feet or more above the stream. In the winter of 1862 a tremendous flood destroyed many villages and forced the Yurok to relocate in new, higher places. Settlements frequently were moved for other reasons, including disease, attacks by enemies, bad dreams and feuding (Waterman 1920: 201-204).

Early lists of Yurok village names were compiled by Randall (1866) and McKee (1952; cf. Heizer 1972, 1973). Curtis (1924) and

Kroeber (1925) published excellent synopses of Yurok culture, including data on settlements, but the most comprehensive treatment available is Waterman's (1920) Yurok Geography. Using Waterman's orthography, I describe here the principal Yurok settlements in and very near Redwood National Park.

(1) O'menhipu'r--"O'men down river"; on Wilson Creek; seven or eight house pits were visible in 1914 on both sides of the creek, but there was no appreciable accumulation of shell (Kroeber 1925; Waterman 1920). Refer to Waterman's (1920) Map 6.

(2) O'men (also Ammĕ'nĕ or Amen)--on the coast near Lagoon Creek; the most important settlement in the vicinity; four houses and one sweathouse; at the time of Waterman's visit there were extensive accumulations of shell, less than 18 inches deep, "much eroded by wind and wave"; a spring in the sand just east of the village provided drinking water (Curtis 1924; Kroeber 1925; Waterman 1920: 230-231).

(3) Re'kwoi (also Rĕqâ'i or Requa)--"creek mouth"; an extensive village of 22 to 25 houses along the Klamath River near a small spring; Re'kwoi was important ceremonially as one of the places where the Jumping Dance was held; at least one sacred dance house was located at this village (Randall 1866; Curtis 1924; Waterman 1920). Kroeber lists Weltkwau, Tsekwetl, Pegwolau and Keskitsa as suburbs, and Tmeri and Otwego as somewhat doubtful separate villages (1925: 10). A map of Yurok house sites at Re'kwoi is given by Waterman (1920: Map 8).

(4) We'lkwä^{w} (also Weltkwau, Wetlko, Wekeswah or Wehlku)--a town situated across the river from Re'kwoi; nine houses are reported; a few house frames were still standing before 1920, but modern barns and outbuildings occupied much of the former village site; in this town lived an Indian with extremely valuable fishing medicine (Randall 1866; Curtis 1924; Waterman 1920). We'lkwä^{w} was one of a half-dozen Yurok villages with a sacred sweathouse where White Deerskin or Jumping dances could be performed (Kroeber 1925: 10).

(5) Tse´kwel (also Otwego) -- on the south bank of the Klamath River; Tse´kwel means "flat place in front of a bluff;" no data regarding houses (Kroeber 1925; Waterman 1920).

(6) Ho´ʾpäʷ (also Hoppaw, Hoppeu, Hoʾpau or Hâᶜpa̋u) -- on the north bank of the Klamath River; a small but wealthy town of four houses; a smallpox epidemic all but decimated this village in the early historic period; one wealthy woman in this town was cremated, along with her house, in compliance with her last request (Randall 1866; Kroeber 1925; Curtis 1924; Waterman 1920).

(7) Wo´keʾl (also Wokkel, Wakhel, Wohkel, Wakhkel or Wâhke̋ᶜl) -- "pepperwood"; on the Klamath River opposite No. 6; two or three houses; this site was destroyed by flood before 1920 (Curtis 1924; Waterman 1920).

(8) Sä´ʾäl (also Sa´aihl or Sa´aitl) -- "spirit people"; located on the Klamath River's north bank opposite Tū´rip; Sä´ʾäl was an important town of seven houses, with one or two very wealthy families; the town was thought to be inhabited by spirits, as well as by human beings (Kroeber 1925; Waterman 1920).

(9) Tū´rip (also Tarep, Turip or Turwre̋p) -- one of two towns on a "fine redwood flat;" this town contained eight houses and three sweathouses (Randall 1866; Curtis 1924; Kroeber 1925; Waterman 1920).

The many additional Yurok villages upriver from Tū´rip are not described here because of their distance from Redwood National Park. Locations and cultural details for these settlements are given by Kroeber (1925) and Waterman (1920).

(10) O´segen (also Osegen, Âs´eghe̋n, Ashegen or Ossagon)--on the north bank of Ossagon (or Ojagon) Creek; a small town with three houses and two sweathouses (Curtis 1924; Kroeber 1925; Waterman 1920); two sweathouses were still visible in the meadow north of the creek in 1935 (Hood 1965).

(11) E´späʷ (also Eshpeu, Espaᵛ, Âspa̋u or Ä´spa´w)--on the coast near Espa Lagoon; an important town of four to seven houses; many residents of E´späʷ had relatives in the towns of the lower Klamath River and there were direct trails between the two areas; the town was occupied until early in the 20th century and has accumulations of shell "several

yards thick" (Curtis 1924; Kroeber 1925; Waterman 1920).

(12) Otmekwo´r--at the edge of Redwood Lagoon; an old site with five house pits visible in 1920; possibly the site from which the inhabitants of Ore´q^{w} originated (Waterman 1920).

(13) O-re´q^{w} (also Orek^{w}, Ár̆aq or Arek^{w})--near Redwood Lagoon; this was the most important town in the neighborhood; in 1920 there were traces of six houses, a sweathouse and a cemetery; this was one of the villages at which the Jumping Dance was held; the early population of O-re´q^{w} is estimated to have been 25 to 35 persons (Waterman 1920).

(14) Hr´gwr'^{w} (also Hergwer or Plēpē´i)--at the edge of Stone Lagoon; seven houses and two sweathouses are reported for this site; during the early 1860s Chilula Indians from Bald Hills raided this village and killed 10 people; the survivors moved across the lagoon and settled at Tsa´hpek^{w} (Kroeber 1925; Waterman 1920).

(15) Tsa´hpek^{w} (also Tsapek or Tsa´p.ǎq)--at the edge of Stone Lagoon; 11 house names were recorded; this site was occupied until about 1935 (Moratto 1970, 1972; Waterman 1920).

(16) Tso´tskwi--at the edge of Dry Lagoon; an old site, possibly with as many as 12 houses and two sweathouses (Waterman 1920).

(17) Tmr´i--an old village site; no data on houses; the American town of Requa rests squarely upon this place (Waterman 1920).

(18) Sī´gwets (or Cigwe´tsu)--an old town site at the edge of Redwood Lagoon; a suburb of O-re´q^{w} (Waterman 1920).

(19) O-rä´^{w}--on the west bank of Prairie Creek; a camp site with a collection of shelters used while gathering acorns; the last outpost of Yuroks on Redwood Creek (Waterman 1920).

Chilula Settlements

Goddard (1914b) has documented the location of 28 Chilula villages and camps along the Redwood Creek drainage. All but one of the permanent villages were situated on the northeastern bank of this stream; the temporary (summer) camps were to be found on the higher "prairies" and hills on both sides (Kroeber 1925: 137). The Chilula are said to have been traditional enemies of the Teswan (i.e., Coast Yurok) and the heavily

wooded region separating their villages was a place of danger (Goddard 1914b). Kroeber (1925: 137) estimated that the average Chilula village was home to about 30 people.

Chilula sites of relevance to Redwood National Park are listed below.

(1) Xōwûnnakût (or Hōwûnnakût)--on a small flat east of Redwood Creek; the lowest Chilula village recorded by Goddard (1914b); several possible housepits were visible in 1914 (Goddard); if Goddard's (1914b) map is correct, Xōwûnnakût would have been in the vicinity of Counts Hill Prairie. In passing, it should be noted that Waterman (1920: 262) mentioned the Chilula village of Otlep as being the first settlement upstream from Yurok territory; Otlep may be a Yurok name for Xōwûnnakût.

(2) Nōlediñ (or Noleding)--a village on the northeast bank of Redwood Creek upstream from No. 1; this large settlement was occupied until 1888, when the last residents moved to Hoopa Valley. Both this village site and that of Xōwûnnakût possibly lie in or near the National Park. Goddard (1914b: 273) noted:

> The village derived its name, and perhaps its existence, from a nōle, or waterfall, a short distance up the stream. The creek bed was formerly choked with huge boulders, causing a fall, which was jumped by the salmon with difficulty. The fishing for both lamprey and eels, carried on with nets below the fall, was excellent.

Important information regarding Noledin was received in a letter from R.W. Becking of Arcata to the Director of the Cultural Resources Section of the California Department of Parks and Recreation in Sacramento. In part, this letter reads:

> In 1972, a study was made of the Chilula Indian tribe which inhabited the middle portion of the Redwood Creek drainage. According to accounts by Pliny E. Goddard (1914), a number of Indian villages were visited in 1906... One village, "Nolemdin," was described as ... above a waterfall in Redwood Creek ... Some 5-6 house pit sites were discovered ... and two stone hearths erected on the site later by the miners. Contact was made through Dr. Thomas Parsons with the Hoopa Indians and two aged women were found who have lived at Nolemdin and were anxious to go to the former site and identify three grave sites ... Nolemdin seemed also to have been the largest permanent Chilula village and is in close proximity to the Red-

wood National Park. (Becking 1973: 2-3)

(3) Lōtcimme--a village upstream from Nōlediñ and east of Redwood Creek; site of an old lamprey weir; housepits were visible on the northe edge before 1914; probably outside the Redwood National Park boundary (c Goddard 1914b: 273).

(4) Yītsinneakûttciñ--a temporary camp site west of Nōlediñ; this camp was occupied by Indians from the main village when they were gather- ing tan oak acorns (Goddard 1914b).

(5) Lōtsxōtdawillindiñ--a temporary camp site east of Nōlediñ (God 1914b).

(6) Fort near Lōtcimme:

> On the east side of Redwood Creek ... above Nōlediñ the ruin of a fortification was examined. It was quite hidden in the redwood timber .... A house had been built of large redwood logs put together horizontally in the form of a square, like a log cabin. There were four logs still in place, one above the other. The bottom logs, which were the larger, were about one and a half feet in diameter. Loop holes were made between the logs. Dan Hill said the roof, supported by a post in the center, was of split redwood planks. The door in the middle of the western wall was of tan oak planks about four inches thick. The floor was almost three feet below the surface of the ground outside. A small log house formerly stood south of the blockhouse and a house had stood near the creek. Among others, Tom Hill lived here for some time in anticipation of an attack by white people. The fortification, which was made during the trouble with white people, was never used. It is possible that this structure was copied from similar ones built by the white people of the region, for the Indians of Northwestern California seem not to have used fortifications of any kind. (Goddard 1914b: 281)

The many additional Chilula camp and village sites upstream from Lotcimme are described by Goddard (1914b). Since they fall outside the National Park boundaries, no mention of them will be made here.

Houses

Northwest coastal houses were made of redwood or cedar planks split from felled logs with antler wedges and stone mauls. Cross cuts were ma with fire, which was controlled with wet clay to prevent irregular burni

The rough plank was then dressed with an adze (Heizer 1951b).

Yurok houses were rectangular in plan, measuring about 20 to 24 feet wide by 30 to 36 feet long. The vertical wall planks, 1 to 3 feet wide and up to 4 inches thick, were secured to horizontal plates with withes or rope. The truncated-gable roof was formed of three rows of planks: one pitched to the right, one to the left and one nearly horizontal row on top. This tripartite roof was supported by four heavy stringers set into notches in the end-wall siding planks. A circular doorway, which could be shut with a board, was cut into one of the end-wall planks, near the ground and next to a corner (Plate I). About half of the enclosed area was occupied by a rectangular pit, 2 or 3 feet deep, within which the fire pit was centered. The earthen "deck" between the pit and the wall was used for the storage of firewood, food baskets, fishnets and other household effects. Certain parts of this deck were reserved for sleeping and were furnished with matresses of woven tules or the skins of deer, elk or "panther" (mountain lion) (Kroeber 1925; Heizer 1951b; Warburton and Endert 1966; Curtis 1924). Excellent photographs of such structures are to be found in Warburton and Endert (1966: 45-46) and Curtis (1924: facing pp. 52 and 54).

Yurok sweathouses were built over a rectangular pit, about 9 feet wide, 12 feet long and 4 feet deep. The walls of the pit were lined with heavy planks, which were cut to form a gable about 2 feet above ground level on the ends. A ridge pole was set into the end planks and thick roof boards were laid between the ridge and the earthen side walls. Sweathouses were always located near a stream, a lake or the ocean so that the men could plunge into cold water after sweating. Sweathouses were used for ritual, social and medicinal sweating, but they also served as dormitories for men and older boys (Warburton and Endert 1966: 74-75; Heizer 1951b: Fig. 32).

Kroeber (1925: 140) made the following observation on Chilula housing:

> The Chilula built the typical northwestern plank house and small square sweathouse in their permanent village. They were the most southerly Athabascan tribe to use this type of sweathouse. In addition, two villages contained large round dance houses of the kind characteristic of the region to the south, but not otherwise known in northwestern California.

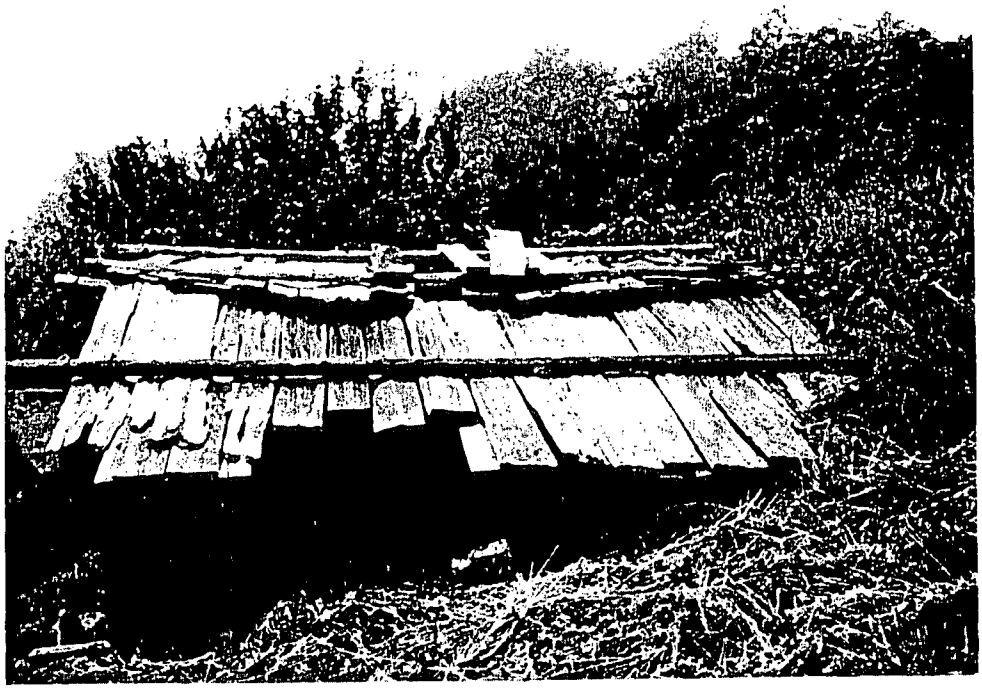
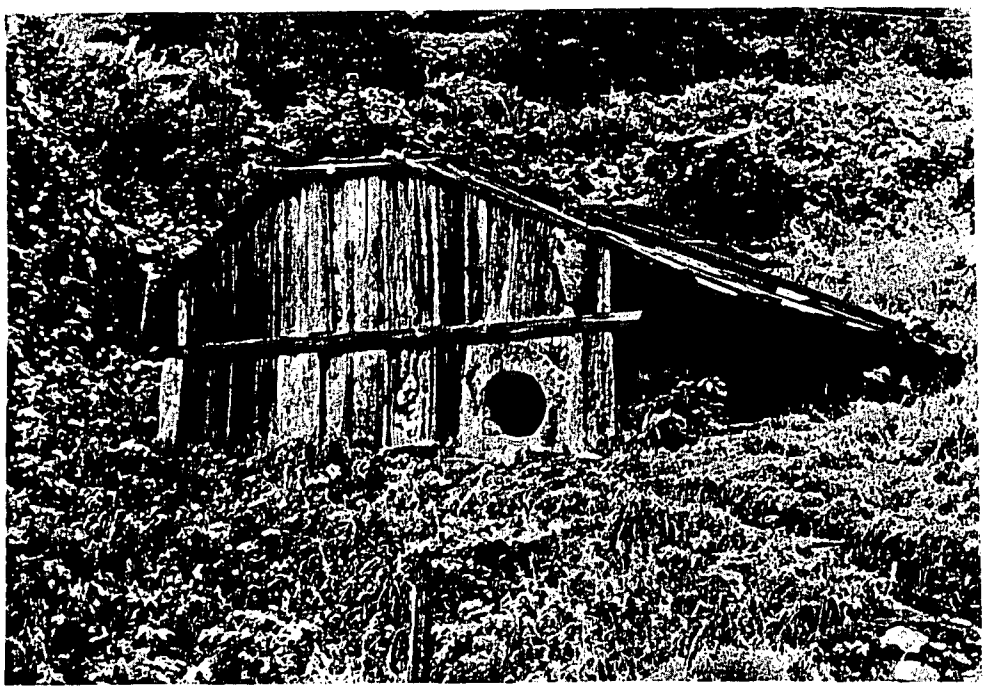


Plate I. Yurok family hosue at Re'kwoi on the north bank of the Klamath River. The house has been reconstructed and is maintained by the Del Norte County Historical Society. An exact replica was created in 1976 at the Wattis Hall of Man, California Academy of Sciences, San Francisco.



A

B

FIG. XV: Nōlediñ, a Chilula village near Redwood Creek. (A) Remnant of a stone fireplace at Nōlediñ. (B) Hollow redwood trees north of the site which were used as shelters by the Chilula (see Chapter III).

In addition to the "standard" residence and sweathouse, the Chilula are reported to have made brush-covered summer houses at their temporary camps. They also apparently used hollow redwood trees (Plate II) as ephemeral shelters during inclement weather (Goddard 1914b: 271). In most respects, Chilula dwellings must have been similar to those of the Hupa, which are described by Goddard (1903a: 11-17). Good photographs of Hupa or Chilula dwellings are published in Kroeber (1925: Plate 13), Goddard (1903a: Plate 2) and Curtis (1924: facing pp. 12 and 14).

Detailed accounts of Tolowa houses are given by Curtis (1924), Drucker (1937: 234-236) and Gould (1966a: 22-27). Tolowa dwellings differed from their Yurok counterparts, in that they tended to be square, their gabled roofs had only two slopes and their entrance holes were more commonly square than round. Tolowa sweathouses were subterranean, like Yurok sweathouses, but the former were covered with a single-pitch shed roof, which in turn was buried beneath a thick mantle of earth. Gould's (1966a: Plate 2 depicts such a sweathouse.

Boats

Typical canoes of northwest California are illustrated in Heizer (1951b: Fig. 12), Kroeber (1925: Plates 5, 13), Warburton and Endert (1966: 84), Kroeber and Barrett (1960: Plate 5) and Curtis (1924: facing pp. 26, 44 and 78).

Prior to the construction of a canoe, the Yurok held a special dance and sang a boat-making song. A redwood tree about 5 feet in diameter would then be chosen for felling, a tedious enterprise which might take six months. Another six months could be consumed as the canoe took form under the wedges, adzes and gouges used for carving (Warburton and Endert 1966: 67-70). In contrast to this account, it was asserted by Kroeber (1925: 83) that fallen trees or drift logs were customarily used and that fire was used to excavate the canoe's interior. Kroeber provides these details:

> The Yurok type of canoe, which was made also by the Tolowa and Wiyot and sold to the Hupa and Karok, is dug out of half a redwood log, and is a clumsy but symmetrical and carefully finished vessel. It is used on the ocean, but is obviously a

type devised for a rushing river full of rocks. ...the round belly of the boat and its gradually curving underside, without stem, allow a single stroke of the steersman's paddle to swing it as on a pivot, and in the rapids many a rock is approached head on and then shot by so close that the hand could reach it. ....The paddle... is a combination of pushing and sweeping implement, a stout pole 6 to 8 feet long, spreading below to a narrow, heavy blade, and used by standing men. Only the seated helmsman holds a true canoeing paddle (Kroeber 1925: 82-83).

Northwestern canoes averaged about 18 feet in length, 3 to 4 feet of beam and 10 to 18 inches deep (Kroeber 1925: 83). The dimensions of a Yurok canoe at Orleans were: length, 18 feet 2 inches; beam, 3 feet 8 inches; bow width 3 feet 1 inch; depth amidships 1 foot 5 inches (Curtis 1924: 39). Larger sea-going canoes were apparently in use during recent times to haul goods between Requa and Crescent City (Warburton and Endert 1966: 67-70). All canoes were equipped with carved footbraces for the bowsman and with both bootbraces and a carved seat for the steersman (Kroeber 1925).

The Tolowa canoes described by Drucker (1937) are essentially the same as those made by the Yurok, except that some Tolowa boats were much larger. Powers (1877: 169) saw on Humboldt Bay one of these sea-going canoes, which he said was made on Smith River and which measured 42 feet in length and had a beam of 8 feet 4 inches. It was capable of carrying 4 men or five tons of freight (cf. Kroeber and Barrett 1960: 126). Drucker states that the Tolowa made five-man "sea lion boats," which were up to 5.5 fathoms (~27 feet) long, 3 feet deep and 1 fathom of beam (Drucker 1937: 237). This description is certainly consistent with Amelia Brown's recollection that "four or five" Tolowa "boys" and "two or three" sea lions could fit in one of the canoes stationed at TšiniYatᵛə (Amelia Brown 1972: personal communication).

The Chilula are said not to have employed watercraft (Kroeber 1925).

Subsistence Activities

Diversity characterized both the subsistence technology and the range of resources utilized by the north coast Indians. Fishing and collecting shellfish were emphasized in the native economy, but hunting,

fowling and gathering floral products were also quite important. The resources of the northwest coast were so abundant that the Indians of the area were able to attain some of the highest levels of population density and cultural complexity known among food-gathering peoples anywhere. It should be pointed out, however, that although the northwest coast area produced literally tons of salmon, sea lion, whale, deer, elk, bear and waterfowl meat, these resources were available on a sporadic schedule and there were times of privation or outright starvation (Suttles 1968: 56-58).

Many techniques were developed to store surplus food for later use. Fish were smoked or dried in the sun; clams were steamed and dried; dried acorns, nuts, seeds, berries and seaweed were stored in baskets or boxes, and sea mammal meat and certain fish were rendered for oil, then hung within the family house to dry. Other foods, such as mussels and salmon berries, could not be preserved and had to be eaten fresh (Drucker 1937; Gould 1966a; Suttles 1968; Kroeber 1925).

The best accounts of native fishing practices in northwest California are given by Hewes (1942, 1947), Kroeber and Barrett (1960) and Rostlund (1952). Both marine and freshwater species of fish were taken with a great variety of nets, spears, leisters, hooks, harpoons, traps, weirs and poisons (cf. Bennyhoff 1950; Drucker 1937; Kroeber 1925; Kroeber and Barrett 1960; Hewes 1947). The main riverine fishes sought by the Indians were king or Chinook salmon (Oncorhynchus tschawytscha), coho or silver salmon (O. kisutch), red or sockeye salmon (O. nerka), steelhead (Salmo gairdnerii), white sturgeon (Acipenser transmontanus), green sturgeon (A. medirostris), lamprey eel (Endosphenus tridentatus) and several varieties of suckers (Catostomus spp.) (Kroeber and Barrett 1960). Of marine fishes, the Tolowa, at least, are known to have taken soupfin shark (Galeorhinus zyopterus), Pacific hake (Merliccius productus), Pacific halibut (Hippoglossus stenolepsis), redtail surfperch (Holconotus rhodoterus), striped seaperch (Taeniotoca lateralis), bocaccio (Sebastodes paucispinis), yellowtail rockfish (Sebastodes flavidus), black rockfish (Sebastodes melanops), vermilion rockfish (Sebastodes miniatus), turkey-red rockfish (Sebastodes ruberrimus), lingcod (Ophiodon elongatus), kelp greenling (Hexagrammos decagrammus), Cabezon (Scorpaenichthys marmoratus) and red Irish lord (Hemilepidotus

hemilepidotus) (Gould 1966a: 85). Photos of native fishermen have been published by Curtis (1924), Warburton and Endert (1966) and Kroeber and Barrett (1960).

Sea mammals were highly prized for food in northwest California, especially by the Tolowa. Both the Yurok and the Tolowa respected individual ownership of stretches of beach where sea lions could be harpooned or where beached whales could be processed. Whales were not hunted on the sea, but seals and sea lions were taken regularly (cf. Driver 1939; Hewes 1947; Kroeber 1925). Accounts of sea lion hunting are given by Warburton and Endert (1966: 111-113) and by Kroeber and Barrett (1960: 116-117). The Yurok hunted sea lions

> ...on the rocks, about six men going out in a boat. Three or four of these might bring deerskin blankets, or sometimes a bearskin because some sea lions are black. These men landed on the rock to act like sea lions and attract them; the others stayed in the boat, off to one side, out of sight....When those left there saw sea lions coming, they began to sway and crawl and shout like them, to persuade the sea lions to come up close. Meanwhile they got their harpoons ready; and when a sea lion was near enough, all the men cast their harpoons at the same time....The sea lion would drag off whatever harpoon he was struck by. Then the boat came close to the stack and took off the hunters, and they looked about for the sea lion to emerge....Two of the men in the boat stood ready with more spears...Sometimes the animal had to be struck five times before it was killed....Usually they did not attempt to harpoon a large sea lion when the sun was getting low, because the big ones took a long time to kill and sometimes dragged the boat far out into the ocean...Morning was the right time to spear big ones, because it might take up to half a day to kill them. A good sized sea lion cannot be taken into the boat; holes were punched through its lips and flippers, and then it was towed back to land. (Kroeber and Barrett 1960: 116-117)

Not fewer than six species of sea mammals were represented in the rcheological remains at the Point Saint George site: whale (sp. ?), tellar sea lion (Eumetopias jubata), California sea lion (Zalophus aliforianus), harbor seal (Phoca vitulina), northern fur seal (Callohinus ursinus) and sea otter (Enhydra lutra) (Gould 1966a).

In addition to sea mammals, shellfish were staples in the diet of he Tolowa and Coast Yurok. Excellent data regarding the exploitation of olluscan resources by the northern California peoples are recorded by

Driver (1939), Gould (1966a), Hewes (1947) and Kroeber and Barrett (1960). Among the species collected were the ocean mussel (Mytilus californianus), abalone (Haliotis refescens and H. cracherodii), Washington clam (Saxidomus nuttallii), common littleneck (Protothaca staminea), heart cockle (Clinocardium nuttallii), razor clam (Siliqua patula), gaper (Tresus nuttallii), rock scallop (Hinnites giganteus), barnacles (Balanus sp.), sea urchin (Strongylocentrotus purpuratus), giant chiton (Cryptochiton stelleri) and various crabs (Cancer spp.) (Gould 1966a; Kroeber and Barrett 1966).

Although many types of resident and migratory birds occur in the northwest coastal region, they seem not to have been exploited in proportion to their abundance. The Tolowa customarily got young cormorants (Phalacrocorax sp.) from their nests before they could fly (Gould 1966a: 85). Geese, ducks, scoters, coots, gulls and pelicans were probably also taken for food, although the ethnographies are vague in terms of species identification. It is certain that pileated woodpeckers (Dryocopus pileat and acorn woodpeckers (Melanerpes formiciverous) were killed for their red crests (Kroeber 1925; Gould 1966b; Drucker 1937).

All of the north coastal groups seem to have held private tracts of land for hunting and collecting. Animals were secured in traps or snares or were shot with arrows. Important food creatures included deer (Odocoileus hemionus), elk (Cervus canadensis), black bear (Euarctos americanus), racoon (Procyon lotor), coyote (Canis latrans), rabbits (Sylvilagus spp.), hares (Lepus spp.) and mountain lions (Felis concolor) (Gould 1966a; Drucker 1937; Kroeber 1925; Curtis 1924; Suttles 1968).

A number of authors have described the seasonal round practiced by the Indians of the north coast. These data may be synopsized as follows:

Spring: Chinook and silverside salmon and sturgeon caught in rivers and creeks; certain roots and berries collected in late spring; hazel shoots gathered for making baskets; young greens gathered; eels trapped; various land mammals hunted; clams dug.

Summer: Ferns, beargrass and hazel shoots gathered for baskets; blackberries, thimbleberries, salmonberries, huckleberries and raspberries

picked; deer, rabbits, etc. hunted; surf fishing (for smelt) in later summer; hazel nuts collected; cormorant eggs and nestlings gathered; foraging for seaweed, molluscs, abalone, etc.; some sea mammals hunted.

Fall: Special work groups left the main villages to gather acorns and then to fish for Chinook and silver salmon; numerous plant foods gathered, including hazel nuts, wild onions, camas, wild popatoes, chinquapin nuts, huckleberries, manzanita berries, fern roots, soap root, skunk cabbage roots, many kinds of grass seeds and pine nuts; quail, deer and rabbits hunted; sea mammal hunting continued.

Winter: Best sea lion hunting was in late winter/early spring; waterfowl hunted; steelhead, candlefish, eels and sturgeon caught; deer and elk hunted; most likely period for beached whales; economic pursuits diminished and increased reliance placed on stored foods.

Additional details are provided by Suttles (1968), Warburton and Endert (1966: 104-105), Gould (1966a: 88-92, 1966b), Drucker (1937: 231-235) and Kroeber (1925: 84-88).

Money and Wealth

Among the Indians of northwest California, all material items--baskets, houses, tobacco, canoes, bows, etc.--had some recognized worth, but they were not considered to be money or treasure goods (Heizer 1951b; Kroeber 1925). Special treasures included white deerskins, red woodpecker scalps and excessively large (up to 33 inches) flint and obsidian blades (Kroeber 1925: 26-28; Drucker 1937: 242). Dentalium shells, acquired in trade from more northerly Indians and strung on fiber twine, functioned as money. Kroeber (1925: 23) said that "the Yurok grade their shells very exactly according to length, on which alone the value depends"; but Warburton and Endert (1966: 86) observed that incised dentalia were worth a little more than plain ones. Dentalia sizes and values are reported by Kroeber (1925: 23); the function of the shells is described by Drucker (1937: 240-241):

> The uses of the dentalia were virtually the same as those of our money. One could pay damages; hire a doctor to cure; buy a magical formula, a canoe, a quiverful of arrows, or a dance headband with the shells....The chief points of difference are that the Tolowa currency counted for more in determining social

status, and that it was not normally exchanged for the necessities of life.

Dentalia strings were measured against tatoos on the arms of men (see Curtis 1924: facing p. 108). Illustrations of these wealth items are widely available: Dentalia shells (Gould 1966b: 71; Curtis 1924: facing p. 10); woodpecker scalp headband (Gould 1966b: 71); white deerskins (Curtis 1924: facing pp. 30 & 32; Heizer 1951b: Fig. 25; Kroeber 1925: Plate 3; Kroeber and Gifford 1949: Plate 2), and obsidian blades (Curtis 1924: facing p. 34; Kroeber 1925: Plate 2; Gould 1966b: 73).

Kroeber (1925: 2) stressed the significance of wealth and the role of wealthy men in maintaining social cohesion. In a later paper, DuBois (1936: 50) made a distinction between "subsistence" and "prestige" economies of the Tolowa:

> By subsistence economy is meant the exploitation of the plentiful natural resources available to any industrious individual. ...By prestige economy, on the other hand, is meant a series of social prerogatives and status values...

Gould, in a comprehensive examination of The Wealth Quest Among the Tolowa Indians, argued, instead, that subsistence and prestige economies were inter-related on the northwest coast:

> It will be shown that the quest for wealth among the Tolowa hinged primarily upon the acquisition and disposal of women. The fact that the ultimate goal of an ambitious Tolowa man was prestige (for which the possession of wealth was a prerequisite) has been amply demonstrated... What this paper will show is that the workings of this quest for wealth--and ultimately prestige--were substantially different from what has been previously suggested for these people. With certain modifications which will be described, Tolowa "treasures" were all-purpose money, with women's labor serving as the link between the subsistence and prestige aspects of the economy (Gould 1966b: 68)

Following an exhaustive review of Tolowa economics, it was concluded that:

> While the exchange of subsistence goods (particularly food) for "treasures" was not an everyday affair, it nevertheless was common....Given the fact that "treasures" could be and were exchanged for food, it becomes easier to realize the basic importance of a man's access to women's labor in his quest for wealth. The more women a man had working for him, the more

food he could expect to store--thus furnishing him with articles which could be exchanged for "treasures" and at the same time furnishing a direct means of enhancing his prestige at feasts... (Gould 1966b: 87)

Clothing and Ornamentation

Dress for women consisted of a skirt, about 26 inches long, made of fringed buckskin or, less often, shredded maple bark. A twined apron, lavishly decorated with beads, shells and pine nuts, was worn over the front of the skirt (cf. Curtis 1924: facing p. 98). Finely-woven twined basketry caps were worn almost constantly and necklaces of Dentalium shells or other beads were much admired. All women were tatooed on the chin with vertical strips running from the mouth downward (Warburton and Endert 1966: 150-151; Curtis 1924: facing p. 100).

Men customarily wore a buckskin wrap or breechclout. When hunting in brushy country, leggins were indispensable. In winter or when trekking great distances, men and women wore moccasins. Both single-piece deerskin moccasins and moccasins with extra elkhide soles were made. Blankets or capes of animal fur augmented the standard dress in cold weather.

Illustrations of northwest coast Indian clothing are to be found in Goddard (1903a: Plates 4 and 5); Heizer (1973: Figs. 1-4); Kroeber and Heizer (1968: Figs. 23, 24, 61, 73 and 98); Warburton and Endert (1966: 142), and Curtis (1924: facing pp. 64, 72, 86, 92, 96, 98, 100, 102, 110 and 112).

Basketry

Chilula, Tolowa and Yurok women brought the craft of basket weaving to a high degree of excellence. Aside for minor elements of finish, all northwestern California basketry was made by the twining technique. Baskets were twined of spruce, redwood, bullpine, sugarpine, alder, willow or wild grape roots over warps of hazel, willow or myrtle sticks. Overlay was completed with white grass (Xerophyllum tenax), ferns or porcupine quills. Special basketry forms were made for cooking, storage, grinding acorns, carrying burdens and toting infants; there were also fish baskets, soup baskets, dippers, water baskets, gift baskets, dance baskets and basketry

caps for women, all fashioned by twining. Fine examples of all these types are illustrated by O'Neale (1932: Plates 5-58). Other north coast baskets are to be seen in Mason (1904: Plates 86, 88, 92, 96, 170 and 171) and Goddard (1903a: Plates 20-27).

Miscellaneous Material Arts

> In addition to the many sorts of baskets and a considerable number of dance paraphernalia, nearly 100 different kinds of implements...have been preserved in museums. Adding those which went out of use before they were collected, it is safe to say that the group made at least 150 and perhaps 200 distinct types of utensils. This is evidence of a fairly rich civilization. (Kroeber 1925: 97)

Some of these implements include bows and arrows (Warburton and Endert 1966: 89-90; Schumacher 1951; Ray 1886; Pope 1962), musical instruments (Curtis 1924; Kroeber 1925: 96), woodworking tools (Kroeber 1925; Goddard 1903a; Curtis 1924) and fishing tackle (Kroeber and Barret 1960; Hewes 1947 Bennyhoff 1950; Curtis 1924; Kroeber 1925). Many details regarding cultura material are given in the general summaries by Driver (1939), Flannery (1939), Kroeber (1925), Curtis (1924), Warburton and Endert (1966), Goddard (1903a, 1914b) and Drucker (1937).

Tobacco and Smoking

Native tobacco (Nicotiana sp.) was the only plant cultivated by the Indians of northwest California. A level place was prepared for cultivation by covering it with spruce, fir and hemlock boughs, which were then burned to ash. Wild tobacco seeds were sown with the aid of a digging stick early in the spring and the young plants were tended with care. Men customarily smoked their tobacco pipes in the sweathouses before retiring (Warburton and Endert 1966: 88).

Shamanism

Among California's north coast Indians there developed a unique complex of traits associated with shamanism. Customarily women, shamans were persons who derived special power from the possession of a "pain" (a pathological object with its own power) and the ability to control it.

Curing was accomplished by sucking the pain out of the patient during a singing and dancing ritual (Drucker 1937; Kroeber 1925). Doctors' fees were high and had to be paid in advance. One man is reported to have paid $20 and a string of Dentalium shells for a cure; a particularly reputable shaman is said to have consistently charged $100 per case (Warburton and Endert 1966: 76-78). Detailed accounts of shamanism are given by Spott and Kroeber (1951), Kroeber (1925), Curtis (1924: 43-46) and Drucker (1937: 257-259).

There also was a special class of sorcerers:

> Whereas some sorcerers are said to have practiced their evil art in secret, others openly boasted of their misdeeds. Usually their reputation for invulnerability was sufficient to save them from retaliation, though modern firearms seem to have been more effective against them than aboriginal weapons. I have the notion that often sorcery may have been an outlet for a thirst for recognition. It is certain that the wizard was greatly feared. (Drucker 1937: 259)

Mortuary Practices

Disposal of the dead by burial was the universal custom in northwestern California, except that persons who had starved to death were sometimes thrown into a river (Curtis 1924: 42; Gould 1963). A corpse was retained in the family house for one to three days while kinsmen assembled for the funeral. The body was then removed from the house through a special opening in the wall; a corpse was never carried through the regular door. In the cemetery, which was near the houses, a shallow grave was prepared by a kinsman. Dentalium shells and broken wealth items--obsidian blades, woodpecker scalp headbands, etc.--were placed with the deceased in the board-lined grave. After the burial, poles were erected at the grave site and were hung with baskets, dance costumes and other valuables. After the funeral all persons associated with the burial had to undergo ritual cleansing, lest they be contaminated by the death (Curtis 1924: 42; Kroeber 1925: 46-47; Warburton and Endert 1966: 123; Drucker 1937: 255-256; Gould 1963).

An absolute taboo is laid on the names of the dead; the violation of this constitutes a mortal offense, voidable only by a considerable

payment (Kroeber 1925: 48; Curtis 1924: 42).

The property of the deceased was inherited by patrilineal relatives. That which could not be used was burned rather than given to non-kinsmen (Drucker 1937). Relatives were expected to show grief for about a year after the funeral. This requirement was particularly binding upon widows, who had to singe their hair, cover their faces with pitch and/or ashes and generally refrain from social contacts for the mourning period.

Religion

The Indians of California's north coast region vigorously participate in the World Renewal Cult, one of three native ceremonial systems in the state:

> The esoteric magic and avowed purpose of the focal ceremonies comprising the system include reestablishment or firming of the earth, first-fruits observances, new fire, prevention of disease and calamity for another year or biennium. These several motivations, some of which are explicit or alluded to in each of the dozen local cults, appear to be conveniently suggested by our name "world renewal";... (Kroeber and Gifford 1949: 1-3)

World Renewal ceremonies consisted of esoteric rites performed by a priest or formulist, along with the White Deerskin and Jumping dances:

> The two used different characteristic regalia--woodpecker-scalp headbands and dance baskets in the Jumping Dance; albino and other deerskins along with long flint and obsidian blades in the Deerskin. The prescribed steps were quite different, and the songs can always be told apart. (Kroeber and Gifford 1949: 3)

These sacred dances were held only in a few special locations, where tradition and the availability of religious structures permitted them. Among the villages which held World Renewal dances were Re'kwoi, We'lkwä^{w}, O-re'q^{w}, Pekwan, Kepel and Weitspus (Curtis 1924: 47-48; Kroeber and Gifford 1949: 2). The Chilula are reported to have held White Deerskin Dances in prehistoric times also, but details are lacking (Goddard 1914b: 272). Descriptions of the World Renewal dances are to be found in Kroeber (1925), Kroeber and Gifford (1949), Woodruff (1892), Goddard (1903a) and Curtis (1924).

In addition to the dances associated with the World Renewal rites, the Brush Dance was held by northwestern groups for the purpose of curing children (Kroeber 1925; Kroeber and Gifford 1949).

Mythology

The rich mythologies of the various cultures relevant to this study have been documented by Goddard (1903a, 1904, 1914a), Drucker (1937), Graves (1929), Kroeber (1908, 1925), Kroeber and Gifford (1949), Warburton and Endert (1966), Waterman (1951), Curtis (1924) and many others. Only a few comments on mythology will be offered here.

The Yurok seem to have recognized countless spiritual entities, of which three were particularly important. Wâhpĕ́ku-mă̆u was the creator and a spirit who controlled natural resources, Pulu´kuhl-qĕrrĕq was characterized as a spirit who could transform evil beings into harmless ones and Coyote was the paragon of deceit, a trickster who often emerged victorious (Curtis 1924: 54). Of the many Yurok myths, two will be recounted briefly because of their relevance to the Redwood National Park vicinity.

Oregos: At the time of creation, Wâhpĕ́ku-mă̆u informed all spirits that they could choose what they wanted to be. Oregos decided to be the tall rock on the north bank at the mouth of the Klamath River (cf. Warburton and Endert 1966: 33). To Oregos was given the responsibility of directing the salmon into the river when spawning conditions were right. Oregos also saved people from drowning and fishermen prayed to her for calm seas (Warburton and Endert 1966: 14-16).

Nock Maye (Split Rock): Long ago, Nock Maye was a single great rock on the coast a few miles south of the Klamath River. Nearby lived an aging widower with his unmarried daughter of 20 years. When the old man announced that his daughter wished to marry, a large number of single men gathered at Nock Maye to compete for her hand. The bride, it was determined, would go to the man who could cast his net into the sea and catch the most fish. The men fished all day, but they caught nothing. Finally, Beaver (Tesear) came along and entered the contest. After making fishing magic, Beaver flung his great net into the sea as far as the sun, securing the near end of his net to a stake driven into Nock Maye. So many tons of

fish were netted that the strain on the anchor stake split the rock. Beaver was permitted to marry the girl and the split in Nock Maye may be seen to this day (Warburton and Endert 1966: 23-25).

Tolowa myths were similar to those of the Yurok. There was a creator (Kwɔ'ɛ le'cun) who was rather remote but who was prayed to, nonetheless. There were supernatural serpents in every river and lagoon and every sea lion rock was owned by a giant octopus, which ate people who broke taboos associated with the rock. The Tolowa also believed fervently in wood devils--wild hairy beings of human form--as well as benevolent wood sprites (Drucker 1937: 267-268).

Miscellaneous Aspects of Social Organization

Space limitations prevent even an introduction to the complex and fascinating matters of social structure, marriage, kinship, law and related aspects of northwest coastal ethnography. These topics are well described by Kroeber (1925), Goddard (1903a, 1914b), Drucker (1937) and Curtis (1924).

IV: Ethnohistorical Notes

by

Patricia Parker Hickman and Michael Moratto

The purpose of this chapter is not to duplicate the excellent synthetic history of Redwood National Park by Bearss (1969), nor is it possible to introduce new primary data of the sort compiled in the regional studies by Coy (1929), Bledsoe (1881, 1885) and others. Rather, it is our intent to review the historical events which had a direct bearing upon the lives of California's north coast Indians.

1542-1603 The first voyage of exploration along the Alta California coast occurred in 1542 under the command of Juan Rodriguez Cabrillo. When Cabrillo died following an accident, his pilot, Bartolome Ferrelo, pressed on northward as far as the mouth of Rogue River. Because of the heavy storms encountered in early 1543, Ferrelo remained 70 or 80 miles offshore and made no contacts with the natives of far northern California. The next outsider to visit the area was Francis Drake. Although he closely skirted the Humboldt County coast in 1579, no landfall was attempted until he was much further south. In 1595 the Spanish Captain Cermeño piloted his Manila galleon San Agustín across the North Pacific to Trinidad Head, thence southward into Trinidad Bay and beyond. Fearing rocks, Cermeño did not anchor until he reached Drakes Bay. It was not until 1603 that an explorer's journal mentioned Indians. In that year Sebastián Vizcaíno sailed northward as far as Lat. 43° and noted the presence of Indians in boats made of "pine and cedar" at a place which may have been the mouth of the Eel River. Hoping to entice the sailors to visit them upstream, the Indians are said to have offered acorns, nuts, fish and game (Coy 1929: 19-22; Bearss 1969: 17-21; Palais 1958: 7).

1775 More than 170 years after Vizcaíno's voyage, two vessels under the

command of Bruno de Heceta made their way up the Alta California coast. One of these ships, La Sonora, captained by Juan Francisco de la Bodege y Cuadra, put into Trinidad Bay and remained there from June 9th to 20th. Yurok Indian customs were noted, including the fact that iron implements were already in use (Curtis 1924: 39-40; Palais 1958: 8; Coy 1929: 13-23; Bledsoe 1885: 50).

1792-1793 In April, 1792, the English Captain George Vancouver explored the area around Cape Mendocino and returned the following year to look for Trinidad. His ships anchored in Trinidad Bay from May 2nd to 5th, while his sailors spent two days on shore exploring and studying the natives (Palais 1958: 9; Bancroft 1890).

1803-1808 Between 1803 and 1805 the Russians reconnoitered the Humboldt Count coast with the ultimate objective of finding a location suitable fc occupation. At about the same time, on May 11, 1804, the American ship Lelia Byrd put into Trinidad Bay. Trade commenced with the local Indians, but as they grew more numerous Capt. William Shaler decided to weigh anchor before trouble developed. The following year, American Captain Johnathan Winship arranged with Governor Baranov of Sitka to take 100 Aleuts on a sea otter hunting expedition to California. Winship's vessel, the O'Cain, appeared in Trinidad Bay on June 11, 1805, whereupon a vigorous trade in furs with the Indians was undertaken. As a conflict with the Indians began to materialize, Winship left Trinidad on June 22, but he continued to work the coastal otter colonies during the following years. In 1809, when the Russian Kuskov landed at Trinidad, he found that the sea otter populations had been decimated and that the local Yurok villages were abandoned. (Palais 1958: 10; Bearss 1969: 26-27; Coy 1929: 29).

1817 In this year the British schooner Columbia arrived in Trinidad Bay In active trading the sailors received furs, venison and berries i exchange for hoop iron cut into six-inch lengths. Notes on the

(Yurok) Indians included the facts that their "daggers" were made of stone, the women wore fine "leather petticoats" and leather capes, shell ornaments were used to embellish the clothing and women were adorned with chin tatoos (Bearss 1969: 28).

1828 Encumbered with a herd of 300 half-wild horses and mules, Jedediah Smith and his small band of mountain men became the first Caucasians to penetrate the redwood wilderness by an overland route. During their peregrinations, Smith and his men discovered the river that now bears his name and came to visit the plank lodges of the Hupa on Trinity River. After exceedingly arduous trekking down to the Klamath, Smith induced some Yurok near Kepel, with gifts of razors and beads, to ferry the trappers across the river. About two weeks later, with his band near starvation, Smith purchased lamprey eels, mussels and other foods from enterprising Yurok traders on High Prairie Creek. The Indians later returned with dried fish, clams, "seagrass mixed with weeds" and blubber. Moving northward along the coast, Smith's party made camp at "Nec-Kah" near the mouth of Cushing Creek (probably Šxmeʔ or Tšiniɣatʸə; see Chapter III). Pressing northward to Elk Creek, Smith encountered Tolowa Indians, who supplied him with fish, clams, strawberries and camas roots. From the Elk Creek camp, Smith skirted Lake Earl and traveled along the coast until he reached the Umpqua River, where his company was drastically reduced by the Indians (Bearss 1969: 31-39; Palais 1958: 11).

1828-1848 During the two decades following 1828 sporadic parties of fur trappers entered northwest California. Among these were Alexander McCloud, Peter Ogden and Michael La Frambois, but the details concerning their routes through the region are vague. However, it is certain that a team of beaver hunters led by Ewing Young crossed the Eel River near Middle Fork and proceeded via Jed Smith's old trail northward into Oregon (Bearss 1969: 40-41).

1848 Gold was reportedly discovered on the Trinity River and miners began to swarm into Trinity and Siskiyou counties; a convenient seaport near the diggings was being sought (Chase 1959: 16).

1849 In this year a contingent of about 40 miners at Rich Bar on the Trinity River, finding themselves without sufficient food for the winter, decided to seek a route to the coast. Having heard Indian descriptions of a fine bay to the west, Dr. Josiah Gregg and seven companions struck out for the coast. Despite extreme hardships, Gregg's party made its way over Bald Hills, along the old Chilula trail across Redwood Creek (near The Tall Trees), down to the coast at the mouth of Little River and then up the coast as far as Big Lagoon. Turning southward, the expedition discovered and named Mad River, Eel River and other landmarks. Dealings with the Humboldt County Indians consisted primarily of minor trading for foodstuffs (Bledsoe 1885; Bearss 1969; Palais 1958).

1850 Shortly after the discovery of gold on the Trinity River busy mining camps sprang up in the Klamath Mountains. With no white settlement between the Columbia River and Fort Ross, the interior populations were dependent upon the slow, expensive route up the Sacramento Valley for their supplies. It was clear that a coastal tie with the diggings was needed. Consequently, in March, 1850, 12 ships set out to rediscover Trinidad Bay and to seek a navigable river course to the interior. One of these vessels was the brig Cameo, which landed explorers at the mouth of the Klamath River and at Point Saint George. The Yurok and Tolowa at these landfalls met the visitors peacefully and received beads and other trinkets from them (Bledsoe 1885: 50; Palais 1958: 13). Less fortunate was the schooner Paragon, which ran aground in Crescent Bay (Chase 1859: 16-17; Bledsoe 1881: 12).

> No lives were lost in the stranding of the Paragon but the crew and passengers spent several uneasy nights ashore, as the Tolowa were not overly friendly,

> as the occupants of a small boat, which had landed here several days before, had shot and killed an Indian. (Bearss 1969: 50)

It was in 1850 that hostilities with the Indians became commonplace. Eight miles south of Happy Camp, for example, three persons were killed. The whites retaliated with the massacre of a large (unidentified) village of Indians (Bledsoe 1881: 9). In another incident, two whites were killed by Indians during the late summer 18 miles from Union. And when hostilities erupted near the forks of Salmon River white militants burned three villages and killed 50 to 60 Indians (Coy 1929: 137). Notwithstanding these atrocities, many of the Indians and whites remained on good terms, with the former continuing to aid the latter in times of need:

> Before Tarquin broke up in the pounding surf, several Yurok waded out to assist those aboard. The survivors were able to send a line ashore, which the Indians made fast to the rocks, and the crew and passengers were landed through the breakers, just before the ship broke up. (Bearss 1969: 52-53)

1851 Because of their native laws proscribing conflicts, the Yurok and Tolowa were steadfastly reluctant to instigate hostilities. Tensions increased as hydraulic mining upstream silted the rivers and diminished the salmon runs. Then, in June, 1851, five settlers were killed near Trinidad and another four men were eliminated at Thompkins Ferry, 12 miles below Witchepec (Schulmeyer 1963: 321-324). Later, volunteers banded together and retaliated by attacking an Indian settlement and killing an elderly woman (Bancroft 1890: 486). In another clash, vigilantes from Yreka "avenged" the deaths of two prospectors by attacking local Shasta Indians and then moving into the upper Smith River drainage where four Tolowa were killed at a village of nine houses (Beckham 1971: 49; cf. King 1972: 6). The scattered deaths of other whites in 1851 also were followed by indiscriminate retaliation (Coy 1929: 137).

In the spring of 1851 Captain McDermott led a party to the vicinity of French Hill to search for a legendary cabin and lost

gold mine; their Cibola was never found. When McDermott's men ascended French Hill they saw before them the sweeping arc of Crescent Bay. The legend of the lost mine and McDermott's description of the bay enticed later explorers into the area and ultimately led to the founding of Crescent City (Bledsoe 1881: 12-14; Palais 1958: 26).

From the standpoint of ethnohistory, the 1851 expedition of Indian Commissioner Redick McKee from Sonoma to the Oregon border is highly significant. Accompanied by 70 men, 140 mules and horse and 160 head of cattle, McKee marched northward by way of the sout fork of the Eel River. On the lower Eel he proposed the establish ment of an Indian reservation to extend from the mouth of the rive 13 miles up the coast to Cape Mendocino and 6 miles inland (Coy 1929: 138-139). Closer to Redwood National Park, McKee arrived in Wiyot territory and persuaded most of the Indians to move away fr white settlements. Before long, most of the Wiyot were concentrat on Gunther Island in Humboldt Bay (Loud 1918: 323; Schulmeyer 196 McKee then moved north, where he found the Chilula Indians gather acorns on a ridge west of Redwood Creek (Goddard 1914b: 267-268). Heizer's edition of George Gibbs' journal concerning McKee's expe tion contains some excellent accounts of the Indians of far north California:

> The grass (on the Bald Hills) is often burned (in the fall)... The men here surprised a party of Indians, who fled at sight, leaving their squaws and baskets to follow as best they could. These Bald Hills Indians, as they are called, have a very bad reputation among the packers, and several lives, as well as much property have been lost through their means. They appear to live a more roving life than those of the Klamath and Trinity Rivers.... It was the opinion of some... that each village (on the Klamath River) would average nine houses, of ten souls to the house; but this estimate, which would give a population of nearly three thousand, and a village to about every mile and a half on the river, seems clearly too large....a very liberal conjecture of the number of inhabitants would be fifteen hundred....

> Still less is known of the Indians north of the Klamath; but we were informed that the first tribe on the coast were a warlike band called Tol-e-wahs, of whom the Klamaths (i,e,, the Yurok) stand in some awe. Above them on Smith's river are the Eenahs or Eenaghs, and on the head waters of that stream are the Sians or Siahs... With regard to their form of government (on the Klamath River)... the mow-ce-ma, or head of each family, is master of his own house, and there is a sci-as-lau, or chief in every village. There are also head chiefs to the different tribes; but whether their power has definite limits, is confined to peace or war, or extends to both, seems very doubtful. It is certainly insufficient to control the relations of the several villages. (Heizer 1972: 134, 138-140)

Gibbs recorded a great many additional details of Yurok dress, customs, rituals, houses, crafts, etc. These data would be of great value to anyone conducting research into the mid-19th century status of the north coast Indians (cf. Heizer 1972, 1973; Gibbs 1853). Of prime concern here, however, is the fact that McKee may have averted a full-scale war between the settlers and the native residents of the north coast. In October, 1851, a council was held at Durkee's Ferry. At this meeting McKee signed treaties with representatives of 24 Indian groups (presumably separate village clusters). The Chilula boycotted the council (Bearss 1969: 67).

1852-1853 In spite of the treaties, inter-cultural violence persisted. In February, 1852, the Mattole Indians killed two men near the confluence of the Eel and Van Duzen rivers. The Wiyot were wrongly blamed for the deaths and in the same month a band of whites murdered 15 to 20 Wiyot people near Humboldt Bay and nearly 40 others at the mouth of Eel River (Coy 1929: 141; Loud 1918: 318-324; Schulmeyer 1963). Col. McKee denounced the cruelty of the whites in a letter to the governor, but state senators from the northern counties were vigorously pressing for Indian removal as the best solution to the "problem" (Coy 1929: 141). Pressure was brought to bear on Brig. Gen. E. A. Hitchcock to act in the matter. Two companies of the 4th U.S. Infantry were dispatched to Humboldt Bay in

January, 1853, where they established a post to be called Fort Humboldt (Bearss 1969; 69; Coy 1929: 142).

Following the discovery of Elk Valley in 1852 and the further reconnaissance of the Crescent Bay region, the town of Crescent City was laid out and construction was started (Bledsoe 1881: 15; Palais 1958; 27). The first building was erected by February, 1853, and before the end of the year there were over a hundred houses in the town and homesteads along Smith River and Rowdy Creek (Bledsoe 1881; 17; Palais 1958; 27).

Hostilities persisted. In 1853, three whites were killed in the neighborhood of Shannons Creek, presumably by Indians, and the Tolowa village of Ḥawŭnḳwŭt (sic) on the north bank of the Smith River was destroyed by settlers (Curtis 1924; 229; Bledsoe 1881; 20).

At about this time the settlers organized a company of volunteers to exterminate or deport the Redwood Creek Indians. The Chilula were deceived into gathering for a council, whereupon they were taken as prisoners to Humboldt Bay. From there the Indians were shipped to the Mendocino Reservation at Fort Bragg, where they were treated despicably. The Chilula managed to escape from their confines and started their 150-mile trek homeward. However, they were attacked by Lassik Indians on the Eel River near Fort Seward and only one or two Chilula escaped. When word of the massacre reached Redwood Creek, a band of about 70 Chilula and Whilkut armed themselves to retaliate;

> While camped near the site of Blocksburg they saw smoke to the east near the base of Lassik Peaks. Scouts sent out reported a large summer camp. This was surrounded about daybreak and the people killed without mercy, neither women or children being spared. Some of the Lassik took refuge under a log, where they were killed and remained unburied for many years... (Goddard 1914b: 269)

1854-1855 In November, 1885, an Indian named "Black Mow" (either Yurok or Tolowa) reportedly killed a white farmer, A. French, a short distance north of Crescent City. A team of vigilantes, led by J. M.

Rosborough, discovered French's body and promptly arranged for a warrant to arrest Black Mow and two other Indians suspected of complicity in the murder. All three Indians were captured near the mouth of the Klamath and, on November 22, 1854, were hanged on Battery Point in Crescent City. When rumors of impending Indian revenge began to circulate, a committee of settlers visited the Tolowa village of Yə'tə́:kut and observed apparent preparations for a fight. On January 1, 1855, a local militia of "Klamath Rangers" attacked the village and killed 30 Indians. These hostilities were brought to a close with the signing of a treaty with the Smith River Indians (Bledsoe 1881: 28-31; Gould 1966b: 81-82).

In January, 1855, war broke out along the Klamath. In anticipation of trouble, the miners began to cluster in larger settlements and the Indians sent their women and children into the mountains. On January 6, the miners held a meeting at Orleans Bar, at which they decided to disarm the Indians and to chastize any whites caught selling guns to the Indians. Renegade miners burned several villages and shamed Indian women. In retaliation, a band of Yurok and Karok swept down upon the diggings near Weitchpec and killed six whites. Because one of the Karok headmen wore a red cap, the collected series of incidents has become known as the Red Cap War. After the attack at Weitchpec a "Trinidad Volunteer Company" made several raids on the villages of the Lower Klamath River. Another unit of volunteer militiamen was led into an ambush by their Yurok guides; 26 of the Indians were immediately condemned to death for treachery. Finally, a group of Yurok sympathetic with the whites was armed and ordered to track down and kill the hostile "Red Caps" (Coy 1929: 143-145; Bearss 1969: 72-77; Bledsoe 1885; Schulmeyer 1963: 333-341).

Open conflict was terminated, at least temporarily, when the Klamath River Indian Reservation was set aside by Superintendent T. Henley. As designed, the reservation was to cover a band 2 miles wide along the Klamath River for a distance of 20 miles above its mouth (Coy 1929; Bledsoe 1881: 35; Chase 1959).

1856 By 1856 the Klamath Reservation boasted five log houses, 11 board or slab houses, ranch buildings, 30 Indian dwellings and garden plots. The 30 native houses belonged to an estimated 500 Tolowa who had been moved from the north. Approximately 100 Karok from Salmon River are said to have arrived in 1855, but they left because there were no provisions or houses available (Kroeber 1925: 9-10; Schulmeyer 1963: 348; Bledsoe 1881). It was also in 1856 that fresh conflicts developed with the Chilula. Alarmed by rumors that the Chilula were preparing for combat, 20 settlers left Union Town for Redwood Creek, where they captured one Indian. They later killed seven Indians at a village about 27 miles from Union Town (Schulmeyer 1963: 345).

In March, 1856, an uprising of Rogue River Indians caused much uneasiness around Crescent City. Rumors of killings and burnings caused the town's populace to congregate in brick buildings and to order soldiers to patrol Crescent City and the Smith River Valley (Bledsoe 1881: 40).

1857 Lt. George Crook received orders to construct military facilities and chose Ter-Wah Flat as the site for "Fort Ter-wah" (Rogers 1947). On the morning of November 17, 1857, while the fort was being constructed, a number of Tolowa and Chetco attempted to kill the Indian agent. Crook's forces subdued the Indians, killing 10 of them and wounding a number of others. Twenty-six men and a number of women and children were captured and forced to swear that they would remain on the reservation (Bearss 1959: 89).

1858 Conditions on the Klamath Reservation continued to deteriorate following the 1857 revolt. In his fall report for 1858 Special Interio Department Agent G. Bailey stated:

> At present the reservations are simple government almshouses, where an inconsiderable number of Indians are insufficiently fed and scantily clothed, at an expense wholly disproportionate to the benefit conferred. (Coy 1929: 154)

Settlers complained bitterly that the Indians were not learning to farm and that they were assuming the roles of vagrants (Bledsoe 1881: 60).

> Many of the Tolowa congregated in Crescent City. At nights they could be found everywhere. Drunken Indians were in the habit of sleeping in barns, sheds, and abandoned buildings....Protests had been made, but the officials in charge of the reservation took no action. (Bearss 1969: 94; Bledsoe 1881: 61)

By 1858 hostilities were brewing anew in the Bald Hills area. Raids were made by the Indians after the whites had slaughtered most of the game animals in the area and usurped the Indians' seed-bearing fields as pasturage for their cattle. On June 3, 1858, the Chilula killed a settler, W. Ross, with whom they had a grudge. Three companies of volunteers retaliated in battles fought at Grouse Creek, Iagua Buttes and Pardee's Ranch. Fighting continued until more than 100 Indians had been killed and 153 had been captured. The prisoners were sent to the Mendocino Reservation (Coy 1929: 146-150; Loud 1918: 319-321).

1859 A Tolowa from Yontocket (sic) murdered another Indian from Smith River. The guilty party was taken by a contingent of Smith River Tolowa to Battery Point and there hung. The citizens of Crescent City stood by and watched (Bledsoe 1881: 61).

1860 One of the most infamous atrocities committed by the whites against the Indians took place in this year. During the night of February 25, 1860, five to seven white men slipped out to the Wiyot village on Gunther Island, armed with axes, hatchets and knives. The sleeping Indians were butchered fiendishly and their mutilated bodies strewn about the village.

> The wounded, dead and dying were found all around, and in every lodge the skulls and frames of women and children cleft with axes and hatchets, and stabbed with knives... Where is the good to come of these murders of 55 on Indian Island (Gunther

> Island), 58 on South Beach, 40 on South Fork of Eel River previously, and 35 subsequently on Eagle Prairie--188 lives of human beings in all? (Loud 1918: 331)

Although many settlers were outraged by the massacre and public opinion as far away as San Francisco ran high against the murders, no legal action was taken. The many important details regarding the causes and events of the Gunther Island massacre are given by Loud (1918), Bledsoe (1885), Coy (1929) and Bearss (1969). After the killings, the surviving Wiyot were removed from the Humboldt Bay area to the Klamath Reservation. The Wiyot soon found reservation conditions to be intolerable and within three or four months small parties began to drift back to their old homes (Loud 1918; Coy 1929).

1861-1862 A tremendous flood struck the Klamath River during the winter of 1861-1862. Countless Yurok settlements along the river were washed away and the Indians were compelled to relocate in new, higher places (Waterman 1920: 204). This flood also covered every acre of arable land on the Klamath Reservation, destroyed 30 government buildings, demolished Fort Ter-wah (Terwer) and swept away crops, fencing, tools, hogs, fowl and cattle (Loud 1918: 336; Rogers 1947: 2; Bledsoe 1881: 74). Following this catastrophic flood Fort Ter-wah and the Klamath Reservation were abandoned. In the spring of 1862 a new reservation was established at the mouth of Smith River and Fort Lincoln was erected in Elk Valley (Bledsoe 1881: 75). The fort was garrisoned until 1867, with the official abandonment and sale of property in 1870 (Bledsoe 1881; Rogers 1947: 9).

Regarding the Smith River Reservation, we have the following instructive notes from the Superintendent of Indian Affairs, Northern District of California:

> Feb. 14, 1862: ...I at once removed one of the tribes, numbering between four and five hundred, and called the Humboldt Indians, from Klamath. These were so anxious to be removed that they actually travelled through snow, rain and mud

barefooted, over a distance of forty miles...
Aug. 18, 1862: I am now about to remove some 600 or 700 Indians from Fort Humboldt to said valley (Smith River). ...How I am to provide shelter, food, and clothing for so many Indians...I cannot divine, except it be by a miracle. The poor creatures must suffer the ensuing winter, for the credit of the government is so impaired that I will not be able to procure further supplies...the Indians to be removed are destitute of clothing entirely...
Oct. 10, 1862: Having very recently removed 840 additional Indians from Fort Humboldt...there are now over 2,000 in the aggregate already upon the proposed reservation, and several hundred more collecting at Fort Humboldt who must be removed to the same locality at an early day...
July 18, 1863: The unsettled condition of three-fourths or more of the Indians, who have been compelled to lie on the cold, damp ground...has caused disease and death in many instances...(cf. Loud 1918: 336)

Although hundreds of Indians were being removed to the reservation, others managed to elude capture or to slip away from their detention facility. Small-scale raiding continued, with attacks and killings in 1862 at Daby's Ferry, Oak Camp, Camp Anderson and Redwood Creek (Coy 1929: 172-175).

1863-1864 With the continuation of Indian raids into 1863, the white citizens of the Humboldt Bay region formed six companies of volunteers to subdue hostile Indians. At the same time, militant Indians were organizing against those who were sympathetic with the whites. On April 11, 1863, for example, a group of Chilula from Bald Hills attacked Hr'gwr'w on Stone Lagoon and killed 10 Yurok there (Kroeber 1925). The Chilula and Hoopa, expecting reprisals, erected four log forts in the Bald Hills area (Coy 1929; Goddard 1914b). Other clashes in 1863 included Indian attacks at Trinidad and Little River; a battle on Redwood Creek in which six Indians were killed and several whites were wounded, and the killing of two whites by Indians near Arcata (Coy 1929). Finally, Col. H. M. Black was ordered to "make a clean sweep of rascally Indians." A tireless

soldier, Black pursued Indians in all parts of the region throughout 1864 and had taken roughly 350 Indians captive by January of 1865 (Coy 1929: 189-191).

Post 1864

By 1870 Fort Lincoln and Smith River Reservation were abandoned and the Indians removed to Hoopa and Round Valley (Coy 1929: 192-194; Bledsoe 1881: 75). Although there were occasional clashes between the settlers and the Indians between 1865 and 1871, the former date marks the end of significant hostilities between the cultures in the Redwood National Park area.

HUMBOLDT STATE UNIVERSITY

V: Previous Archeological Research in Northwest California

Early Studies

A widespread interest in the antiquities of northwest California was generated early by the publication of articles describing shellmounds and archeological collections from the area (cf. Mason 1889; Morehead 1900; MacLean 1884). Some digging was undertaken by avocational collectors during the turn-of-the-century era, but the earliest scientific work was L. L. Loud's (1918) reconnaissance and description of 115 shellmounds in historic Wiyot territory (Map 1). As part of his research, Loud excavated a large trench in Hum-67, a prominent midden on Gunther Island in Humboldt Bay. This digging brought to light rich evidence of prehistoric affiliation with regions to the north (i.e., the greater Northwest Coast Culture Area) in the form of Dentalium shells, bone and antler harpoon points and a full inventory of woodworking devices, such as mauls, adzes and wedges. Traits apparently unique to coastal northern California, especially ground stone "slave killers" (zoomorphs) and ceremonial "blades" of chipped flint or obsidian, also were uncovered (Loud 1918).

The Gunther Island site also produced six dorsally-extended inhumations and 16 cremations, the latter being stratigraphically lower. Relying upon stratigraphy and the character of surface vegetation, Loud estimated a maximum age of 1500 years for Hum-67 (Loud 1918:350). This estimate was essentially substantiated by a radiocarbon date of 1050 $\pm$ 200 RC yr: AD 900, determined from charcoal collected from the midden base many years after the original excavation (Elsasser and Heizer 1966).

The most extensive digging at Hum-67 was done by an avocational archeologist. During the three decades after 1918, H. H. Stuart, a Eureka dentist, excavated some 382 graves; records were kept on only 142 of these. When R. F. Heizer and A. B. Elsasser examined the Stuart materials they found that most of the artifacts could not be confidently assigned to specific grave lots. Notwithstanding these limitations, Stuart's collection represents an important addition to the corpus of data regarding north coast prehistory. Among the artifacts which Stuart recovered from the Hum-67 cemetery (Fig. 1) were at least 50 red and black obsidian blades

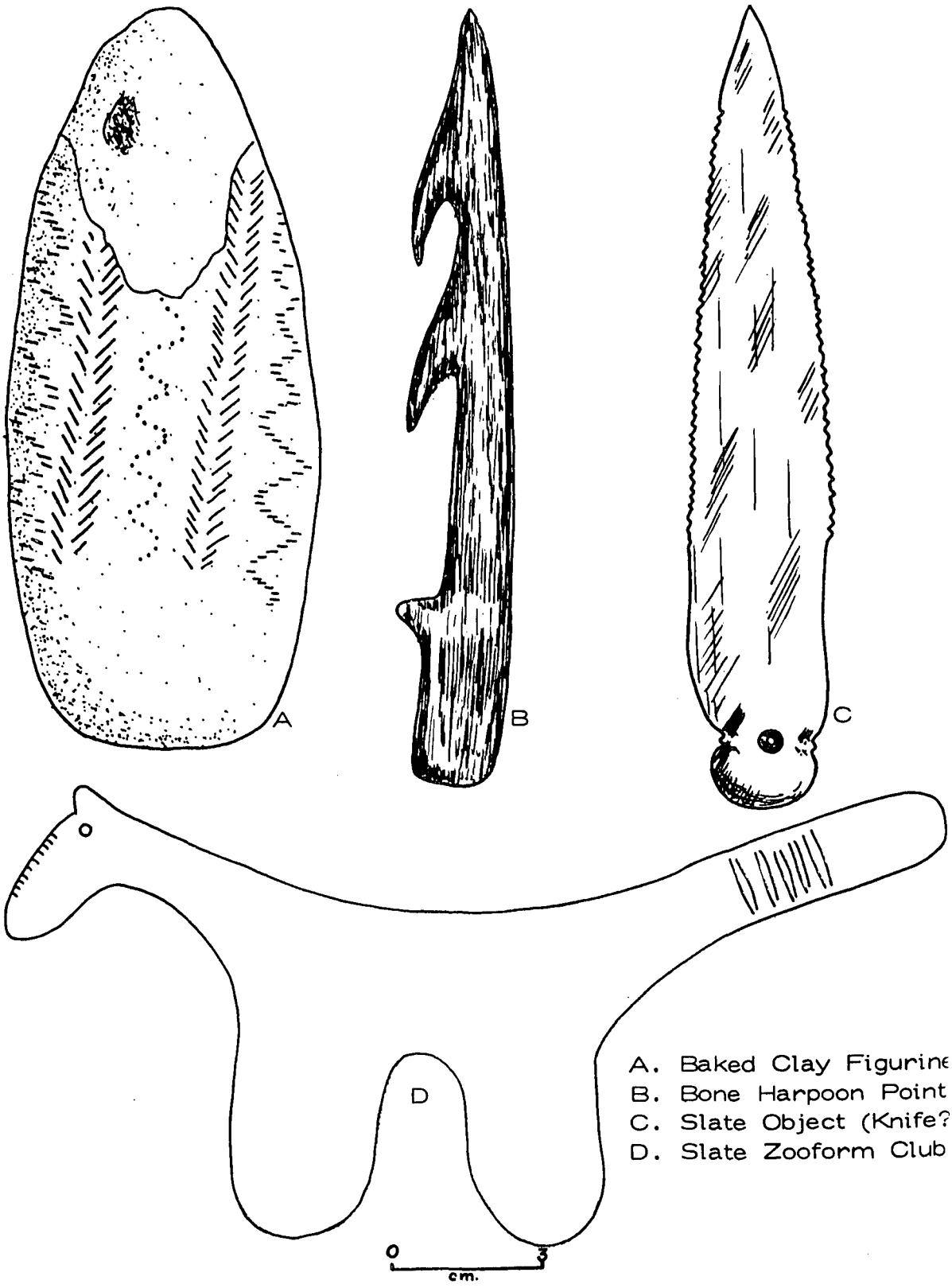


Figure 1: Artifacts from the Gunther Island site, Hum-67 (after Heizer and Elsasser 1964).

(up to 20 inches long), "Gunther-barbed" arrow points, mauls, flanged and offset pestles, grooved and notched sinkers, stone bowls, zooform clubs ("slave killers"), baked clay figurines, antler and bone wedges, bone and antler harpoons, bone hairpins and head-scratchers, and a variety of shell ornaments (Heizer and Elsasser 1964: 24-33).

Research in the Yurok Area

Archeological attention was again directed to the northwest corner of the state in 1948, when University of California crews, directed by Heizer, excavated about 80% of the Patricks Point site, Hum-118. Sixteen years later, in 1964, Elsasser secured charcoal samples from the lowest levels of Hum-118. These gave radiocarbon ages of 640 $\pm$ 90 RC yr: AD 1310 (GX0181) and 545 $\pm$ 115 RC yr: AD 1405 (GX0182). In their report on this site Elsasser and Heizer drew attention to the remarkable similarity between the assemblage from Hum-118 (Fig. 2 and 3) and that from Hum-67. They summarized as follows:

> If we assume that the deposit represents a steady accretion of living refuse over the years, essentially in one spot, we are faced with the picture of a fairly uniform group, possibly composed of several allied families and their descendents, being responsible for the midden deposit from bottom to top. In the limited amount of soil deposit below the 12 foot depth were found only pebble choppers and scrapers, but immediately above that depth appear elements diagnostic of northwestern California prehistoric culture, such as elk antler wedges, notched sinkers, bell-shaped mauls, zoomorphic clubs (or miniatures of these), evidences of simple harpoons in the form of bone or antler tips, and two types of projectile points, both thought to have been used in connection with simple harpoons. Between the latter depth and the 72 inch level, which should be designated the effective midpoint of the deposit, most of the other important archeological elements of northwestern California are seen to emerge. These include probable arrow points, grooved sinkers, flanged and unflanged pestles, artifacts of slate, toggle harpoon spurs, tubular steatite pipes, stone adze handles, steatite dishes, bone head scratchers, and bone awls and flakers. Above 72 inches, new increments to the site seem to decrease in number, with only miniature obsidian blades, bone gouges, worked sea lion teeth, and stone acorn anvils appearing for the first time, all below the 30 inch level....In addition to a limited number of historic artifacts (e.g., bottle glass fragments and glass beads) in the upper 30 inches of deposit,

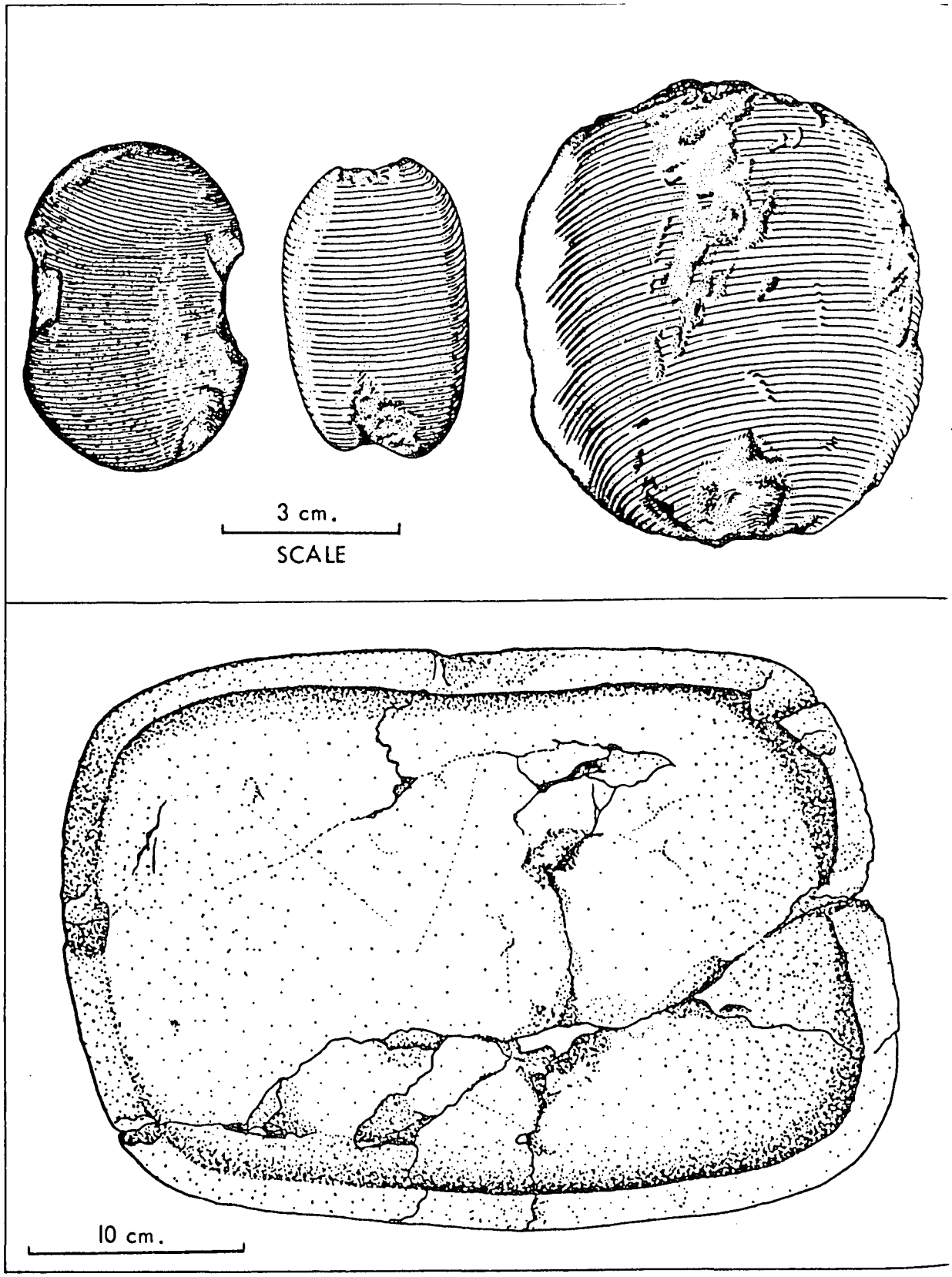


Figure 2: Steatite vessel and stone fishnet sinkers from the Patricks Point site, Hum-118 (from Elsasser and Heizer 1966).

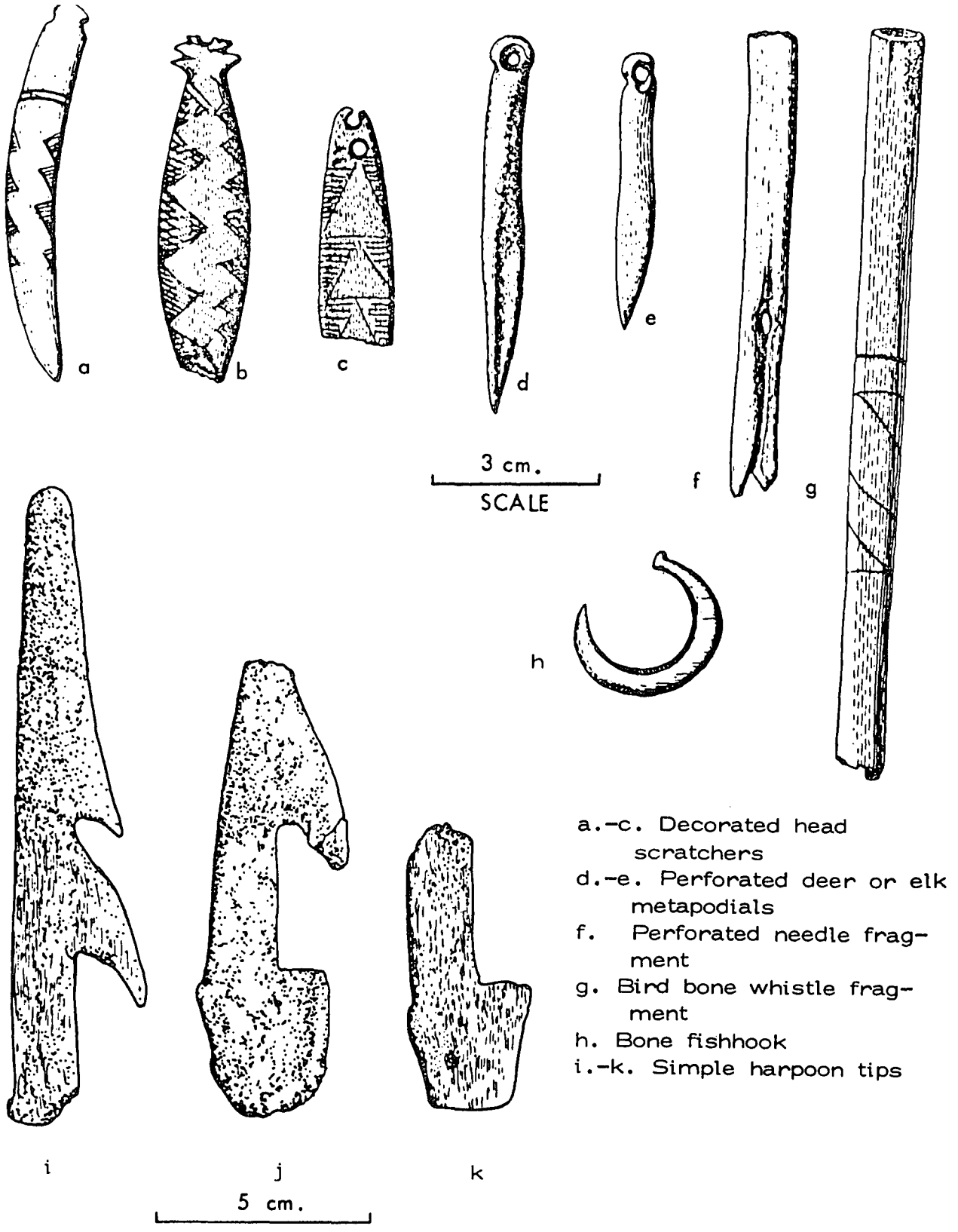


Figure 3: Bone and antler artifacts from the Patricks Point site, Hum-118 (from Elsasser and Heizer 1966).

> aboriginal types of artifacts such as the barbed (and slotted) arrow foreshaft, bone whistles, "C"-shaped fishhooks, and bone needles were found to be confined in or near the upper portion. (Elsasser and Heizer 1966: 55-56)

Observing that Hum-118 apparently was not a major village, these writers concluded that much of the northwest California culture pattern had already been established by the time the site was first settled. It was further suggested that, while Hum-67 was probably first occupied somewhat earlier than Hum-118, the peoples of Gunther Island and Patricks Point must have had contacts with each other in prehistoric times. Their respective manners of living would have differed only in detail, in spite of the fact that Hum-67 seems to have been a major village, whereas Hum-118 was most likely an intensively-used seasonal camp spot (Elsasser and Heizer 1966: 56-57).

Under the direction variously of Heizer, J. E. Mills and F. Fenenga, University of California archeologists returned to the northwest coast in 1949. Excavations in that year at the Yurok site of Tsurai (Hum-169) on Trinidad Bay produced over 3300 artifacts, many of which were ascribable to the historic period. Using historical documents in conjunction with archeological discoveries, Heizer and Mills (1952, n.d.) separated the culture sequence into four periods: (1) Prehistoric, AD 1620-1775; (2) Discovery and Exploration, AD 1775-1800; (3) Exploitation and the Fur Trade, AD 1800-1849, and (4) Decline and Fall: The American Invasion, AD 1850-1916.

Unlike the Patricks Point site, but akin to Hum-67 on Gunther Island, Tsurai was evidently a substantial and important village. Because excavations were not permitted in the cemetery areas, however, nothing is known of the mortuary customs at Hum-169 and no comparisons can be made with the pattern at Gunther Island. The artifacts (Fig. 4), on the other hand, are quite amenable to comparative study. Observing that the lower cultural deposits at Hum-169 are most similar to the "middle levels" at Gunther Island and Patricks Point, Elsasser and Heizer (1966) postulated a terminal prehistoric date (AD 1620?) for Tsurai's earliest habitation;

> The lower five feet of the Hum-169 deposit...show...the beginning finds of what we have come to recognize as matrix elements in prehistoric northwestern California culture: stone projec-

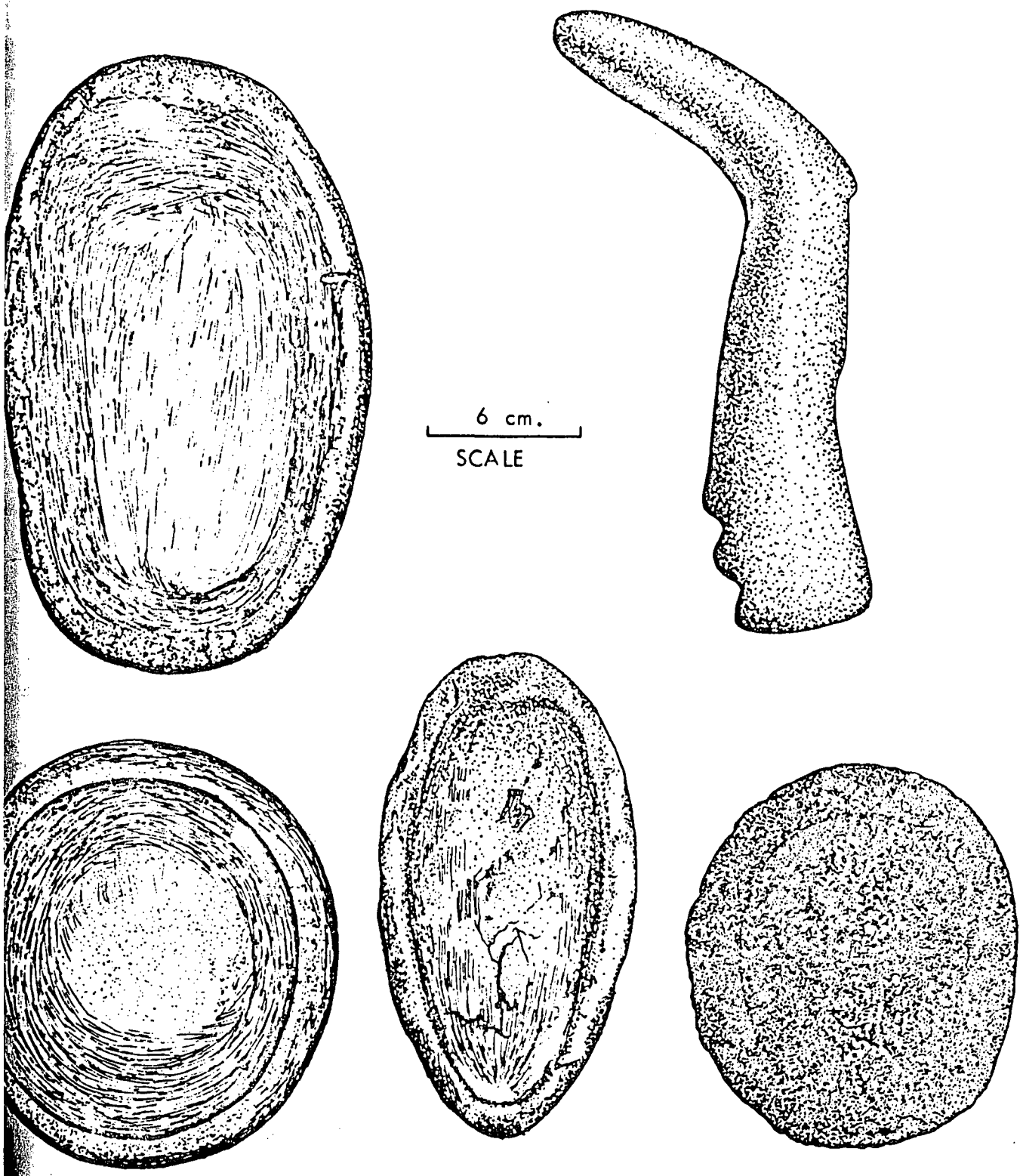


Figure 4: Stone adze handle and steatite vessels from Tsurai, Hum-169 (from Elsasser and Heizer 1966).

> tile points for simple harpoons; pebble choppers; flake scrapers; chipped blades of chert; steatite vessels (grease catchers); simple pestles; side-notched sinkers; (decorative) objects of slate; bone and antler simple and composit harpoons; antler wedges; bone flakers and awls; and bone whistles....Above the 72 inch depth...are encountered for the first time additional matrix traits: bone gouges, needles, bipointed pins, and beads; unshaped hammerstones; offset pestles; slab mortars; slate clubs; and stone drills. Flanged pestles and stone adze handles in the 36 to 48 inch level and bell-shaped mauls in the 48 to 60 inch level are included in the latter category....The curved bone fishhook found in the 60 to 72 inch level probably corresponds to the similar specimens found in the upper levels of the Patricks Point site. (Elsasser and Heizer 1966: 100).

The uppermost levels of Hum-169 yielded a variety of artifacts which were virtually identical to those used by the historic Yurok: steatite pipe inserts, elk horn spoons, barbed bone spear points, bone and antler netting shuttles, a wooden pillow, pine nut and Olivella beads and Haliotis ornaments. Conspicuously absent in the Tsurai assemblage were zoomorphic clubs, ceremonial obsidian "blades" and Dentalium shells. While these valuable artifacts may have been present at the site in cemetery contexts, it is quite possible that such wealth items were covetously passed on from generation to generation, without ever being lost or discarded into the accumulating midden. The archeological absence of these artifacts notwithstanding, Tsurai was shown to have been a major Yurok settlement during the three centuries preceding AD 1916 (Elsasser and Heizer 1966: 100-102).

Late in the summer of 1949 University of California fieldworkers discovered and investigated an apparent Yurok ceremonial site (Hum-174) at offshore Cone Rock south of Patricks Point.

> Visible on the surface were not fewer than 67 partial or complete sea lion skulls, and minor excavations showed that the 6000 square feet of surface of the west slope of the rock with a soil cover about 18 inches deep contained large numbers of additional skulls. We would estimate that the number of skulls might run to 1000 or more. No sea lion long bones, mandibles, or vertebrae were found, and it is clear that the skulls alone were brought and left by the Indians. (Heizer 1951a: 1)

From this evidence it was inferred that Hum-174 functioned as a sacred place for the ritual disposal of sea lion crania (Heizer 1951a).

Thus by 1949 researchers from the University of California had com-

pleted thorough investigations of several sites in Wiyot and Yurok territory. The 1948 and 1949 seasons resulted in the recording of scores of sites in Humboldt County and the archeological sampling of about 10 of these. Finally, this work provided for the establishment of a tentative sequence of prehistoric cultural development in north coast California (Mills 1950; Heizer and Elsasser 1964; Elsasser and Heizer 1966).

Research in the Tolowa Area

Fifteen years intervened between the digging at Tsurai and the next full-scale field project in far northwest California. During the late summer of 1964 R. A. Gould, of the University of California at Berkeley, excavated four large trenches at the Point Saint George site (DNo-11). Formerly the Tolowa village of T'ayi'a'te, the midden cluster at DNo-11 is the largest prehistoric deposit on California's north coast.

Through ethnographic research and archeological sampling, Gould defined three separate activity areas at this site: (1) a habitation area, (2) a cemetery (not excavated, but located on the basis of Indian accounts) and (3) a place where flint was chipped and where sea mammals, fish and shellfish were processed before they were brought to the residential area (Gould 1966). Two sequential components were identified at DNo-11. The first of these, "Point Saint George-1," reflects a limited settlement, where flint knapping apparently was the chief economic venture:

> The nature of the association in the excavated parts of this area strongly suggests that the collecting and chipping of flint was the only important activity for the people who lived here. Evidence of food remains was scanty in these levels, indicating little interest in the abundant marine fauna at the point. Also, there is no conclusive evidence of any technology associated with the gathering and preparation of acorns. Bone tools, woodworking tools, and fishing equipment were all absent. The only important items that were present besides chipped stone tools were pieces of red clay (Hematite) and occasional fragments of smooth rock that showed the stains of this clay. It is interesting, too, to note the probable structural use of whalebone in the flint-chipping workshop structure.
>
> In the absence of more evidence than this, it is easy to speculate. It may be that the first human occupation of this part of the northwestern California coastline came as a

> response to the discovery that large quantities of excellent natural flint were to be found along the beaches surrounding the point. This may have been only a small camp which was occupied by people from the interior who came here when they needed this important raw material. Or perhaps this was the end of a long trade route with the interior, where flint was traded inland in exchange for hematite and obsidian. But these are speculations, of course, and more evidence will be needed before a truly adequate interpretation is possible. (Gould 1966a: 87-88)

In sharp contrast with this early component, "Point Saint George-2" represents an exceptionally large, late prehistoric village of marine-adapted peoples ancestral to the historic Tolowa. Especially abundant in the subsistence refuse of this component were the remains of cormorants, stellar sea lions and a variety of molluscs. Of particular interest is the fact that 17 species of fish were represented in the faunal remains:

> The most numerous remains are those of the turkey-red rockfish, the black rockfish, the cabezon, the Pacific halibut, and the vermilion rockfish. The presence of remains of the turkey-red rockfish and the vermilion rockfish is noteworthy. These species occur in water thirty fathoms or more in depth, over rocky bottom. Such conditions are found in the vicinity of Northwest Seal Rock..., some six and one-half miles off Point Saint George (Gould 1966a: 85).

Augmenting these archeological findings was native testimony describing a seasonal pattern of inland exploitation, in addition to the marine and littoral hunting, collecting and fishing at DNo-11. From early to late fall foraging parties fished for smelt near Lake Talawa (the western arm of Lake Earl), then shifted camp to Mill Creek for the acorn harvest and salmon run and finally returned to the village at the point with foodstuffs to be stored for winter use (Gould 1966a, 1966b).

During Point Saint George-2 times subsistence economics must have been squarely focused upon the sea and shore for the remainder of the year, as judged from the surviving artifacts: large and small grooved or notched stone net weights, bone and antler harpoon tips (Plate III), chipped stone points for slot-end harpoon tips, bipointed and composite bone fishhooks and bone net mesh gauges. Noting that the archeological record contained no clear evidence of historic period contacts and considering

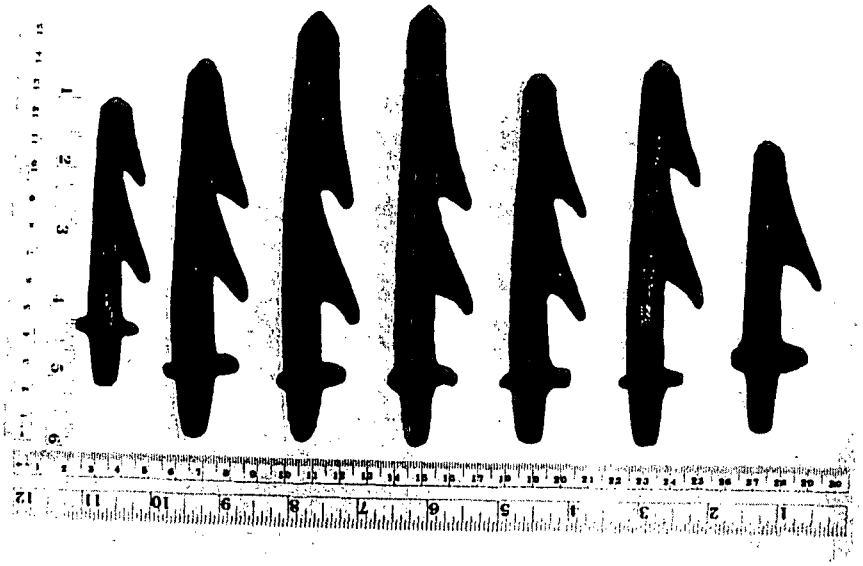
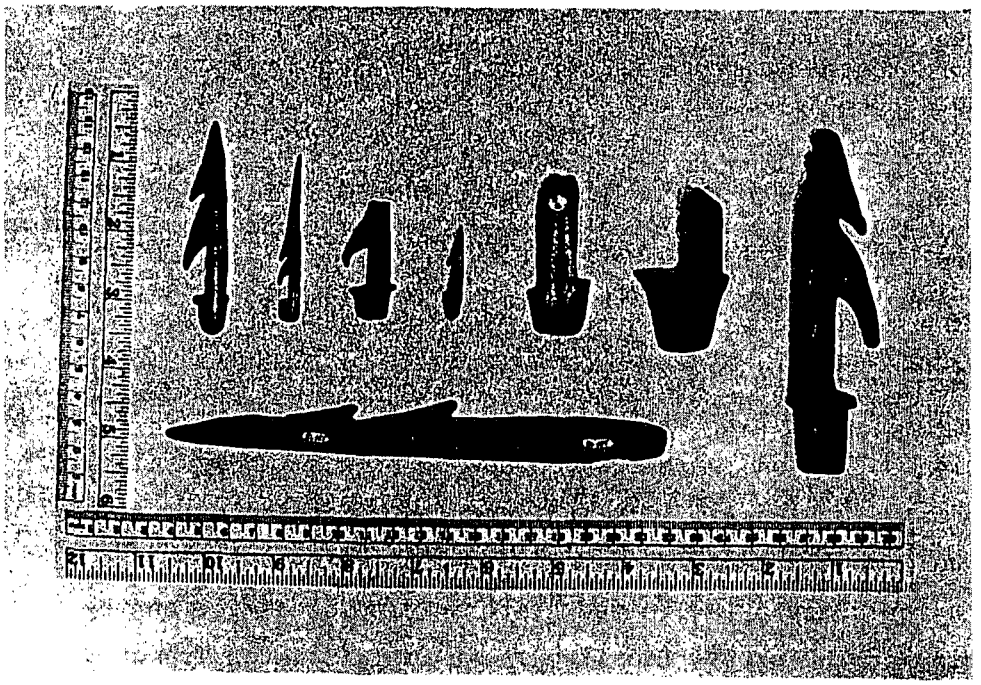


Plate III. Bone harpoon points from the Point Saint George site (4-DNo-11): (above) part of a single grave lot discovered in 1958; (below) miscellaneous harpoon types from various levels of the midden.



oral traditions to the effect that Point Saint George had been depopulated by a lethal epidemic, Gould suggests that DNo-11 may have been swept by cholera before acculturative effects were felt (Gould 1966a: 94-97).

After the publication of his report, Gould submitted a charcoal sample (from a cluster of hearths near the bottom of the site) for radiocarbon dating. The resultant age of 2260 ± 210 RC yr: 310 BC (I-4006) is strongly supportive of Gould's hypothesis. Furthermore, this is the earliest available date for any site in northwestern California or southwestern Oregon (Buckley and Willis 1970: 116).

Gould (1972: 42) summarized the chronometric data for the northwest region as follows:

> As summarized by Heizer (1964: 132-133), there are radiocarbon dates for site Cs-23 on the lower Coquille River, Oregon, and the base of Gunther Island (Hum-67) at Humboldt Bay, California, of 350 and 1050 years, respectively. There is an estimated date of 1620 AD for the Tsurai site (Hum-169) at Trinidad Bay, California...and further along the Oregon coast there are three radiocarbon dates from site Ti-1 of 150, 280 and 500 years. More recently, there is a radiocarbon date of about 1310 AD for the early levels of Hum-118, a site excavated at Patricks Point, California (Elsasser and Heizer 1966: 103). A comparison of artifact assemblages shows that there are close resemblances between the materials from Gunther Island (Loud 1918; Heizer and Elsasser 1964), Patricks Point, and Tsurai (Heizer and Mills 1952) and the Point Saint George-2 occupation. Comparative as well as stratigraphic evidence supports the idea of a relatively late date for Point Saint George-2.

Although Gould was not aware of it, J. E. Moratto and I had dug at DNo-11 intermittently between 1955 and 1960 (Moratto 1960). As youthful avocationals, we undoubtedly recorded our finds poorly and failed to recognize many subtle artifacts and features. Nonetheless, some of our findings would modify certain of Gould's (1966a) interpretations. For example, we found evidence of a limited historic-era settlement on the southern extremity of the site. Localized near Gould's later Trench 2 (1966a: 18) were lumps of fused green glass, a blue glass bead (Plate IV) and two small rectangular copper sheets, each perforated near the end (Moratto 1960). Similar objects were in fact also discovered by Gould in 1964, but these were not reported in 1966 because they had come from disturbed contexts and their relationships to the aboriginal strata could not be clearly

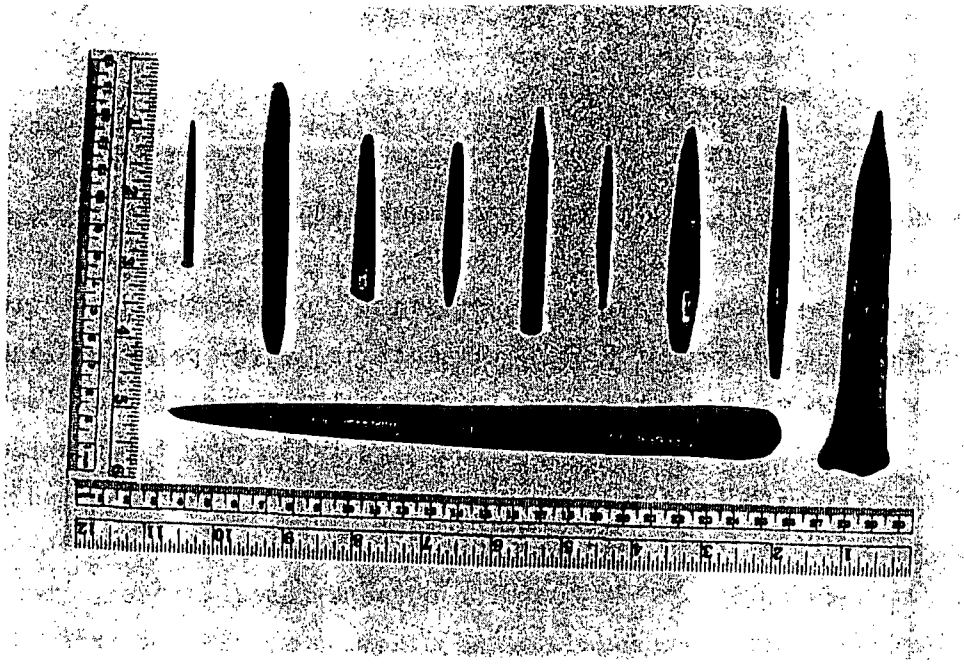
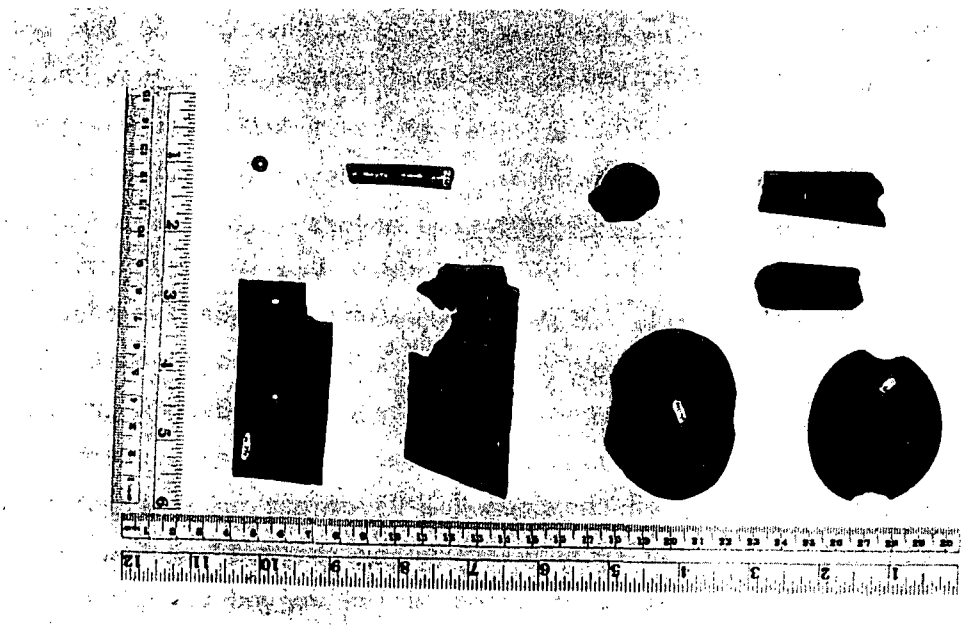


Plate IV. Various artifacts from the Point Saint George site (4-DNo-11): (above) bone needles, awls and other pointed implements; (below) blue glass trade bead, ceramic pipe stem fragment, lump of fused green glass, two conical steatite pipe sections, two copper rectangles and two bilaterally chipped stone fishnet sinkers.



established (R. Gould 1972: personal communication).

Also, and possibly contrary to the ethnographic assertion that the T'ayi'a'te cemetery was located some distance south of the habitation area, our early work uncovered five inhumations on the point of land immediately north of Gould's Trench 3 (1966a: 18). One of these was a badly disarticulated (vandalized ?) secondary interment, two were dorsally-extended burials without grave goods and one dorsally-extended individual was accompanied by a large Haliotis gorget at the throat. The last burial was also extended on its back, but with notable associations: remnants of a redwood grave liner were found to the sides, a massive cairn of large boulders was piled over the body and eight slot-end, double-barbed bone harpoon points had been placed over the chest and upper arms (Moratto 1960). At least in general configuration, these burials appear similar to the ones discovered by Loud (1918) in the upper levels of the Gunther Island site. It is unlikely that additional data pertaining to mortuary practices in north coastal California will be forthcoming in the near future, since responsible archeologists have agreed to respect Indian sentiments by avoiding all graves.

Other Recent Work in the Northwest Area

No large-scale excavations have been attempted in northwest California since Gould's work at DNo-11, but several reconnaissance and testing projects have been completed. In 1969, 15 sites were located by E. Ritter during his survey of Prairie Creek, Del Norte Coast Redwoods and Jedediah Smith state parks (Ritter 1969). Another survey had been undertaken three years earlier by Ostrovsky in the deep Eel River canyon south of Eureka. Aerial photos and first-hand reconnaissance by railroad showed excessive flood damage and little promise of sites in the rugged terrain (Ostrovsky 1966).

In 1970 D. Wood, M. Mannion and I reconnoitered the Dry Lagoon and Stone Lagoon areas of Dry Lagoon State Park (an area to be incorporated by Redwood National Park). Much of our time was spent screening the backdirt of countless looters' pits at Tsahpek^{w}, Hum-129. Now virtually destroyed by vandals and bottle-hunters, Tsahpek^{w} was once the third-largest of all

Yurok coastal villages (Kroeber 1925). Without opening any new units, nearly 1000 artifacts were recovered through surface collecting and backfilling during the salvage and stabilization effort at Tsahpek^{w}. Represented among the artifacts were (1) items of native (prehistoric ?) manufacture, (2) Caucasian-made goods and (3) Caucasian artifacts with native modifications (see Chapter VI). The inventory includes concave-base triangular projectile points of chert or bottle glass, finely-made triangular barbed arrow points of chert or obsidian, notched stone net weights, steatite vessels (grease catchers), an incised ivory cylinder, sandstone arrow shaft planes, double-barbed bone harpoon tips, bone and Haliotis ornaments, simple pestles, heavy percussion-flaked stone choppers, elk antler wedges, glass bottles and jars, ironware receptacles and plates, a percussion-lock rifle, wagon parts and numerous other historic and late prehistoric items. In conjunction with structural remains, this assemblage provides a detailed record of Yurok acculturation from the terminal pre-contact period until early in the 20th century (Moratto 1970, 1971b).

Another recent project in northwestern California was the location of 12 sites along the Mad River system within the proposed take-area of Butler Valley Reservoir (Ostrovsky and Schenk 1966). This Butler Valley survey is notable as the only archeological project ever undertaken in the territory of the little-known Whilkut Indians (cf. Kroeber 1925).

More recently, T. F. King, W. Henn and R. Melander completed an archeological survey of the Highway 199 corridor along Smith River, east of Crescent City, to a point about 5 miles south of the Oregon border. Useful data regarding more than 30 historic and prehistoric sites in the area were presented in the resultant Environmental Impact Report to the State Division of Highways (King 1972).

To summarize the work in coastal northern California, only four sites--Hum-67, Hum-118, Hum-169 and DNo-11--have been significantly investigated by archeologists; perhaps a dozen others, including Hum-174 (Heizer 1951a), Hum-129 (see Chapter VI) and DNo-14 (see Chapter VI), have been tested. Even less work has been attempted in interior northwest California. Wallace and Taylor (1952) excavated a late prehistoric-historic (Achomawi ?) rock shelter in Siskiyou County. Two seasons of reconnaissance and

digging in tenth-century and younger Wintu sites along the Trinity River (Map 1) were completed by Treganza (1958b, 1959) and Leonhardy unearthed three 15th to 17th century housepits in a Klamath River village within Irongate Reservoir (Leonhardy 1967). Another project in this region was survey of the Klamath River between Happy Camp and Bluff Creek by students from Michigan State University, directed by Joseph and Kerry Chartkoff. As much as 80% of the previously-known Karok sites along this stretc of the river were found to have been destroyed by logging operations and recent floods (Don Miller 1972: personal communication). As part of the Michigan project, excavations were conducted at the May site (?Asapitvunup) in western Siskiyou County at the Karok-Shasta border. The May site produced king and silver salmon remains and nearly 500 artifacts, including "Gunther-barbed" arrow points (cf. Dotta 1967), a mica pendant and retouched milky quartz and obsidian flakes; no structural remains were found. It was concluded that the May site appeared to be a late-period, two-component riverine habitation site (Chartkoff and Chartkoff 1973).

Similarly, extreme southwest Oregon has witnessed few archeological projects of any consequence. Not far north of the California line were the salvage excavations at Chetleshin on Pistol River (Helfin 1966) and Berreman's (1944) work at the Lone Ranch site on the Chetco River. Other work in the area is mentioned in synopsis by Henn (Cf. King 1972: 5):

> While southwest Oregon in general and the Rogue River Basin in particular have never been the focus of intensive archeological exploration, sufficient work has been done to indicate that the area has considerable archaeological potential. On the lower Rogue, Berreman (1935) recorded several sites in the vicinity of the junction of the Illinois River and Shasta Costa Creek, and a recent survey of the lower Illinois has located four sites (Cole 1965a). Somewhat to the east..., Cressman (1933) has reported excavation of 22 burials, many with elaborate grave goods, near Gold Hill, and surveys and minor excavations have been conducted on Willow Creek, Bear Creek, Snider Creek, and Emigrant Reservoir (Henn 1972). On the upper Rogue near Elk and Lost Creeks several sites have been reported (Cole 1965b), and preliminary analysis of excavation data suggests considerable antiquity for local human occupation (Davis 1968). Nearer to the project area, relatively brief surveys along the Applegate River (Hendrickson 1967) and on Sucker Creek (Cole 1965b) have revealed no archaeological sites.

Summary of Previous Archeological Research

Archeologists have investigated many site locations in northwest California and southwest Oregon, but only a few of these have been excavated thoroughly. Most of the studied sites are on the coast, with the remainder being situated along the predominant inland watercourses. There has never been a significant archeolgoical excavation within the proposed boundaries of Redwood National Park. Sites Hum-118, Hum-169 and Hum-67 are not far to the south and DNo-11 is only a few miles north. Of the sites within the park, only Hum-129 and DNo-14 have been sampled even slightly (see Chapter VI).

Excepting the lower component of 4-DNo-11, all of the excavated coastal sites reflect the activities of societies fully adapted to a littoral-maritime environment. Again with the possible exclusion of lower DNo-11, none of these sites has produced evidence of significant culture change or population replacement during the prehistoric period. Furthermore, none of the deposits is truly ancient. Aside from the date of 310 BC for Point Saint George-1 (Gould 1972), all of the deposits were accumulated during the millennium following AD 900. These observations suggest that the coastal strip extending 100 miles or more north of Humboldt Bay was scarcely inhabited until maritime-littoral preadapted peoples from elsewhere settled there around 1100 years ago.

Concomitantly, there are improbable elements of this hypothesis. Considering (1) the wealth of natural resources in the northwest, (2) the mild climate, (3) the easy coastal or riverine access to the area and (4) the known presence of people in the more easterly Klamath Basin as early as 5750 $\pm$ 130 RC yr ago (GaK-1840; cf. Johnson 1969), the "sudden" appearance of coastal villages after AD 900 is a highly suspect proposition. It is remarkable that earlier archeological components have not been discovered on the coast and in the western Klamath Mountains. One possible explanation would be the chronic flooding of river terraces and the active erosion of coastal bluffs. My own observations along Redwood Creek have shown very deep silt accumulations over historic structures. Waterman (1920: 204) has reported that a severe flood in 1862 destroyed countless Yurok villages and forced their relocation on higher terraces

along the Klamath River. Although such factors may have obliterated a great many northwestern sites, additional fieldwork should result in the discovery of at least a few "early" sites in protected places. Plainly, while important preliminary work has been done, the fundamental problems in the archeology of northwest California are still to be defined and resolved.

VI: Archeological Sampling within Redwood National Park

Given here are summary data concerning the only two archeological sites within Redwood National Park which have been tested by archeologists: the Enderts Beach site (DNo-14) near Crescent City and the Stone Lagoon site (Hum-129) in Dry Lagoon State Park. Since full reports regarding these sites have been published, only the most cursory synopsis will be presented here (cf. Moratto 1972).

The Enderts Beach Site

Ethnographic data regarding this site were obtained from published sources (Gould 1966; Drucker 1937; Waterman 1925) and from Amelia Brown, a Tolowa informant who has lived more than a century in coastal northern California. Archeological excavations completed during August, 1972, by Tom Jackson and me provided additional information.

There is in the literature some ambiguity concerning the Tolowa name for the Enderts Beach site. The matter is evaluated in my earlier paper (Moratto 1972: 22), with the conclusion that Tš̌iniɣatə̌ best approximates the Native usage.

Description of DNo-14. The archeological midden is found mainly in three places, which were arbitrarily termed "Bluff," "Eastern Terrace" and "Western Terrace." Modifications of the original midden, in the forms of erosion, road-building and leveling, have occurred in recent times.

The location of DNo-14 offers an excellent vantage for viewing sea lions among the offshore rocks or for locating schools of smelt by the antics of diving pelicans. Looking up the beach, the ancient residents of Tš̌iniɣatə̌ might have seen the smoke of distant villages near Crescent City, but nearby Š̌xmeʔ would have been hidden by an intervening promontory.

The selection of Tš̌iniɣatə̌ as a habitation site was probably based on several factors. Aside from the commanding view, the location offers superb smelt-fishing, the fresh water of Nickel Creek, easy beach access, ample firewood and close proximity to conifers for making canoes or houses. Beach cobbles near the site include sandstone for cooking rocks,

tough metamorphics which could be fashioned into choppers, mauls or axes, and nodules of chert and agate amenable to controlled flaking. Other advantages are the abundant marine, littoral and terrestrial plants and animals in the vicinity (cf. Moratto 1972: 26-28).

Archeological Sampling. Richard A. Gould first tested DNo-14 with a single 3 x 3 foot unit in 1964. Placed on the northwestern edge of the bluff, this sondage was dug to a depth of more than 4 feet without exposing significant features or stratigraphy (Gould 1972: personal communication). Three additional units, one 2 x 2 meters and two 1 x 2 meters, were excavated in August, 1972, by Jackson and me. These units were placed toward the northern and southern edges of the bluff midden. Excavation methods and research objectives were discussed in my earlier report (Moratto 1972: 29).

Cultural Remains. Strata, or at least lenses, of cultural material were clearly visible in our profiles at DNo-14. Of the notable features encountered, mention should be made of two shellfish and bone dumps and a housefloor. The latter, with associated hearth and artifacts, came to light in the 20-40 cm level of Unit 1. The floor was a patchy affair of compacted earth and powdered shell, which could be traced through most of the unit (cf. Moratto 1972: Fig. 2). Above the floor the midden contained an abundance of fire-cracked rock, fish and mammal bones and 10 artifacts. Resting on the floor in the eastern half of the unit was a circular hearth made of seven large (and many smaller) stones with ample evidence of heat fracturing. Large lumps of charcoal were discovered at the base of the hearth. Both the floor and hearth correspond with Gould's (1966a: 23) description of historic Tolowa indoor cooking places.

Among the artifacts discovered at DNo-14 (Plates V and VI) were triangular and lanceolate arrow points, large triangular chert points, a small chert drill, heavy chert knives, cobble choppers, chert cores, pecked stone sinkers, a tobacco pipe fragment, a whetstone, red ochre, antler wedges, bone harpoon points, curved single-piece bone fishhooks, bone needles, bone tube fragments and other functionally-indeterminate objects

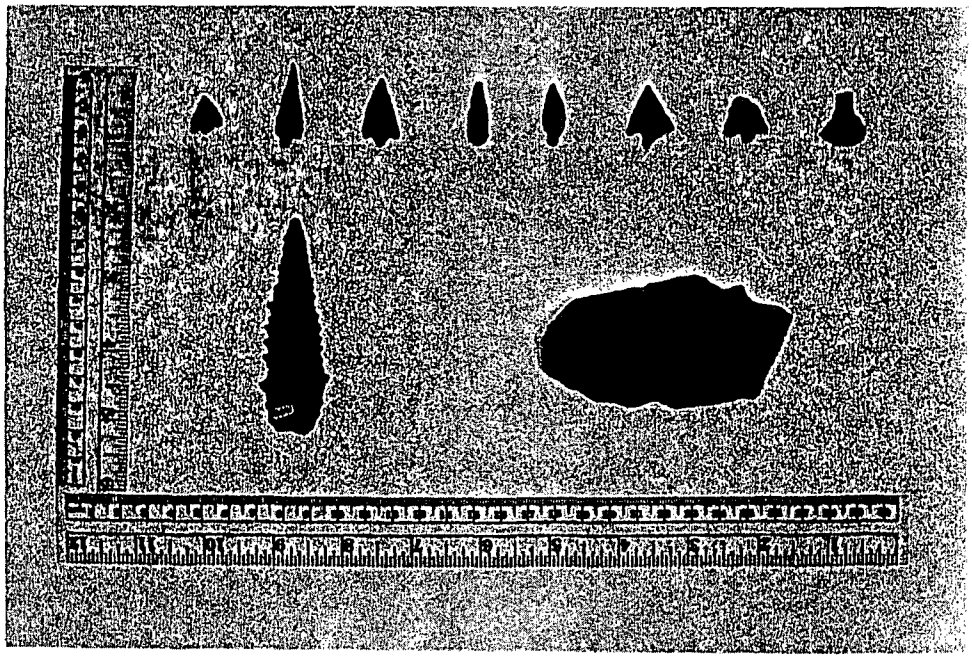
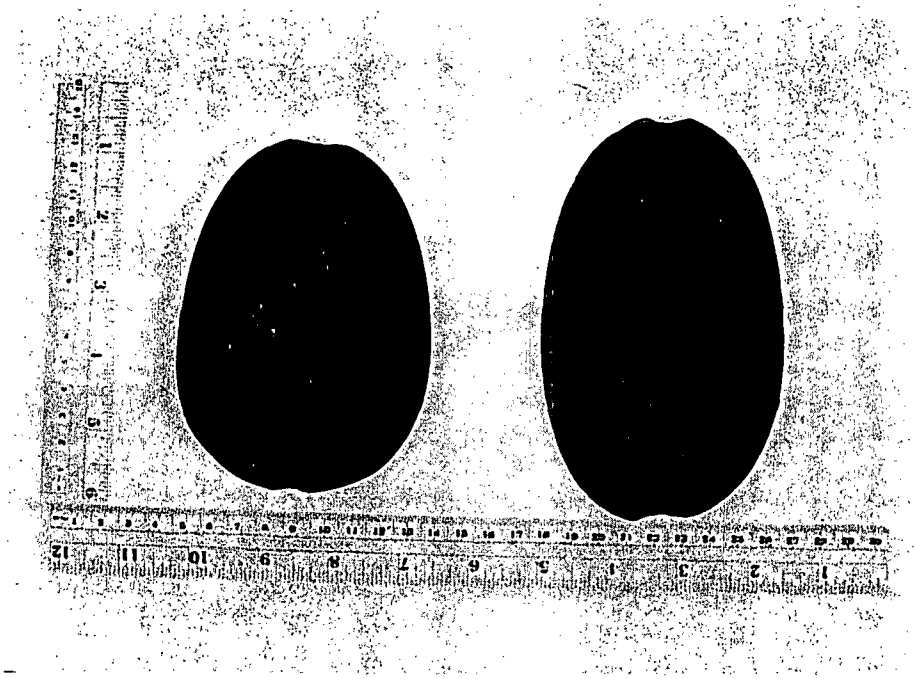


Plate V. Stone artifacts from Del Norte County sites: (above) projectile points and large bifaces (knives?) of chert and obsidian from 4-DNo-14; (below) pecked, full-grooved fishnet sinker stones from 4-DNo-11.



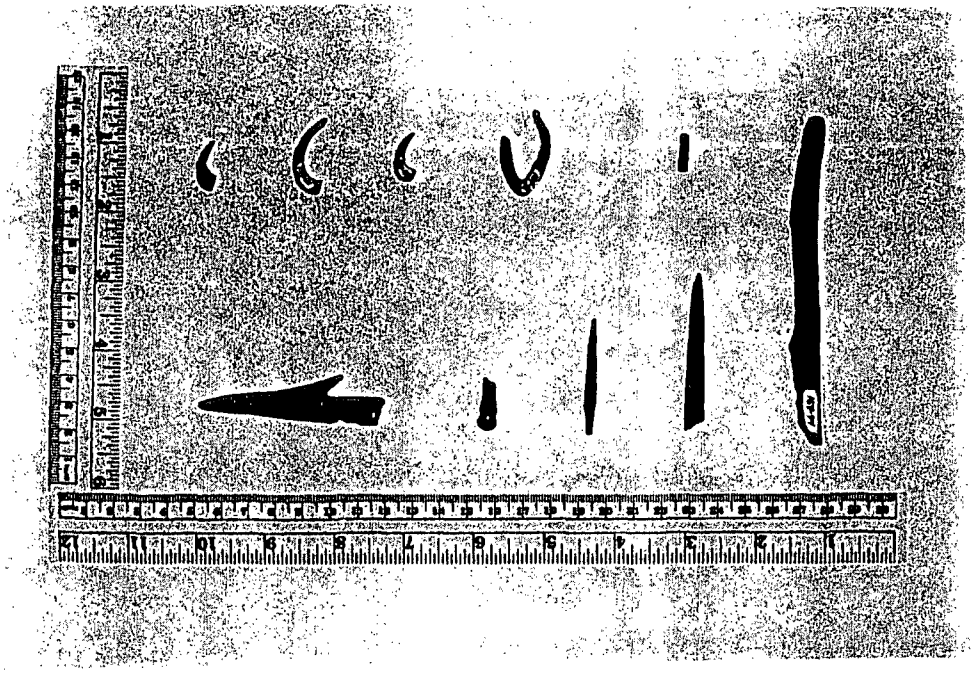
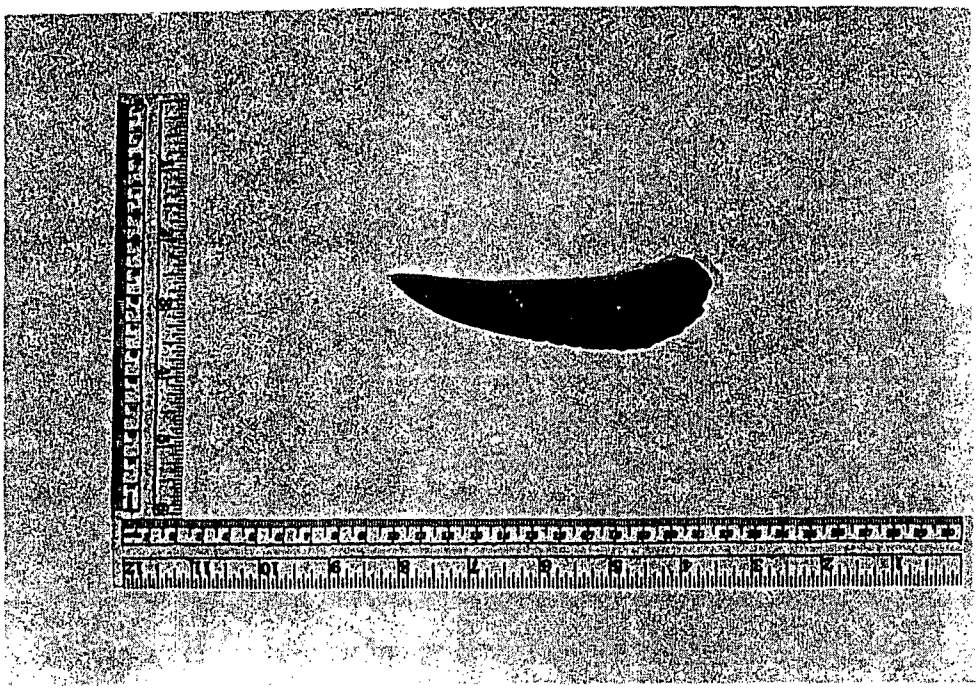


Plate VI. Bone and antler artifacts from the Enderts Beach site (4-DNo-14); (above, top row) four bone fishhook fragments and a bit of incised bone; (bottom row) bone harpoon fragment, needle eye and three artifacts of ground and polished bone; (below) antler wedge fragment with deep transverse grooves.



of bone (cf. Moratto 1972: 32-37, Figs. 3-5).

Lithic and Faunal Remains. Quantitative studies of midden constituents from DNo-14 showed that chert was easily the most common silicate in use. This presumably is a function of availability, since nodules of good-quality red, gray, green, brown and blue-gray chert frequently occur in beach gravels near the site. Furthermore, the presence of surf-worn cortex on many of the archeological specimens confirms the local source. Obsidian, on the other hand, does not occur locally and must have been acquired by coastal peoples through trade. X-ray fluorescence analysis of trace elements in obsidian recovered at DNo-14 shows that the source was probably Glass Mountain or Medicine Lake:

> The results of the X-ray fluorescence analysis of the 10 obsidian specimens from DNo-14 indicate that the obsidian falls well within the range of variation of the chemical attributes (i.e., for the RB, SR, Y, ZR, and Nb trace elements) determined for obsidian source meterial recovered from the Medicine Lake area of Siskiyou and Modoc Counties... A number of obsidian flows in the immediate area of Little Medicine Lake, including "Glass Mountain" ...demonstrate nearly identical chemical compositions.
>
> Roughly computed, the distance from DNo-14 to the eastern flank of Glass Mountain approaches 150 miles. It might be safely assumed that the actual distance covered in trade would be somewhat greater than this, perhaps approaching 200 miles. (Jackson 1972: 2)

Animal remains from this site represent many species: brush rabbit, ground squirrel, whale, gray fox, black bear, racoon, sea otter, mountain lion, sea lion, harbor seal, Roosevelt elk, deer, seal, miscellaneous clams, mussels, shore birds, etc. A complete listing of faunal remains, including scientific names and quantities, is given in the site report (Moratto 1972: 37-41).

Conclusions. Based upon archeological sampling and on testimony from a Tolowa informant, it would appear that DNo-14 was a small settlement of three or four houses occupied principally during the protohistoric and historic periods. Although the archeological remains are limited, there is no indication of appreciable cultural change. The close similarity

between the artifacts from DNo-14 and those found in the upper levels of DNo-11, Hum-118 and Hum-169 (see Chapter V) suggests a single-component occupation at Enderts Beach dating back three or four centuries at most. Information supplied by Amelia Brown places the site's abandonment in the 1870s.

Both the native name for the site (Tšiniɣatʼə : "summer fishing") and the profusion of archeological fish remains attest to the importance of fishing in the local economy. Salmon, trout, cormorants, deer, elk, sea lions, gapers, rock cockles and California mussels also figured prominently in the diet of those living at Tšiniɣatʼə (cf. Moratto 1972: 42-44). There were no archeological mortars, pestles or other implements diagnostic of seed-processing. This could be a simple matter of sampling bias, or it might indicate the use of DNo-14 on a seasonal basis only. All of the recovered faunal remains represent species which could have been collected during the summer and the numerous deer and elk antlers show that the site was inhabited during the summer at the very least. Th extreme scarcity of waterfowl bones may be taken as evidence that the sit was not extensively used in winter, or it could mean simply that waterfow were not taken in large numbers. Thus, while there are hints of seasonality, the archeological sample is presently inadequate for any sort of meaningful conclusion, even though the Tolowa name gives weight to the seasonality hypothesis. As a proposition to be tested, it might be argue that Tšiniɣatʼə was a summertime hamlet annually resettled by fishing-gathering parties from another, more permanent village.

The Stone Lagoon Site

This section synthesizes published data regarding the site of Tsahpe (Hum-129). I have reported upon the archeology of this site more fully i earlier papers (Moratto 1970, 1971b, 1972).

The Stone Lagoon site has never been excavated by archeologists. A of our information comes from interviews with Yurok informants and from a 10-day reconnaissance and stabilization effort in early 1970. At that time, Donald Wood, Michael Mannion and I mapped the site, screened loote backdirt while refilling their "pot holes," made surface collections, su

veyed other nearby sites and elicited ethnographic information regarding Hum-129. Since no controlled excavations were made, no stratigraphic association of artifacts was possible. A full-scale scientific excavation of this site was scheduled for June, 1970, but the program was abandoned in the face of Yurok opposition to further disturbance of the site.

Location and Description of Hum-129. From Tsahpek^{w} sea, shore, lagoon and land resources could be exploited easily. A listing of the economically-important flora, fauna and lithics in the Stone Lagoon vicinity is to be found in my earlier report (Moratto 1972: 47-48).

A. L. Kroeber (1925) noted that Tsahpek^{w} was the third largest of the Yurok coastal settlements, surpassed only by Tsurai and Opyuweg, both to the south. An extensive bone and shell midden and vestiges of native structures are all that remain of Tsahpek^{w}. The cultural deposits cover nearly 5000 m^2. At one time the site projected further to the west, but over the years much of the bluff has sloughed into the sea (Milton Marks 1970: personal communication).

Archeological Investigations. When the site was visited in January, 1970, there were evidences of five structures, two of which were still standing. Judged from building materials and methods of construction, all of them appeared to have been built during the last 100 years. Surface collecting and screening of looter's backdirt near the structures produced some 1000 artifacts, which could be grouped into three general classes: (1) objects of Caucasian manufacture, (2) artifacts of native (aboriginal style) manufacture and (3) Caucasian artifacts with native modifications. Together, these structures and artifacts provided insights into the patterns of 19th century acculturation among the Yurok.

An analysis of the structural remains produced a temporal and developmental series of residence forms, which was compared with the aboriginal dwelling type (Moratto 1972: 51-53). It was learned that the native house type did not immediately give way to that of the Caucasians but that there was a series of intermediate types, each of which reflected a different level of acculturation. The semi-subterranean features and truncated

gable roof of the aboriginal house yielded first to a surface house with a simple gabled roof. A little before 1900 the plank roof was replaced by a shaked shed roof and wooden flooring was introduced. The 20th century dwelling shows that split planks were omitted in favor of horizontally-nailed sawn boards and the cabin itself was elevated on piers and girders (cf. Moratto 1972: 52-53).

Artifacts. Constituting the assemblage from Tsahpek^{w} (Plate VII) were "Gunther Barbed" arrow points (cf. Dotta 1967); triangular, ovate and concave base points; lanceolate knives; drills; chipped pebble fishnet sinkers; heavy percussion-flaked choppers; pestles; arrow shaft planes; steatite vessels; bird bone tubes; an incised ivory cylinder, and harpoons, wedges, needles, awls and fishhooks of bone or antler (cf. Moratto 1972: 53-58). Items of non-Indian manufacture included porcelain and ironstone tablewares, glass bottle fragments, iron nails, a file, metal stove parts, wagon parts, harness fittings, an animal trap and a rifle barrel. Of particular interest are five large triangular, concave-base points (for harpoons?) made of green bottle glass. Our Yurok informants reported that local children had discovered glass trade beads in the midden, but we found no historic beads in our screening.

Interpretations. Even allowing for the severe limitations of our archeological sample, certain inferences regarding the culture history of Tsahpek^{w} may cautiously be drawn. Considering first the temporal dimension it appear that the site was occupied continuously from the 1860s to the early 1940s. Combining our knowledge of the prehistoric component with ethnographic information, it can be demonstrated that Tsahpek^{w} was inhabited during prehistoric times, was then abandoned for a time of unknown duration and finally was reoccupied following the Chilula raid at Hergwer (see Moratto 1972: 48-49). The date of the earliest settlement is uncertain, but it was probably well within the most recent millennium. None of the native artifacts from Tsahpek^{w} is significantly different from the types recovered in the late prehistoric and early historic components at Tsurai and the Patricks Point site (cf. Elsasser and Heizer 1966).

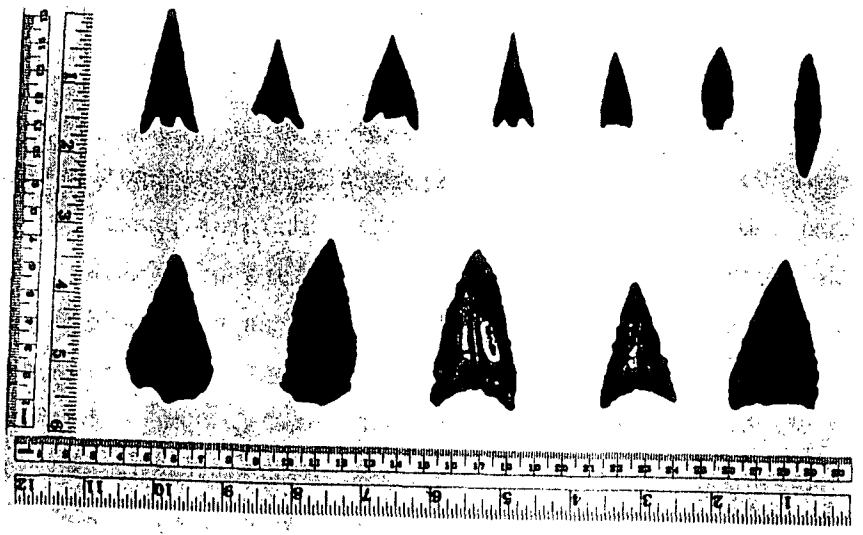
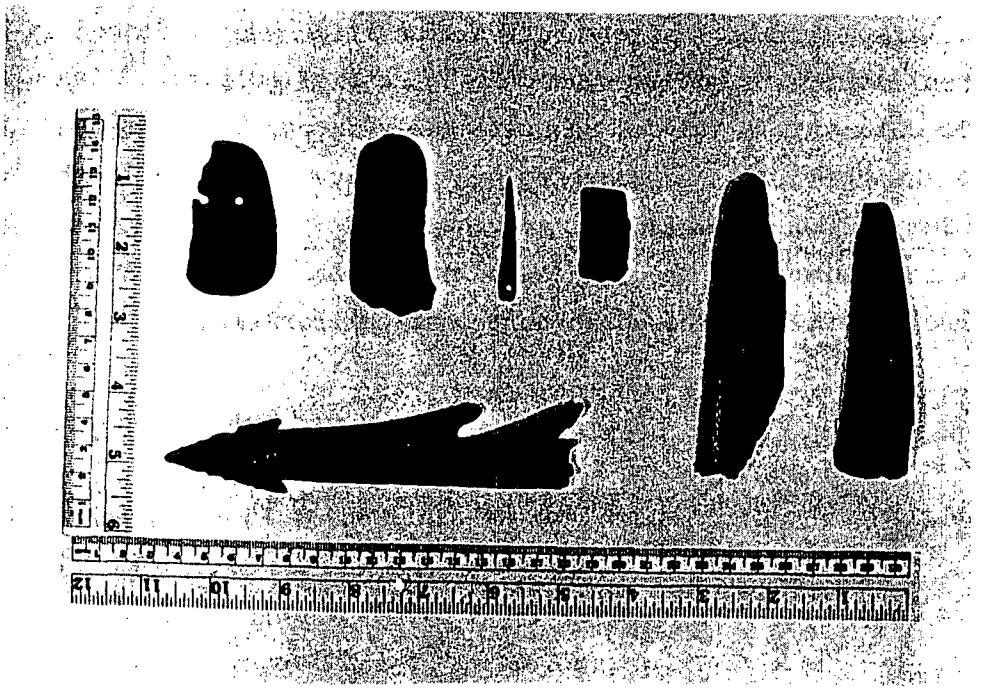


Plate VII. Artifacts from the Stone Lagoon site (4-Hum-129): (above) projectile points, including chert and obsidian arrow points (top row) and chert and bottle glass harpoon tips (bottom row); (below, left to right) bone pendant, spatulate fragment, needle, incised bone piece and two wedges. The bone harpoon point (bottom) is notched to receive a stone or glass tip.



By the 1860s the native culture was already somewhat altered by introductions from the whites, but many of the old Yurok practices persisted well into the fully historic period. In matters of housing, transportation diet and subsistence-related technology there is good evidence for a gradua metamorphosis from traditional to introduced patterns. Seventy to 100 year ago, the subsistence base included salmon, smelt, some waterfowl, molluscs, sea lions, deer, elk, berries, greens and marine plants. The brushy area south of Tsahpek^{w} was burned seasonally to retard the growth of alders and to encourage fresh browse for deer and elk. This practice was discontinued during the opening years of the present century. After ca. 1900 the Indian at Tsahpek^{w} supported themselves increasingly by agriculture. They grew potatoes and grain in large plots on and east of the site and also raised a few head of cattle. With the exception of occasional venison, mussels, clams and fish, aboriginal foods were not part of the regular diet after 1910.

Similar patterns of acculturative transition are evidenced in aspects of transportation, technology and other facets of culture. Although the available data are biased and unquestionably inconclusive, they do permit valuable insights into the sequence of Yurok acculturation in the late 19th century. The archeological evidence from Tsahpek^{w} represents an important contribution to the understanding of changing patterns of economy and technology in early historic northwest California.

VII: The Archeological Reconnaissance of Redwood National Park

Procedures

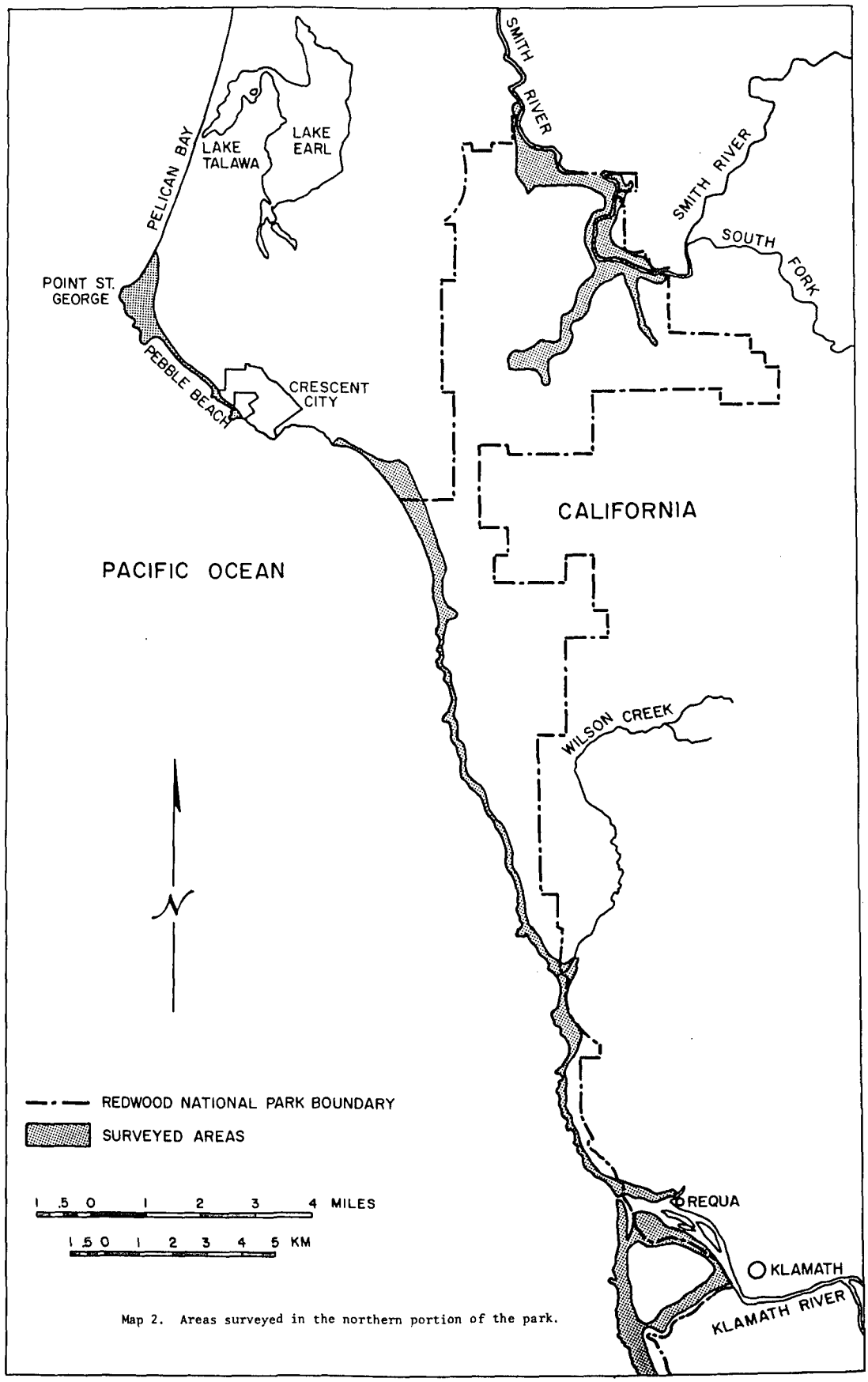
Areas to be surveyed for possible cultural sites were selected on the basis of two criteria. First, an attempt was made to examine the most promising localities; that is, the coastal strip, the banks of major streams or places known to have been settled during the historic period. Second, proposals for specific developments within the park were considered. The goals of the reconnaissance, therefore, were to gather field data concerning the full range of archeological remains within Redwood National Park and to examine specific development sites in order to determine whether cultural resources would be adversely affected by the planned modifications.

All surveys were conducted on foot. Of immediate concern were soil discolorations, shell, worked lithic material, unusual contours, fire-fractured rocks and all other unnatural conditions which might reflect prior cultural activity. Discovered sites were recorded on standard "site survey forms," photographed and sketch-mapped. Artifacts from Hum-129 and DNo-14 were collected and are being retained at the Treganza Anthropology Museum in San Francisco. Artifacts from all other sites within the park were left *in situ*. Field maps, notes, photographs and other data are filed in the Department of Anthropology, San Francisco State University.

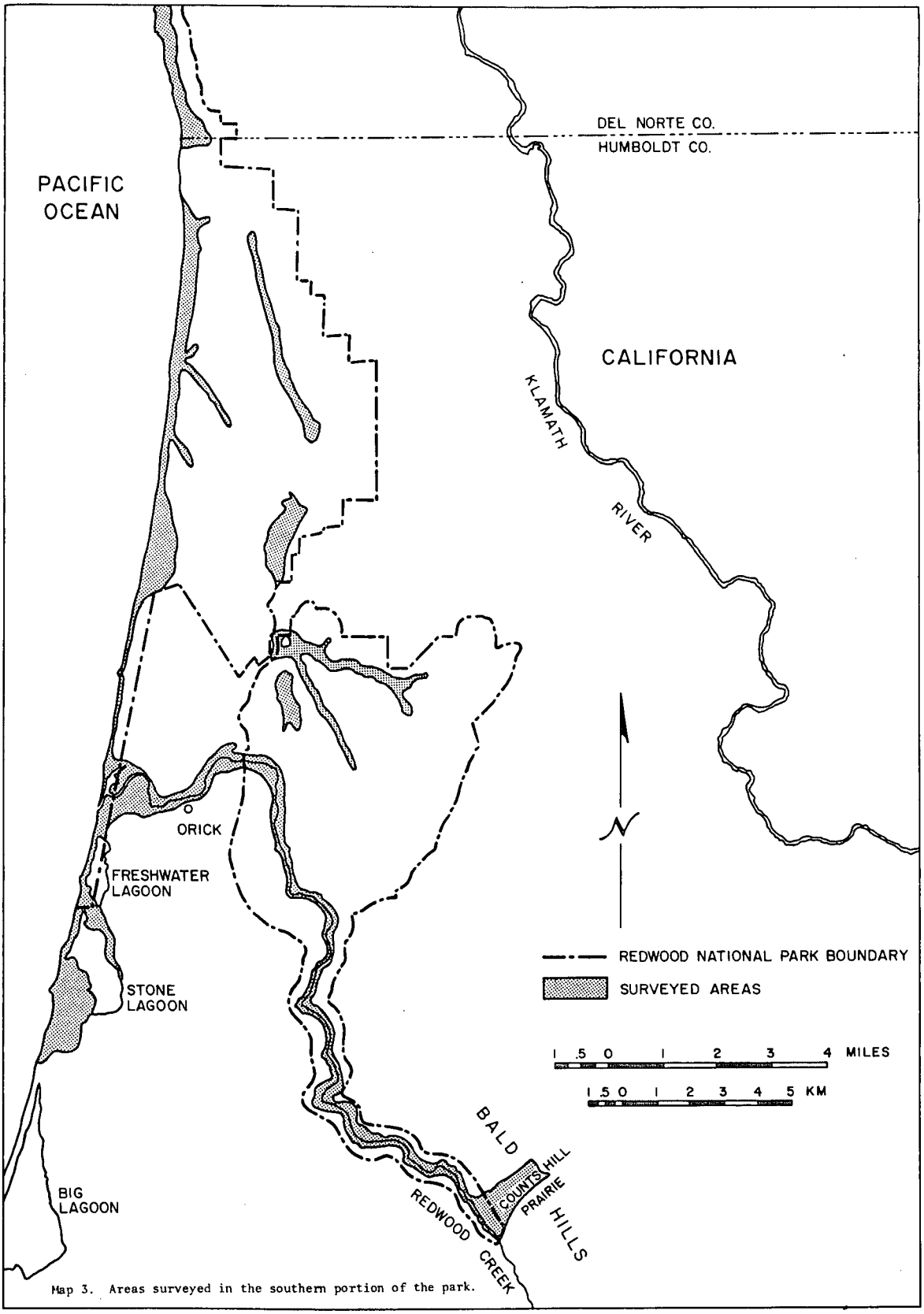
Description of Areas Surveyed

The areas searched for archeological remains are shown on Maps 2 and 3. During the course of three field seasons, the following areas were surveyed:

1. The west side of Smith River from a point opposite Peacock Creek to the Hiouchi Bridge--1973.
2. Lower Clarks Creek between Highway 199 and Smith River--1973.
3. The west side of Smith River from the Hiouchi Bridge to a point ca. 1/2 mile west of Sheep Pen Creek--1973.
4. Lower Mill Creek from the Nickerson Ranch site and Metcalf Grove to Smith River--1973.



Map 2. Areas surveyed in the northern portion of the park.



Map 3. Areas surveyed in the southern portion of the park.

5. Cedar Creek from a point ca. 400 m into Sec. 21 downstream to its confluence with Smith River--1973.

6. The eastern bank of Smith River from a point ca. 1 mile north of the Hiouchi Bridge to a point within Sec. 9, ca. 300 m west of Sec. 10--1973.

7. The Point Saint George locality and the coastal strip between the Point and Crescent City--1971, 1973.

8. The Redwood National Park Headquarters site in Crescent City--1971 (now under construction).

9. The entire coastline between the Whaler Island Breakwater in Crescent City and the mouth of the Klamath River. Particular attention was devoted to the Crescent Beach recreation area, the Coast Trail, the Yurok Loop Trail, the Lagoon Creek parking area and foot-bridge site, the Requa (Coast Trail) parking area, beach access trail routes, the Enderts Beach camping area and the locations of known ethnographic village sites--1971, 1972.

10. The south bank of the Klamath River from the sandpit to the Douglas Memorial Bridge--1971.

11. Lower Richardson Creek and the Old Hwy. 101 corridor between the Klamath River and the coast--1971.

12. The coastside between the Klamath River and a point ca. 300 m south of the Del Norte County line--1971, 1973.

13. The coastside between the Ossagon Creek drainage and Espa Lagoon, including the lower reaches of Boat Creek, Home Creek and Squashan Creek--1971.

14. The coastside between Espa Lagoon and Redwood Lagoon, including lower Major Creek and the hills southwest of the Hufford Ranch--1973.

15. The coastside between Redwood Lagoon and the southern edge of Dry Lagoon, including much of the Stone Lagoon shoreline--1970, 1971, 1972.

16. The Lady Bird Johnson Grove and Trail, the "dedication site" and the parking facility site on Bald Hills Road--1971.

17. The Elk Grove-Elk Prairie vicinity of Prairie Creek Redwoods State Park--1971.

18. The Prairie Creek-Highway 101 corridor for a distance of ca.

3 1/2 miles north of Brown Creek in Prairie Creek Redwoods State Park--1971, 1973.

19. Lower Lost Man and Little Lost Man creeks upstream from Highway 101--1973.

20. Lower Redwood Creek between Redwood Lagoon and the confluence of Prairie Creek--1971.

21. The Redwood Creek drainage between the trailhead near Bald Hills Road and Tall Trees, including the Tall Trees Loop Trail; various portions surveyed in 1971, 1972 and 1973.

22. Redwood Creek between Tall Trees and the upstream boundary of Redwood National Park, including the "Rocky Gap" section of the drainage--1973.

23. The northeastern half of Counts Hill Prairie and the adjacent wooded areas between Bald Hills Road and the Park boundary--1973.

Survey Statistics

In sum, the entire coastal frontage of Redwood National Park has now been examined for archeological remains. In addition, reconnaissance work has been completed along the sections of Smith River, Klamath River, Redwood Creek and many smaller streams within the park. A total area of 20.93 square miles (ca. 13,510 acres) was surveyed during the three seasons of reconnaissance work in the park (12 man-days in 1971, six man-days in 1972 and 16 man-days in 1973, counting actual field survey time only).

A more detailed breakdown of surveyed areas and man-days invested is provided in Table 1.

Field Conditions

The significance of any archeological survey must be measured against the background of field conditions actually encountered. Put simply, the nature of landforms, erosion patterns, vegetation, ground cover and other factors govern, in large measure, the intensity and reliability of archeological reconnaissance work.

Conditions for field survey are generally excellent along the low bluffs from Point Saint George to Crescent City (Map 2). There are no

Table 1: Summary data concerning survey work in Redwood National Park.

1971-1972 (18 man-days of survey work)

Projects	Square Miles Surveyed	
7	1.80 ±	
8		(ca. 2 acres)
9	3.39	
10-11	1.00	
13	1.65	
15	1.08	
16	0.28	
17	0.50	
18	0.45	
20	0.30	
21	1.20	
Total;	11.65	(ca. 7520 acres)

1973 (16 man-days of survey work)

Projects	Square Miles Surveyed	
1-6	2.81 ±	
12	1.83	
14	1.05	
18	0.30	
19	0.79	
21	1.20	(resurvey)
22-23	1.30	
Total:	9.28	(ca. 5990 acres)

Average: ca. 374 acres/ man-day

forests on this part of the coastline and the local vegetation is chiefly composed of low strand plants. Because of these factors and the numerous soil exposures in gulleys and aeolan scars, it seems probable that all of the remaining archeological sites in this vicinity have been discovered.

Completely different circumstances are encountered in the Smith River-Mill Creek vicinity (Map 2). Much of this area, particularly along lower Mill and Clarks creeks, is heavily forested, with a dense understory of ferns, huckleberries, hazel, etc. Beneath the duff on the forest floor the natural soils on higher terraces are red to red-brown in color. Near Smith River, as much as 40-60 feet above the summer water level, the soil is blanketed with gray to gray-white silt, which grades to sand and then to gravel in the river channel. Exposures of silt more than 2 feet deep were observed on habitable terraces just below Stout Grove. Aside from the expectation that some sites may have been eradicated by flooding, the combination of dense vegetation, duff and silt raise the possibility that buried sites of any size could have gone undetected.

Similar forest conditions continue along Clarks Creek, except for a large grassy meadow adjacent to Walker Road about 1/2 mile west of Clarks Creek. This flat appears to have been used as homestead, as evidenced by old fruit trees toward the western edge. The location would have been ideal for an Indian camp site, but no traces of midden or aboriginal features could be found in the pale gray soil.

On the eastern side of Smith River the problems of silt and dense vegetation are compounded by recent modifications, such as roads, houses, stores and park developments. As on the western side of the river, it is to be expected that some sites may have been destroyed and that others may remain buried beneath the silt.

South of Crescent City the field situation is quite favorable between Whaler Island and Enderts Beach. The vegetation is inconsequential from an archeological standpoint and the terrain is quite amenable to survey work. It is possible that drifting sand along Crescent Beach or earth slippage between Cushing Creek and Nickel Creek could have removed or obscured sites. Nonetheless, it is very probable that the existing sites in this vicinity have been discovered.

With few exceptions, the coastline between Enderts Beach and the southern end of the park is characterized by steep to precipitous slopes, with much evidence of slippage and landslides. It seems very likely that ancient archeological sites, if they ever existed along this part of the coast, would have sloughed off the unstable bluffs into the sea long ago. Those sites discovered tended to be located on sheltered terraces or slopes near the mouths of streams or on the shores of lagoons. Vegetation creates an undeniable problem for the archeological surveyor along this part of the coastside. There are many places where the rank stands of thimbleberries, cow parsnip, nettles, blackberries, etc. are so dense that the soil cannot be seen. Test holes 6" to 18" deep were dug periodically in terraces, stream banks and other "suspicious" locations. Nevertheless, there is a clear possibility that some coastal sites may remain unknown, camouflaged beneath dense plant cover.

Redwood Creek (Map 3) is another place where field conditions have clearly affected the reliability of archeological survey data. In general, the lower Redwood Creek Basin shows evidence of massive erosion and flooding. Below Rocky Gap the channel tends to be broad and shallow. Excessive accumulations of gray silt, in some palces as much as 6 feet deep, are found on the occasional terraces and meadows near the river. It is clear that any archeological sites which may have existed along Redwood Creek within Redwood National Park have either been washed away or smothered beneath a mantle of silt. Because of the danger of flooding near this stream and the fact that dense forests extend to the very banks of Redwood Creek, it is likely that most archeological sites will be encountered on the lower prairies several hundred yards or more above the water. However, the possibility of sites nearer Redwood Creek cannot be discounted; such sites might include seasonal settlements or special purpose camps. This possibility must be kept in mind should any developments be planned for the Redwood Creek drainage.

VIII: Inventory of Cultural Resources In and Near Redwood National Park

This chapter describes significant archeological remains within or adjacent to the National Park. Each site is considered in terms of its name, nature, condition and significance.

(1) T'ayi'áte (DNo-11)

The Point Saint George site was occupied as early as 300 BC and was settled intensively thereafter by the ancestors of the historic Tolowa. Known to have been used historically as a camping place for shellfish gathering and sea lion hunting, this site was depopulated early in the historic period by an epidemic, possibly of cholera (Gould 1966a; Drucker 1937; Waterman 1925). Today, the archeological remains at DNo-11 form the most extensive, and possibly the oldest, midden complex on the northwest coast of California. Archeological excavations at this site have produced rich evidence of a maritime culture (Gould 1966a; Moratto 1960). Although DNo-11 has been greatly disturbed by vandalism, slippage and aeolan deflation, the site is so large that perhaps 60% to 80% of the original deposits remain intact. Although this site lies a few miles west of the park boundary, it is so important archeologically that the NPS should be aware of its location and status. DNo-11 was nominated for inclusion on the National Register of Historic Places in 1972.

(2) Sastaso$^{n'}$

Waterman (1925) mentioned in passing the name of this settlement on Point Saint George. It is probable that Waterman's Sastaso$^{n'}$ was represented by a shellmound (now destroyed) about 1/2 mile south of the Coast Guard Station on Point Saint George. I visited this midden in 1956, shortly before it was bulldozed into the sea to make way for a quarrying operation. This information is largely of academic interest now, since the midden has been eradicated.

(3) Ta'ti'tun (DNo-13)

Possibly a suburb of Ta´:tatun, Ta´ti>´tun was situated at the norther end of Pebble Beach (Drucker 1937; Waterman 1925). This Tolowa settlement is represented today by DNo-13, an extensive sand, bone, shell and rock midden. Much of the site has been disturbed by vandalism, virtually all of which has occurred since 1959. One possible subrectangular housepit and choppers, pestle fragments and other artifacts were observed on the surface of DNo-13 at the time of my 1971 visit. This site undoubtedly still has considerable archeological interest and value. However, since it is located outside of Redwood National Park on private land, it would appear that the NPS can do little--except in the area of public education--to protect DNo-13 from further depredations.

(4) Meslte´ltun (DNo-17)

Located near the southern end of Pebble Beach, this wealthy offshoot of Ta´:tatun once had nine houses and two sweathouses (Curtis 1924; Drucker 1937; Waterman 1925; Kroeber 1925). Most of the previously-extensive midde at DNo-17 has eroded into the sea or was bulldozed during the grading for Pebble Beach Drive. It was reported to me by local residents that numerous burials came to light when this site was graded. Today, traces of shell midden are still visible in the cliffs near the public beach access, and there may be additional deposits beneath the parking lot. Little or nothin of archeological significance remains at DNo-17. The site of old Meslte´lt is marked by a bronze plaque erected by the Del Norte Historical Society at the instigation of Richard Gould.

(5) Senĭ´gxat

At the site of Seaside Hospital in Crescent City, this village was occupied historically be people from Ta´:tatun. Senĭ´gxat once had 11 houses and two sweathouses (Drucker 1937; Droeber 1925; Waterman 1925). No archeological remnants of Senĭ´gxat could be discovered, but it is possible that some cultural deposits have survived beneath the hospital and its landscaping.

(6) DNo-18

Regarding this site, which apparently is (or was) located near the northeastern periphery of Jedediah Smith Redwoods State Park, we have the following information:

> According to the files of the University of California (Berkeley) Archaeological Research Facility, an aboriginal site known as 4-DNo-18 is located in the (vicinity) ... We found no evidence of such a site, however, and Mr. Peacock, who owns the property, assured us that no such site existed. Instead, he informed us, there was a site which he had showed to an archaeologist in the past, ... This site included a cemetery and a sweathouse depression, but was covered by the construction of Route 197 a few years ago. At the prescribed location we found a broad lower terrace, moderately alluviated, and a narrow upper terrace almost completely covered by the Route 197 roadbed. Aside from a few possible fire-cracked rocks on the remnant terrace protruding from beneath the road fill, no clear evidence of an archaeological site was noted. We surmise, however, that this is the most likely real location for DNo-18. (King 1972: 11)

(7) Si' tragĩ'/tum

Drucker (1937) describes this as an "old site" with one house and one sweathouse, inhabited by a man from E/:tcūlet. This settlement was apparently situated on a terrace on the west bank of Smith River, north of the Hiouchi Bridge. The locality has been logged and flooded in the past and is presently covered with dense forest. No trace of Indian habitation could be discovered here during King's (1972) examination or during my survey in 1973. What is apparently the same location was visited by E. Ritter in 1969. Ritter did not inspect the site closely, but he recorded the fact that two local residents had collected broken projectile points there. The presumed archeological site was designated "DNo-S4" by Ritter (cf. files of the State Department of Parks and Recreation, Cultural Resources Section).

(8) DNo-S1 (Possible Indian Grave)

During the summer of 1969, Ritter reported that the grave of a "Chief Phillips" (Tolowa?) was located near a large rock outcrop on the south edge of Smith River, downstream from the Hiouchi Bridge. The site is located within a mixed forest of redwood, fir, hemlock and madrone, and its surface

is covered with river alluvium. Information regarding this putative site was provided to Ritter by C. O. Young, a local resident. No cultural manifestations were observed at DNo-S1 (cf. files of the State Department of Parks and Recreation, Cultural Resources Section).

(9) Tcunsu'ltun

This ethnographic Tolowa village on the north bank of Smith River reportedly had two houses and a sweathouse and was a suburb of Ta':-tatun at Crescent City (Drucker 1937). A very extensive archeological site discovered during the 1973 survey presumably represents the old village of Tcunsu'ltun. This site is located within Jedediah Smith Redwoods State Park. Rich, black midden is present. Four chipped stone fishnet sinkers, two 19th century bottle glass fragments and numerous pieces of worked chert and obsidian were found on the surface. This may be the site designated DNo-S2 by Ritter in 1969, but Ritter's verbal description is inconsistent with his map coordinates. Ritter notes that a Mr. Sawyer had collected about 20 projectile points, retouched flakes, ocean shell scrapers, hammerstones and core tools from the surface of DNo-S2 (cf. files of State Department of Parks and Recreation, Cultural Resources Section).

T. F. King, in the course of his 1972 survey for the State Division of Highways, also reported a site which he considered to be Tcunsu'ltun:

> This village had two houses and a sweathouse, and was a suburb of Tatatun, a large village near Crescent City. This property has recently been purchased by the National Park Service... (King 1972: 11)

It seems clear that the north bank of Smith River in this area was extensively utilized by the Indians. Although it is probable that the site described by King is merely the periphery of the midden discussed above, the ascription of the name Tcunsu'ltun to either site (or to both of them collectively) would seem reasonable. It may be, in fact, that the "two" sites merely reflect settlements by the same community at different times. In any event, the archeological remains would appear to be of exceptional scientific value. The apparent site of Tcunsu'ltun seems to

be the only midden site within Jedediah Smith Redwoods State Park. Furthermore, this is the only reasonably intact inland archeological site known to exist within the proposed boundaries of Redwood National Park.

(10) DNo-S3

This midden site, located north of Smith River and northeast of the park boundary, was first recorded in 1969 by Ritter, who discovered scattered lithic flakes on the surface. The site is so badly disturbed by erosion, gardening, a residence and a roadcut that it would seem to be of little archeological value (cf. files of the State Department of Parks and Recreation, Cultural Resources Section).

(11) DNo-S5

Based on information received from C. Sawyer of Crescent City, Ritter recorded DNo-S5 as a "rock outcrop and midden deposit with bedrock mortars" on the western edge of Mill Creek. According to the report given to Ritter, a stone pestle and two bowl mortars were collected from this site (cf. files of the State Department of Parks and Recreation, Cultural Resources Section). The site could not be found during the 1973 reconnaissance. It is possible that forest litter obscures the site or that the location given to Ritter was inaccurate.

(12) Te´:nītcuntun

Since the recorded location of Te´:nītcuntun falls nearly a mile northeast of the park, no attempt was made to search for the site in 1973. However, a survey of the area was made in 1972:

> We assiduously searched the area...without finding any evidence of aboriginal occupation. The margins of the ridge...have clearly been subjected to extreme erosion, however, and placer operations are reported in the vicinity...At this location too are several massive cobble walls...and an apparent old dump well excavated by bottle hunters.... It is quite possible that these various modifications have removed all traces of Te´:nītcuntun...(King 1972: 12)

(13) Ta´:tatun (DNo-16)

This was the main Tolowa village in Crescent City, located on Battery Point. In historic times this village was moved to Senǐ́gxat (Drucker 1937; Waterman 1925). All archeological evidences of Tá:tatun appear to have been obliterated by rock quarrying.

(14) Šxmeˀ (DNo-15)

This was a 19th century Tolowa hamlet on the north side of Cushing Creek. It is said to have had one house and a sweathouse (Moratto 1972). A reasonably intact, but apparently shallow, shell midden occupies the place of old Šxmeˀ. This midden is the most northerly coastal archeological site within the National Park. At present, the site seems endangered only by gradual erosion.

(15) TšiniƔatš̌ə (DNo-14)

Located on both sides of Nickel Creek, TšiniƔatš̌ə was a late prehistoric-early historic Tolowa village of at least two houses and a sweathouse. This site may have been utilized most intensively during the summer fishing season. It was abandoned around 1880 (Moratto 1972; Waterman 1925; Kroeber 1925). A moderately disturbed archeological site remains.

(16) DNo-S7

Ritter first discovered this archeological site in 1969 during his survey of Del Norte Redwoods State Park (cf. files of the State Department of Parks and Recreation, Cultural Resources Section). Located on a small terrace along Damnation Creek, DNo-S7 consists of a shell midden ca. 50 meters in diameter and 1 meter deep. Flakes of chert were found on the surface. This site is essentially intact and does not appear to be in danger of disturbance.

(17) DNo-S8

DNo-S8, located at the base of a rocky cliff, is of unusual interest because it is the only rockshelter site known within Redwood National Park. A small, shallow shell midden extends about 8 or 9 meters down the slope from the mouth of the cave. If this site dates to the protohistoric

or early historic period, it is probably the most southerly Tolowa settlement within the National Park. O'menhipu'r, a village a little further south, was known to have been settled by the Yurok.

(18) O'menhipu'r (DNo-2 and DNo-7; also, DNo-S9)

This village of seven or eight houses, located on both sides of Wilson Creek, was the most northerly Yurok settlement (Waterman 1920). Recent highway construction has virtually obliterated the archeological remains of O'menhipu'r. Highly disturbed lenses of shell midden are present, as are scattered bits of shell. The University of California (Berkeley) Archaeological Survey has assigned separate numbers (DNo-2 and DNo-7) to the middens north and south (respectively) of Wilson Creek. In 1948, when A. P. Miller of U.C. surveyed the site, there were still extensive midden deposits and at least three house pits visible. Three cairns of stones, possibly grave sites, were also recorded in 1948 at a point about 500 yards north of DNo-2. Unless some relatively undisturbed deposits are concealed, this site would appear to be of little worth to archeology.

(19) O'men (DNo-1; also, DNo-S10)

Situated on the coast, the village of O'men contained at least four houses and a sweathouse (Waterman 1920). Disturbed remnants of a once extensive archeological deposit are to be found and the remaining shell midden has been considerably damaged. The four house pits still visible in 1948 (at the time of the U.C., Berkeley, survey) have been obliterated. Nevertheless, a sufficient portion of the midden remains to warrant meaningful archeological sampling in the future.

(20) Re'kwoi (DNo-5)

With 22 to 25 houses, Re'kwoi was not only the largest Yurok village on the coast, but also one of the best preserved. An extensive midden, one reconstructed family house and several house pits remain today. The dark, sandy midden contains numerous shells, fire-fractured rocks, chert flakes and sea mammal bones. Presumably, the site would also contain a great quantity of salmon bones, but these were not observed on the surface.

Although Re´kwoi falls a few hundred yards east of the Redwood National Park boundary, its preservation and interpretation should be a matter of concern for the National Park Service. In 1971, Re´kwoi was nominated for inclusion on the National Register of Historic Places.

(21) We´lkwäʷ (DNo-6)

Nine houses are reported to have stood in this town. We´lkwäʷ was one of a half-dozen Yurok villages with a sacred sweathouse where a White Deerskin or Jumping dance could be performed (Kroeber 1925; Waterman 1920). A few native house frames were still standing in 1920, but barns and outbuildings occupied much of the former Yurok site (Waterman 1920). No trace of aboriginal settlement could be discovered during our survey. Much of the locality has been bulldozed to bedrock, the remainder being covered with vestiges of sawmill and ranch structures. This former site falls within park borders, but nothing of archeological value remains.

(22) Tse´kwel

According to Waterman (1920), this village was located on the south bank of the Klamath River. The area is now overgrown by alder brush and no evidence of native habitation could be discovered.

(23) O´segen (Hum-136)

This was a small coastal Yurok hamlet of three houses and two sweathouses (Waterman 1920). Two sweathouses were still standing in 1935 (Hood 1965). Much of the site has been disturbed by historic activities and only scattered traces of shallow midden could be discovered.

(24) E´späʷ (Hum-133)

E´späʷ was an important Yurok coastal town of four to seven houses. This settlement was occupied until early in the 20th century and had accumulations of shell "several yards thick" (Curtis 1924; Waterman 1920; Kroeber 1925). Surveys by Ritter in 1969 and by me in 1971 failed to produce any traces of the former midden. The area has been modified considerably by roads, logging, mining, Coast Guard activities, recreation use

and modern residences. A dense, young forest of conifers and alders also covers a portion of the area. It would appear that all traces of the old village of E'spä^{w} have vanished during the last half century.

(25) Major Creek Settlement

The 1973 reconnaissance disclosed the presence of a historic coastal site. Although there is no appreciable midden buildup in this location, there are bits of glass, porcelain and pieces of iron scattered over the surface. None of the artifacts appears to be more than 50 or 60 years old. It is surmised that a house or cabin once stood here, probably during the early 20th century.

(26) O-tmekwo'r (Hum-135)

Waterman (1920) described this as an old site with five house pits near Redwood Lagoon. Waterman further postulated that O-tmekwo'r might be the site from which the inhabitants of Ore'q^{w} originated. Bearss (1969: 14) states, in apparent conflict with waterman's statements, that the site was occupied in 1912. This site, designated Hum-135, was visited and recorded in detail as part of the 1973 reconnaissance program. It was discovered that a virtually undisturbed, deep midden--comprised of shell, mammal bone, fire-fractured rocks, etc.--covers an area measuring ca. 40 x 75 meters. An elk antler wedge, several pestles, stone fishnet sinkers and numerous chert cores and flakes were observed on the surface of the midden. Hum-135 is of particular importance because it has not been disturbed by vandals and because it is the only reasonably intact archeological site of its kind within the park. Since many crucial questions regarding lagoon-related adaptive strategies might ultimately be answered through the scientific investigation of this site, it is imperative that the midden be safeguarded as one of Redwood National Park's most valuable cultural resources.

(27) Ore'q^{w} (Hum-131)

Also in the vicinity of Redwood Lagoon was Ore'q^{w}, a Yurok settlement of six houses, a sweathouse and a cemetery. This was one of the villages

where the Jumping Dance was held. The early population of this settlement is estimated to have been 25 to 35 persons (Waterman 1920). The 1961 rerouting of U.S. Highway 101 greatly damaged the site and exposed 23 burials. No trace of midden could be found in the vicinity of Ore'q^{w} during two visits in 1971. However, the place is overgrown with alder, thimbleberries, cow parsnip, etc., and it is possible that some portion of the original midden has escaped both damage and detection. Ore'q^{w} was important ethnographically as the principal Yurok village in the neighborhood of Redwood Lagoon. Modern Orick is named after this site.

(28) Sī'gwets (Hum 132)

Waterman (1920 describes Sī'gwets as an old town site, a suburb of Ore'q^{w}. The site was destroyed by the construction of Highway 101 and a parking area.

(29) Hr'gwr^{ə}^{w} (Hum-130)

More than a century ago, Hr'gwr^{ə}^{w} was a Yurok village of seven houses and two sweathouses near Stone Lagoon. In 1863 Chilula Indians from Bald Hills raided this village and killed 10 people; the survivors settled at Tsa'hpek^{w} (Waterman 1920; Kroeber 1925). The archeological remains of Hr'gwr^{ə}^{w} were destroyed by highway construction during the early 1960s. The midden was recorded in 1948 by University of California archeologists.

(30) Orä'^{w}

This was a Yurok camp site with a collection of shelters used during acorn harvests (Waterman 1920). It was located on the bank of Prairie Creek. Any midden which may have existed has been destroyed or buried beneath Highway 101.

(31) Hum-S3

No Yurok name is known for this archeological site, which was first recorded by Ritter in 1969 (cf. files of the State Department of Parks and Recreation, Cultural Resources Section). Apparently used as a hunting camp, the site consists of a scatter of chert flakes and point fragments

on Elk Prairie. The site shows no appreciable depth of deposit or midden buildup.

(32) Hum-180

This archeological site in Prairie Creek Redwoods State Park was discovered by University of California archeologists in 1948. It is comprised of shell fragments, chert flakes and other artifacts scattered over the surface. It is probable that Hum-180, Hum-S3 and other as yet undiscovered sites were used as temporary hunting camps by small bands of Yurok from more permanent coastal villages.

(33) Split Rock ("Nock Maye")

This cleft monolith was of mythological significance to the Yurok (see Ch. III). The native explanation of Split Rock is given on a roadside plaque set up by the National Park Service.

(34) Tsa'hpek^{w}(Hum-129)

This was a village of 11 houses near Stone Lagoon (Waterman 1920; Moratto 1970, 1972). Hum-129 is a very large and deep, but badly vandalized, midden, which has produced abundant evidence of protohistoric-historic Yurok culture (see Ch. VI; Moratto 1972). This site is deserving of special protection, not only because of its value as an archeological resource, but also because it contains an Indian cemetery with the remains of persons related to Yuroks still living along the northwest coast. Tsa'hpek^{w} is still a place of considerable religious value for the local Indians.

(35) Stone Lagoon Fishing Camp

In 1970 D. Wood and I located what was presumably a Yurok fishing place. This site consisted of nearly 100 stone fishnet sinkers and choppers scattered along a 100-meter stretch of rocky shoreline. A hopper mortar base was discovered, but no midden or other vestiges of settlement could be found. It is surmised that this site was used as a fishing place by Indians living at one of the nearby villages (cf. Map XI).

(36) Tso'tskwi (Hum-121)

This old village site near Dry Lagoon may have had as many as 12 houses and two sweathouses (Waterman 1920). Today, a large midden with considerable evidence of vandalism remains. The midden consists of darkened soil with fire-cracked rocks, chert flakes, shell fragments, chipped pebble sinkers and miscellaneous artifacts. The activities of pot hunters have resulted in the destruction of some 30% or more of the midden.

(37) Nōlediñ

Goddard (1914b) has provided considerable information concerning this Chilula settlement along Redwood Creek (see Ch. III). The site was visited in 1973 and positively identified on the basis of the hollow redwood trees within which "families used to spend the winter" (Goddard 1914b: 273). Nōlediñ today consists of two, or possibly three, house pits and two fireplaces made of fieldstone set in mud mortar. No midden or aboriginal artifacts were discovered. It is presumed that Nōlediñ was occupied by acculturated Chilula during the historic period. The fireplaces and contiguous house pits clearly represent small cabins of non-aboriginal design. Given the fact that the Chilula of the 1860s built a log cabin-style fort, it is not at all unreasonable that cabins of the American type would have been constructed by the Indians at Nōlediñ.

(39) Xōwûnnakût

Goddard (1914b) reported this settlement to have been the first Chilula village on Redwood Creek. If Goddard's (1914b) location for Nōlediñ is correct, then it almost certainly is well outside of Redwood National Park.

IX: Conclusions and Recommendations

This report has summarized the status of anthropological knowledge about the area of Redwood National Park. An attempt has been made to describe the richness of prehistoric and ethnographic cultures of the north coast region and to review previous anthropological research in the area. It is hoped that the archeological remains described in this paper will be evaluated against this background and be managed accordingly.

A number of recommendations may be offered with respect to the anthropology of the Redwood National Park region:

(1) Although approximately 21 square miles of land within and adjacent to the park have been examined for archeological remains, additional surveys may become necessary as future development plans are approved.

(2) Among the objectives for the park are the protection of resources and the explanation of their significance (NPS 1971: 6-7). These goals apply to cultural, as well as natural, resources. Suggestions for the protection of specific archeological sites have been given in the preceding chapters. However, little has been said regarding archeological interpretive programs.

The resources of the park contain great interpretive potential. An obvious proposal would be the reconstruction of a native village--complete with family houses, a sweathouse, perhaps a canoe and other artifacts--at one of the scenic archeological sites within the park. Tšiniɣatʸə, Tcunsu'ltun or O'men would be ideal locations for village reconstructions. It would also be desirable to install major "conventional" exhibits regarding local Indian cultures at the planned interpretive centers. Other suggestions for educational endeavors include establishment of explanatory plaques at landmarks important to the Indians (as has been done at Split Rock) and the preparation of a booklet (for sale at Visitor Centers) dealing with the Indians of the park area.

(3) The Park Service should explicitly and programmatically recognize that viable Indian cultures are still very much a part of the north coast area. This recognition carries with it both obligations and opportunities. If possible, the Park Service should take advantage of the fact

that much useful ethnography may still be done among elderly Indian people. A conscientious effort to record Yurok, Tolowa and Chilula "memory cultures" would undoubtedly produce new data concerning man's relationship with the redwood region as it was a century ago. In a few more years much of this information will have vanished. At the same time, it may be possible to cooperate with the local Indian people in the establishment of a program--possibly to include native dances or craft displays--for the edification of park visitors. In this regard it cannot be stressed too strongly that any such program must be developed hand-in-hand with the Indian participants. It cannot be designed solely to meet the needs of the National Park Service or be imposed upon the Indians as a fait accompli.

(4) Three archeological sites were nominated in April, 1972, for inclusion on the National Register of Historic Places. Two of these, DNo-11 and DNo-5, are just outside of the park. It is suggested, therefore, that Redwood National Park personnel be instructed to visit these sites periodically and to report any apparent violation of the federal statutes governing such historic places. The third site is the Jedediah Smith campsite at Cushing Creek. The Cushing Creek location was the site of the historic Tolowa Village (or camp) called Šxmeʔ. Since Jed Smith referred to his camp site as "Nec-kah," a name which I have previously shown to have been associated with Nickel Creek rather than Cushing Creek (Moratto 1972), it may be that Smith pitched camp at Tšiniɣatʸǝ instead of Šxmeʔ. This entire business should be studied thoroughly by a competent historical geographer. When the historic campsite has been established with certainty, appropriate interpretive devices should be set up at the site. It would also be useful to have signs or plaques at the other sites on the National Register.

(5) Recognizing the fact that the National Park Service does exert some influence beyond the actual confines of Redwood National Park, it is recommended that steps be taken toward the preservation of whatever archeological sites might exist in the "Cooperative Management Zone" outside the park. For example, logging companies and other private landowners in the Cooperative Management Zone ought to be formally notified that the California Environmental Quality Act (and subsequent court interpretations

thereof) require archeological assessments prior to significant modifications of the landscape. Thus, logging operations in the Cooperative Management Zone should be preceded by environmental impact studies which include archeological impact evaluations.

(6) Ultimately, the Park Service should develop an archeological management and research strategy in consultation with local Indian leaders and professional archeologists. No excavations in the archeological sites of the park should ever be permitted unless the site is unavoidably jeopardized by developments or significant anthropological research questions are to be answered.

In light of the great damage suffered by archeological remains throughout northern California, the extant sites in Redwood National Park have significant value and potential for contributing to the understanding of regional prehistory. Chapter V has suggested that three, or possibly four, vaguely known cultural phases exist in the sequence of human occupation in northwest California. These might be tentatively named and represented as follows:

Trinidad Phase:	Historic period; characteristic assemblages have been excavated at Tsurai, Tsahpek^{w} and southern DNo-11 (see Ch. V for diagnostic artifacts).
Gunther Is. Phase:	Late prehistoric period, back to AD 900 or earlier; as represented at Gunther Island, Patricks Point, Tšiniyat^{y}ə and Point Saint George II (see Ch. V).
Pt. St. George Phase:	As early as several centuries BC; known only from the lower levels of Point Saint George (DNo-11) (see Chapter V).

It is also possible that evidence of substantially earlier cultural activity may be discovered in northwest California. In any event, a great deal of work needs to be done in order to clarify the nature, cultural

affiliation and dating of the phases proposed above. Any future archeological studies should consider these phases in terms of possible ties with archeological phenomena in southern Oregon, northeastern California and the Coast Ranges to the south (cf. Fredrickson 1973).

We are left with an uncomfortably large number of anthropological questions: When did man first arrive in the redwood region? What were the approximate times at which the ancestors of the Karok, Tolowa-Hupa-Chilula and Yurok-Wiyot appeared in the area? How and why did adaptive strategies and demographic patterns change throughout the prehistoric sequence on the north coast? What sorts of forces shaped diverse peoples and cultures into the distinctive Northwest California Culture Area of the ethnographic horizon? How did the evolving social, economic and political patterns interact and how did these, in turn, relate to subsistence efforts and food surplus; that is, is it possible to archeologically trace the development and origins of the complex socio-economic network described by Gould (1966b)? How did coastal lifeways differ from those of the interior when practiced by the same society?

Many other similar questions could be formulated, even with the limited information available at present. The extent to which answers may be provided will depend to a great extent upon the thoroughness and sophistication of the archeological management and research program designed for Redwood National Park. Such a far-reaching program cannot be devised until park development proposals are clarified and until the Indian people are willing to permit significant excavations. Meanwhile, the complete preservation of every archeological site known in the park constitutes the only justifiable course of action.

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