OCS Study
BOEM 2017-001

Characterizing Tribal Cultural Landscapes
Volume II: Tribal Case Studies

US Department of the Interior
Bureau of Ocean Energy Management
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Characterizing Tribal Cultural Landscapes
Volume II: Tribal Case Studies

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Yurok Tribe

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US Department of Commerce
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Bureau of Ocean Energy Management
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DISCLAIMER

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ABOUT THE COVER

Memorial Post at the mouth of the Salmon River in Oregon, honoring the Neschesne people and the village that stood there. Carved by Grand Ronde artist, Travis Stewart.

ACKNOWLEDGMENTS

Many people took a leap of faith in supporting this project, and the project team extends heartfelt gratitude to all of them for making it possible:

To BOEM for investing in this concept, and for allowing the time and space needed to conduct the project appropriately. Relationship building is the foundational principle we recommend in our model, and BOEM embodied this principle in this project.

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List of Abbreviations and Acronyms

BOEM	Bureau of Ocean Energy Management
CLA	Cultural Landscape Approach
CTGR	Confederated Tribes of Grand Ronde
EIS	Environmental Impact Statement
EO	Executive Order
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRHP	National Register of Historic Places
OCS	Outer Continental Shelf
POCS	Pacific Outer Continental Shelf
TCL	Tribal Cultural Landscape
TCP	Traditional Cultural Property
TEK/TK	Traditional Ecological Knowledge/ Traditional Knowledge
THPO	Tribal Historic Preservation Office/Officer
USFS	United States Forest Service

Confederated Tribes of Grand Ronde Case Study

Tiya'-i qa'a'uc: Am I Still Here?[1]

An ethnographic review of Grand Ronde's historical, cultural, and ongoing connections to the north Oregon coast.

By
Briece R. Edwards and Eirik Thorsgard

With contributions from
Gabrial Sanchez

[1] The title of the case study is a translation from Tillamook and contained in Edel (1939).

1. Introduction

The intent of the Tribal Cultural Landscape (TCL) definition and process is to enable different tribes to present their unique perspectives, connections and concerns regarding resources, species, or landforms. In the spirit of responsibility and respect afforded all sovereigns the following case study does not presume to provide comment for any other tribes. This case study exemplifies two points:

1. The cultural connection between the Confederated Tribes of Grand Ronde Community of Oregon and the associated places, resources, and species of concern and significance on the northern Oregon Coast; and

2. A demonstration of one tribe's application of the *Template for Indigenous Data Collection and Retention* proposed in the *Guidance Document (2015)*.

Today, the Confederated Tribes of Grand Ronde (CTGR) Community of Oregon is a federally recognized tribe comprised of more than 27 historically distinct tribes and bands whose ancestral territory covered much of western Oregon. Included in that area of ancestral and historical connection is the northern Oregon coast from approximately the Salmon River estuary near Lincoln City northward to the mouth of the Columbia River. This highly diverse coastal environment contains unique species and habitats, and serves as the landscape upon which cultural practices have been, and continue to be, conducted since time immemorial. Boundaries between distinct habitats contain the hardiest of species, able to capitalize on the resources and conditions of either side. In particular, the marine-terrestrial interface of the north Oregon coast illustrates this phenomenon throughout its landscapes of dunes, high basaltic cliffs, sedimentary uplifts, and lush riverine valleys pouring into the ocean. Although the tribe is intimately connected with the entire northern Oregon coast, for the purposes of this case study we are choosing to discuss three specific areas, reflecting three different landscapes at the marine-terrestrial interface.

This case study is in three sections. The first section follows the steps of the *Template for Indigenous Data Collection and Retention* from Volume I of this report: Conceptualization, Data Acquisition, Geographic Reference and Context, Synthesis and Integration of Data, and Presentation.

The second section provides contextual background for understanding the coastal inhabitants and the significant connection of their practices to place. These concepts are an intimate part of the tribe's identity today. This section provides the necessary framework to contextualize the third section. TCL description is about the specifics of place, practice, and resource, their interconnection, as well as the social and physical contexts in which the interactions occur. This includes summary statements of oral histories, observations about viewsheds, and discussion about natural resources and their location on the landscape, and their relevance to cultural practice in the past and present.

The third section applies the *Template* outlined in the first section to analyze the information compiled in the second section. This analysis demonstrates the relevance of the TCL process and provides examples of results within the three study areas. Due to some of the sensitive information included in the analysis, the results are presented at a level deliberately generalized, thus protecting sensitive areas of concern.

One goal of the TCL approach is to enable tribes to provide information and context without necessarily divulging proprietary information or violating cultural traditions and taboos. The results presented here are based largely on information already publicly available. In some instances, certain sensitive information has been included, necessitating that it be presented at a scale or resolution that obscures its details and/or location. It is necessary for tribes to provide information on areas of importance in order for meaningful conversation to take place.

2. Template for Indigenous Data Collection and Retention

In this section, the CTGR Tribal Historic Preservation Office (THPO) demonstrates use of the Indigenous Data Collection and Retention Process from Report Volume I.

2.1 Conceptualization

Tribe determines types of information to be collected and analyzed, formats for recording and processing, and ways to ensure security and access. Tribe may also identify format and presentation and discuss future applicability of data.

A broad context of cultural history, connection to place, and cultural practice, provide the framework upon which details and results of analysis reside. The Tribal Historic Preservation Office of Grand Ronde set out to develop a data structure with broad applicability that can be replicated. To that end, it was necessary to ensure that the data structure is resilient enough to be adaptable to diverse types of information, whether source, thematic, or topic based. The data structure needed to accept information from diverse entry points and be able to be queried for analytics with consistent and reliable results.

2.1.1 Type of Information

As the first step in the conceptualization phase, the project manager sought input from tribal members regarding the types of information to draw from in developing the cultural landscape understanding. We decided that it was most appropriate to focus on information that is open source or available in the public domain, even though other information should also be considered in the acquisition phase. Since this case study demonstrates a new methodology and its operational appropriateness, use of information already in the public domain would minimize violation of taboo and cultural sensitivity. It would also be an opportunity to provide cultural context to information that may have been misappropriated or outright misreported. This would allow the tribe to correct this information, provide better context, and in some cases to provide missing information to ensure that the tribe's culture is not misinterpreted.

The project team chose to record separately all references to flora, fauna and places, as well as 'other' information recorded in the early ethno-historic records and other sources. These became the base data sets. The structure within each base data set was very similar, with a high level of redundancy in attribute categories. This helped to ensure the ability to compile information from multiple base data sets into larger comprehensive data sets later, as necessary.

2.1.2 Format for Recording and Processing

It is critical to recognize that much of the information examined, as well its later presentation format, is *place-based*, and that therefore a Geographic Information System (GIS) platform would help contextualize and present the information. This is a tool familiar to all team members, it allows information to reside in a "living" database with continued additions, and it also provides a mechanism to archive the information for other researchers and applications.

Data recorded became categorized by four key elements: place, resource, activity, and time. Place provides a direct linkage between the tribe and a particular location. Resources and activities are similar in that they may occur in multiple places, and in general, resource and activity tend to be of greater interest than place. For example, salmon -- their capture, processing, and or consumption -- occur in numerous places, but salmon is the primary focus, both as the resource, and the associated ceremonies

and practices that occur throughout the landscape. It is also understood that places to gather or process important resources may change over time, and that this process is a natural cycle, but that this does not adversely impact the practice itself.

2.1.3 Security and Access

Using open sources and readily accessible information minimized the need for high data security. However, each person who contributed to the project, both staff and interns, were reminded of the sensitivity of the information and the responsibility they held in conducting the research. Additionally, the cumulative data and GIS files were stored on the tribe's secured servers with daily and weekly backup and off-site backup storage. The active files were also accessed through password and secured data entry points. This was particularly relevant as places of significance were being recorded and to help ensure their protection from looting or re-acculturation by those not initiated or accustomed with the tribe's practices. Although not included in this report, sensitive information shared by community members and practitioners was also entered in the database, requiring a secure system.

2.1.4 Future Applicability

Recognizing that the results of the case study would be relevant to others in the Tribal Historic Preservation Office, others in community, and potentially outside researchers, and other future projects and consultations, it was important to ensure that the format of the information could be easily re-tasked, shared, and updated or augmented with other information for these potential purposes. As a result, the data structure was created to hold a high resolution for the case study, while also having the capability to allow for a "collapsing" of categories into multiple levels of generality.

2.1.5 Format for Presentation

As with data recording, the format for data presentation is envisioned as generic enough to adapt to multiple needs, but also to be specific, as illustrated in this case study.

2.2 Data Acquisition

This can be an ongoing process: Tribe determines data standards and attributes, and gathers and stores information.

To acquire data for this case study, the project team needed to balance several factors. From a GIS perspective, it would have been beneficial to record the information directly into a .SQL data management system that could link the attribute data directly to the polygons in GIS. However, there were multiple researchers and recorders capturing data simultaneously, necessitating a format that was quick and easy to use, and also consistent across various types of source material. To this end we used a spreadsheet format that could be easily copied or replicated among multiple interns, thus allowing for an amalgamation into a single file of all the data captured at set intervals and at the completion of each source document.

2.2.1 Standards Determined

In the design of data management systems this step is often when metadata is discussed. In this instance however, the bibliographic source information was deemed sufficient, since any future researcher can return to the original source document as necessary.

Because the objective was to identify places, activities, and resources of all time periods equally -- pre-contact, post contact, and modern -- it was necessary to develop a small test structure to identify appropriate attributes and formatting that would be flexible enough for easy modification without requiring extensive backtracking. To this end, developing an instructional narrative for how to read, interpret, and record source data had a greater impact for consistency of information and continual refinement of data structure. The instructions for data entry were two fold – first to use the exact wording as presented in the source material, and second to scrutinize each entry for all possible applications of each sentence or passage.

2.2.2 Attributes Determined

In an effort to facilitate data from the different base data sets being amalgamated together if necessary, the attribute categories are very similar and parallel in structure. A generalized Linnaean-like taxonomic data structure was developed and employed in this project, with each theme of data divided into greater levels of refinement. For example, the temporal theme records the date as an absolute date (or as near as possible), and then season or month, based on inference or direct reference in the source material. The temporal theme also accommodates the macro-level time periods of *Ikanum* (ancient or myth-times), historic, and modern periods. This approach allows for a deeper understanding of time based on the communities' interpretation, as well as easy application in other research topics.

Due to the limitations of the ArcGIS platform, all entries into the spreadsheet were limited to 250 characters. As a result, some of the longer passages, citations, and associated notes were necessarily broken into multiple entries (*e.g.* Use_1, Use_2, Use_3).

2.2.3 Data Recording Management

The following tables (Tables 1-3) identify the attribute information collected for each entry. The information collected roughly conforms to 'Resource Identification', 'Temporal Identification', 'Associated Activities and Attributes', 'Geography', 'Keywords', 'Use', 'Bibliography', and 'Notes and Observations'.

Table 1. Attribute information for data collection – Faunal

Fauna		
Resource Identification	Record-No	Two-part alpha numeric entry - prefix denotes type of data (FAU-); suffix denotes individual record entry.
	Type	Generalized land form type (*e.g.* bluff, dunes, shoreline, etc.).
	Name_Common	The name as used in the text or other source material.
	Name_Latin	When possible genus and species have been identified as a means of bridging the source and contemporary nomenclature.
Temporal Identification	Date	Field is reserved for recording absolute dates of the activity – most often the year. Where possible date and month are recorded. For instance when Lewis and Clark make observations in their journals, this allows for a specific date.
	Season	Entry records either the absolute season as reported from the source or as inferred based on the activity.

Fauna		
	Month	Entry records either the absolute month as reported from the source or as inferred based on the activity.
	Myth_times	Entry records the generalized time referenced by the source. This is a yes/no or presence/absence entry.
	Historic_times	Entry records the generalized time referenced by the source. Generally defined as any calendrical date up to World War II. This is a yes/no or presence/absence entry.
	Modern_times	Entry records the generalized time referenced by the source. Generally defined as any time from World War II to the present. This is a yes/no or presence/absence entry.
Associated Activities/Attributes	Hunting_Fishing	This is a yes/no or presence/absence entry of this practice and its associated or inferred activities as referenced in the source.
	Gathering	This is a yes/no or presence/absence entry of this practice and its associated or inferred activities as referenced in the source. This includes gathering non-animal resources for sustenance as well as basketry, medicines, or other materials.
	Processing	This is a yes/no or presence/absence of this practice and its associated or inferred activities as referenced in the source. This includes the processing of any materials such as modification of plant materials, weaving, carving, etc.
	Exploration_Relocation	This is a yes/no or presence/absence of this practice and its associated or inferred activities as referenced in the source. This includes the processing of any materials such as modification of plant materials, weaving, carving, etc.
	Trade	Trade references the exchange of materials, resources, or services between any two or more places, whether directly referenced or inferred by the recorder based on the source's intent.
	Transformation	Transformation includes the conversion or creation of something new. An example is South Wind making salmon or dispersing camas across the landscape. It may also refer to the change of activities at a particular place from action 'A' to Action 'B'. Transformation may be directly referenced or inferred by the recorder based on the source's intent.
	Flora_Association	This allows for the researcher to list any associated floral resources that may be referenced in the source material.
	Fauna_Association	This allows for the researcher to list any associated faunal resources that may be referenced in the source material.

Fauna		
Geography	Geography_Association	This lists any particular landform or named place associated with the entry.
	Landform	Specific landform (if known) as referenced in the entry.
Keyword	Keyword	Any associative words related to the particular entry.
Use	Use_1	The entry in full from the source document. Because this field is limited to 250 characters this field may have necessitated additional fields.
	Use_2	
	Use_3	
Bibliography	Source	The source document (title and author).
	Source_Abrev	The title abbreviation, generally initials.
	Page	Page number of the reference from the particular volume cited.
	Entry_Initials	Initials of the person who entered the information.
Notes and Observations at Time of Data Entry	Recorder_Notes_1	These are notes observed by the recorder related to the entry that may be associated with other knowledge or passages in other sources. Limited to 250 characters this field may have necessitated additional fields.
	Recorder_Notes_2	
	Recorder_Notes_3	

Table 2. Attribute information for data collection – Floral

Flora / Botanical		
Resource Identification	Record	Two-part alpha numeric entry - prefix denotes type of data (FLO-); suffix denotes individual record entry.
	Type	Generalized land form type (*e.g.* grass, shrub, tree).
	Name_Common	The name as used in the text or other source material.
	Name_Latin	When possible genus and species have been identified as a means of bridging the source and nomenclature.
Temporal Definition	Date	Field is reserved for recording absolute dates of the activity – most often the year. Where possible date and month are recorded. For instance when Lewis and Clark make observations in their journals, this allows for a specific date.
	Season	Entry records either the absolute season as reported from the source or as inferred based on the activity.
	Month	Entry records either the absolute month as reported from the source or as inferred based on the activity.
	Myth_times	Entry records the generalized time referenced by the source. This is a yes/no or presence/absence entry.
	Historic_times	Entry records the generalized time referenced by the source. Generally defined as any calendrical date up to World War II. This is a yes/no or presence/absence entry.
	Modern_times	Entry records the generalized time referenced by the source. Generally defined as any time from World War II to the present. This is a yes/no or presence/absence entry.

Flora / Botanical		
Associated Activities/Attributes	Hunting_Fishing	This is a yes/no or presence/absence entry of this practice and its associated or inferred activities as referenced in the source.
	Gathering	This is a yes/no or presence/absence entry of this practice and its associated or inferred activities as referenced in the source. This includes gathering non-animal resources for sustenance as well as basketry, medicines, or other materials.
	Processing	This is a yes/no or presence/absence of this practice and its associated or inferred activities as referenced in the source. This includes the processing of any materials such as modification of plant materials, weaving, carving, etc.
	Exploration_Relocation	This is a yes/no or presence/absence of this practice and its associated or inferred activities as referenced in the source. This includes the processing of any materials such as modification of plant materials, weaving, carving, etc.
	Trade	Trade references the exchange of materials, resources, or services between any two or more places, whether directly referenced or inferred by the recorder based on the source's intent.
	Transformation	Transformation includes the conversion or creation of something new. An example is South Wind making salmon or dispersing camas across the landscape. It may also refer to the change of activities at a particular place from action 'A' to Action 'B'. Transformation may be directly referenced or inferred by the recorder based on the source's intent.
	Flora_Association	This allows for the researcher to list any associated floral resources that may be referenced in the source material.
	Fauna_Association	This allows for the researcher to list any associated faunal resources that may be referenced in the source material.
Geography	Geography_Association	This lists any particular landform or named place associated with the entry.
	Keyword	Any associative words related to the particular entry.
	Landform	Specific land form (if known) as referenced in the entry.
Bibliography	Use	Any associative words related to the particular entry. The entry in full from the source document. Because this field is limited to 250 characters this field may have necessitated additional fields.
	Source	The source document (title and author).
	Source (abrev)	The title abbreviation, generally initials.
	Page	Page number of the reference from the particular volume cited.
	Entry Initials	Initials of the person who entered the information.

Flora / Botanical		
Notes and Observations at Time of Data Entry	Recorder's Notes	These are notes observed by the recorder related to the entry that may be associated with other knowledge or passages in other sources. Limited to 250 characters this field may have necessitated additional fields.

Table 3. Attribute information for data collection – Geographic

Geographic Places		
Resource Identification	Record	Two-part alpha numeric entry - prefix denotes type of data (GEOG-); suffix denotes individual record entry.
	Type	Generalized landform type (*e.g.* Mammal, Bird, Reptile, etc.).
	Name_Common	The name as used in the text or other source material.
	Name_Latin	When possible genus and species have been identified as a means of bridging the source and contemporary nomenclature.
Temporal Definition	Date	Field is reserved for recording absolute dates of the activity – most often the year. Where possible date and month are recorded. For instance when Lewis and Clark make observations in their journals, this allows for a specific date.
	Season	Entry records either the absolute season as reported from the source or as inferred based on the activity.
	Month	Entry records either the absolute month as reported from the source or as inferred based on the activity.
	Myth_times	Entry records the generalized time referenced by the source. This is a yes/no or presence/absence entry.
	Historic_times	Entry records the generalized time referenced by the source. Generally defined as any calendrical date up to World War II. This is a yes/no or presence/absence entry.
	Modern_times	Entry records the generalized time referenced by the source. Generally defined as any time from World War II to the present. This is a yes/no or presence/absence entry.
Associated Activities/Attributes	Hunting_Fishing	This is a yes/no or presence/absence entry of this practice and its associated or inferred activities as referenced in the source.
	Gathering	This is a yes/no or presence/absence entry of this practice and its associated or inferred activities as referenced in the source. This includes gathering non-animal resources for sustenance as well as basketry, medicines, or other materials.
	Processing	This is a yes/no or presence/absence of this practice and its associated or inferred activities as referenced in the source. This includes the processing of any materials such as modification of plant materials, weaving, carving, etc.

Geographic Places		
	Exploration_Relocation	This is a yes/no or presence/absence of this practice and its associated or inferred activities as referenced in the source. This includes the processing of any materials such as modification of plant materials, weaving, carving, etc.
	Trade	Trade references the exchange of materials, resources, or services between any two or more places, whether directly referenced or inferred by the recorder based on the source's intent.
	Transformation	Transformation includes the conversion or creation of something new. An example is South Wind making salmon or dispersing camas across the landscape. It may also refer to the change of activities at a particular place from action 'A' to Action 'B'. Transformation may be directly referenced or inferred by the recorder based on the source's intent.
	Flora_Association	This allows for the researcher to list any associated floral resources that may be referenced in the source material.
	Fauna_Association	This allows for the researcher to list any associated faunal resources that may be referenced in the source material.
Geography	Geography_Association	This lists any particular landform or named place associated with the entry.
	Keyword	Any associative words related to the particular entry.
	Landform	Specific land form (if known) as referenced in the entry.
Use	Use_1	Any associative words related to the particular entry. The entry in full from the source document. Because this field is limited to 250 characters this field may have necessitated additional fields.
	Use_2	
	Use_3	
Bibliography	Source	The source document (title and author).
	Source_Abrev	The title abbreviation, generally initials.
	Page	Page number of the reference from the particular volume cited.
	Entry_Initials	Initials of the person who entered the information.
Notes and Observations at Time of Data Entry	Recorder_Notes_1	These are notes observed by the recorder related to the entry that may be associated with other knowledge or passages in other sources. Limited to 250 characters this field may have necessitated additional fields.
	Recorder_Notes_2	
	Recorder_Notes_3	

2.2.4 Information Gathered

There is an extensive wealth of information that can be tapped by the tribe for chronicling its past and present use and understanding of the landscape. The information presented here is a demonstration of a method for collecting and presenting this information in a meaningful way. The source materials include proprietary private records, such as hundreds of hours of recorded oral histories and interviews dating back decades, and private journals and diaries of tribal members and early Euro-American settlers in the

region. It also includes relevant information in the public domain such as historical, linguistic and ethnographic accounts, archaeological sites and associated reports, and published and unpublished notes and reports of early ethno-historic studies of resident tribes in the region. Although these latter sources may be in private collections or have reserved or limited access, they are available to researchers.

Because of the relative open access to the information and the tribe's routine need to correct or contextualize these reports, the project team decided to begin with this information for entry into the data structure. Using this information met multiple needs for the tribe: first, it created a centrally located repository of corrected information for multiple staff to draw from as necessary; second, THPO staff could easily refer other researchers to the same sources in the future with an expectation of the quality of information; third and most important, using information already published minimizes adverse impacts to the community from reporting proprietary or culturally restricted information. When such information was encountered in published materials, it was not included in the data structure.

2.2.5 Information Stored

The information was recoded into an excel spreadsheet as described above. This format could easily be converted to an Access database structure and .SQL format for high stability in the GIS data structure. The tribe's ArcGIS is password protected by each individual user and resides on a secured dedicated server with daily and weekly backups to an off-site repository.

2.3 Geo-referencing

This phase included boundaries (if applicable), data layer development, data linkage and cleaning, and document verification.

This stage of the methodological process took the text-based data entries and provided geographical context. Using typical research methods, this would have been done directly into the GIS platform, but in this project, the team decided to take another approach at this stage. A large scale map was printed and hung on a wall in a public space accessed by all members of the THPO and other cultural resources staff (Figure 1). The map scale was one inch to a mile and resulted in a physical map of the north Oregon coast with a transverse north alignment (to the right) measuring 8 x 19 feet. This map was then overlain with clear Mylar sheets measuring one meter in width and 8 feet long. The purpose was to encourage conversation with all staff about place and activities. This helped contribute to defining places of diverse or indistinguishable location by discussion among many knowledgeable staff, thus building a consensus of understanding. Tribal members who accessed the area would often provide familial or personal information about specific locations or resources as well, aiding in the collection of additional information. The informal discussions that arose from the communal access of the map lead to additional information being learned and added to the database. It also generated a sense of investment in the project, among community and staff alike, contributing to its overall success.

Figure 1. Photograph of map in THPO office.
Due to scale 1:1mi, the map was rotated 90 degrees.

2.3.1 Boundaries

Where possible, all boundaries of place were recorded. Their extents, by necessity, are at varying scales. The key variables and influences were the sensitivity of the place identified, the temporal period represented and the type of resource or activity reported. In some distinct situations arbitrary boundaries were created, with the caveat that they may not have distinct boundaries or may be part of a complex district that was not possible to map at this stage in the project.

2.3.2 Data Layer Development

Data layer development occurred in two stages: first was a reporting of each of the primary data sources – faunal, floral, and geographic source layers -- coupled with other previously recorded layers, including language (based on place names) and documented archaeological sites. Second tier data was then

generated creating heat zone maps of resources and activities. This allowed for the details of sensitive information to be occluded from the public while still contributing to an overall understanding of the tribe's engagement with the landscape and its resources.

2.3.3 Data Linkage and Cleaning

As with all data gathering efforts, particularly utilizing multiple points of entry, it is always necessary to review and standardize the information gathered. In this case, this involved adding new columns for standardized spellings and species names where appropriate. In this way, the intent of the original source material could be retained while also incorporating modern standardization. This also enables users with varying levels of expertise and query needs to access the data according to their perspectives.

2.3.4 Verifying Documents

This step within the geo-referencing phase was addressed through work conducted during the boundary definition step above, as well as the data linkage and cleaning step.

2.4 Synthesis

This phase can include information on - and illuminate linkages between – places, activities, traditional knowledge, context, and ultimately cultural understanding.

During this phase, the gathered information is processed and interpreted. In this case, each of the data sets was examined individually and in combination with each other. Additionally, other data sets considered to be relevant were incorporated into the GIS. The aim was to develop a visual representation of information that would: contextualize concerns the tribe may have for resources in the region, and provide a basis for meaningful consultation with federal and state agencies. In anticipation of future consultative discussions, CTGR-THPO focused on place, activities, resources, traditional knowledge, context, and cultural understanding. A tribal lens of comprehension and interaction with the landscape reveals that each of these subjects is manifest in the tangible and intangible realm (Figure 2). Like a tree, there is a trunk with branching primary limbs, leading to secondary and tertiary branches, which are then leafed in foliage – all of which is clearly visible and tangible. Below ground, the roots mirror the above-ground network of the tree, yet are unseen and metaphorically intangible. Throughout the consultative process, it is important for agency parties to understand that this knowledge still resides in the tribal community, and that it may not be available for sharing with the uninitiated or outside parties.

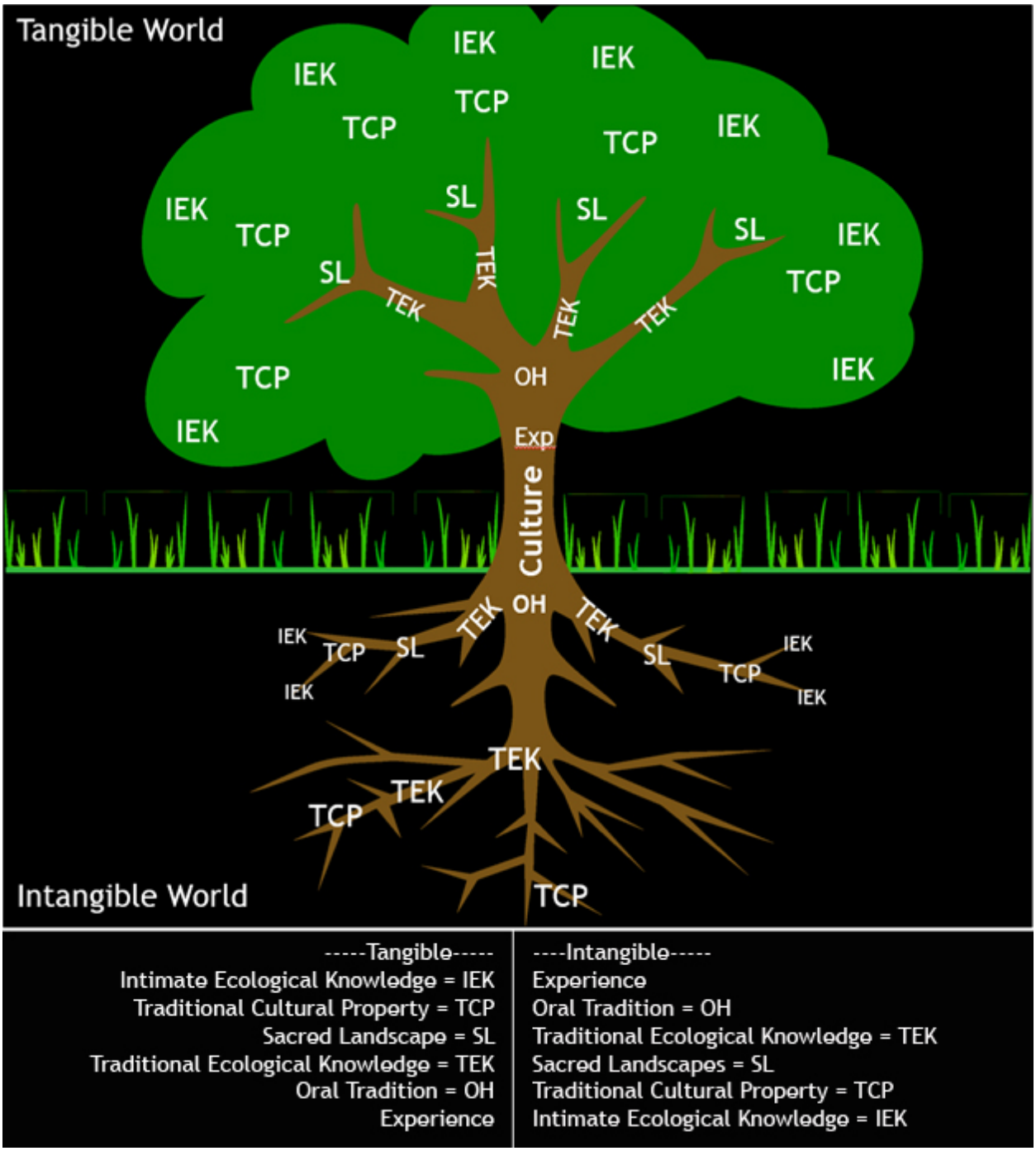

Figure 2. Tribal Cultural Knowledge Tree.
Each aspect that is manifest in the tangible realm is mirrored in the intangible realm.

2.4.1 Place

Place is the most straightforward component and the easiest information to record and process in the GIS platform. It reflects an absolute understanding of specific loci with at least proximate extents. Any given place may have multiple resources and/or activities associated with it.

2.4.2 Activities and Practice

In cases where activities refer to spiritual practices, they are not recorded – as a measure of protection for the community. These may also refer to resource gathering and processing, or *Ikanum*-era events that set the world in order, according to traditional understanding of the stories. *Ikanum* is the Chinook Wawa term referring to 'story'. In cultural tradition, origin and creation stories explain such aspects as the order, layout, practice, and places on the landscape – *Ikanum* is the oldest and most deeply rooted level of understanding. Each of these aspects is of equal weight in the eyes of the tribe, and is therefore afforded the same considerations and protections when recorded.

2.4.3 Resources

This refers directly to the resources (floral, faunal, geographic, etc.) that have been identified as relevant to the tribe. These are likely to have high levels of intersection and overlap due to the data structure as well as original reporting in the historic record. Additionally, the intersection and overlap of resources is a reflection of cultural practice where places, resources, and actions are all interrelated.

2.4.4 Traditional Knowledge

Although the tribe is intimately connected with the entire northern Oregon coast, for the purposes of this case study we are choosing to discuss three specific areas. These reflect three different landscapes with unique terrestrial-marine interfaces. Although ever-present and highly relevant to understanding the sea floor of today, paleo-landforms are minimally discussed as part of this study. Traditional knowledge (TK), particularly TK held in oral history, has applicability to understanding submerged landscapes off the Oregon coast. Analogous knowledge has demonstrated validity in the Willamette Valley, where tribes have long held an understanding of what is now referred to the Bretz or Missoula flooding events in the valley, as documented in the Kalapuya Text (Jacobs *et al* 1945). These episodic inundations of the valley have been dated to 15,000–13,000 years ago (Orr and Orr 2012), a date which conforms to the datable archaeological evidence of habitation on the eastern side of the Cascades (14,300 years ago) (Aikens *et al* 2011). (See further discussion below)

2.4.5 Context

Granted that context is the foundation for all knowledge, context is indeed the most critical ingredient for true understanding. For the purposes of this case study, context is best likened to a canvas upon which all tribal understanding resides. It is as large and broad as necessary to encompass a tribe's connection to the world. For some individuals within a tribe, the canvas may appear smaller in area but highly detailed, relative to other individual's worldviews. The tribe's canvas is comprised of the individual pieces stitched together, as well as the overarching common points of understanding that underpin these individual concepts and interactions. This project utilized multiple information sources from a variety of locations and contexts, and attempted to seamlessly bring them together to illustrate the complex tribal use and understanding of these places and resources – and how the tribe interacts with them.

In conversations with TCL project participants, about the tribal cultural landscape, there has been a common misconception that *landscape* is equivalent to a geographic area that can be defined through agency protocols, procedures, or mandates (such as the National Register of Historic Places, NRHP). This is NOT the case. Landscape is the holistic entity upon and through which a tribe conveys its understanding and concept of identity. Although this does not preclude NRHP listing, it does highlight the fact that NRHP listing does not confer significance, which is inherent. Furthermore, any protections imparted to a site do not render it unalterable; tribal culture is dynamic and adaptable. Tribal concepts of place and life are not relegated to the past, but are part of a larger tapestry that is constantly being woven.

Some of these places may require protection, but not necessarily. Portions of the landscape could potentially be listed as Traditional Cultural Properties (TCPs), Places of Religious and Cultural Significance (PRCS), or historic districts at a later time if necessary.

2.4.6 Cultural Understanding

Communities intrinsically know more about themselves than those who study them. Tribes who have researchers from their own community along with embedded professional staff have a unique ability to discuss the nuances of their community, including its concepts of self, place in the landscape, and practices. This self-determined approach allows the tribe to convey such practices as, for example, the use of miniaturized artifacts by the Tillamook during certain activities as a way of symbolically undertaking a larger-scale ceremony. Another example is the role of ceremonies for first foods and animals in maintaining and reinforcing a reciprocal relationship with both the tangible and intangible world to ensure survival of the culture and people. These nuanced relationships can be difficult to understand and discuss with people who have not been indoctrinated into this view, and who may approach it with a great deal of skepticism. This case study attempts to take this understanding and make it available to researchers and the public in a way that does not harm the community.

2.5 Presentation

At the sole discretion of the Tribe; the tribe may choose to present any of the above findings via public presentations including non-sensitive data, maps and GIS layers, field visits and written and oral reports.

The manner, format, and presentation of information resulting from the TCL methodology are at the discretion of the tribe. From the outset of this case study, Grand Ronde THPO staff anticipated public presentation of findings (at least partial) to be an outcome. Specifically, presentation would also take a variety of formats -- print, lecture, maps, etc. As co-developers and participants of the TCL initiative, it was imperative that CTGR's case study results be publicly available for public. Sharing our approach and results, demonstrates the feasibility of developing and maintaining an ongoing consultative process.

2.5.1 Public Presentation

One of the most effective manners of sharing and disseminating information is through public presentations. This has resulted in THPO staff presenting both the methodology and results of the CTGR case study to federal and state agencies. It has been well received with positive critical feedback. One common remark is the potential for applicability of the methodology to other situations where critical or sensitive information is present. A common misconception is that the TCL process is intended to provide a new avenue for including properties on the NRHP, which is not the intent of this project.

2.5.2 Maps and GIS Layers

At the time of this report, not all of the information is available for sharing as GIS .shp files, although static .pdf images can be shared as appropriate. One of the primary concerns with sharing the files is the potential misapplication of the information. It is due to concerns for appropriateness of use that the THPO office holds the files, and through consultation regarding potential use that files are shared when appropriate. This strengthens the consultative process and further allows a transfer of pertinent information in a relevant and useful manner.

2.5.3 Field Visits

Opportunities to engage with appropriate parties while present in the landscape allow for staff and tribal members to add another layer of experiential understanding of place, resources, and activities. This direct experience highlights relationships among places and resources that may not appear connected to outside researchers and agencies, thus enabling deeper understanding of the way information is held and transferred within indigenous communities. For example, while standing at Tillamook Head overlooking the mouth of Ecola Creek, one may recall the scene described by Lewis and Clark of the butchering of a whale (Figure 3), and then observe how a whale exemplifies the cultural understanding of the ocean as a provider of resources. One may then visit the known archaeological site Par-Tee 35CLT20, occupied for approximately 800-900 years, and consider such excavated tools as various harpoon points likely used for whale harvests (based on blood protein analysis). Turning eastward, one may then find highly significant and sacred whale bone artifacts in the Willamette Valley indicative of trade networks with coastal tribes – artifacts that may have cultural affiliation with Grand Ronde and may be eligible for repatriation under NAGPRA.

Figure 3. Detail of Lewis and Clark map (Losey and Yang 2007).
Depicting location of butchered whale, distribution of resources, village sites and possible canoe paths.

Although the same facts can be iterated over a table with paper maps or in a video presentation, these media do not convey the tangible lay of the land, such as fluctuating weather conditions or complex topography, nor the intangible experience of being in the landscape, including an emotional reaction to an evocative vista or the gravitas of ancestral connections. In this way, field visits add the critical element of time to the two-dimensional measures of kilometers or miles. Using temporal measures is a more accurate and appropriate unit of understanding from a tribal perspective when discussing historic resources and activities.

2.5.4 Written and Oral Reports

Presentation of written and oral reports is a common format for presenting TCL information. Although effective and efficient for future reference, written reports may not be appropriate formats for presenting much of the information gathered and presented by the tribe. Typically, cultural practice dictates that the sharing of knowledge is about being 'present' for hearing and learning information, not for copying it down for future reference. The THPO office of Grand Ronde dedicates personal and program resources to the development of interpersonal relationships with individuals for the purpose of teaching and learning about the tribe. Through this process, knowledge is transmitted at a level necessary for long-term protection of resources.

This is not to say the THPO program does not conduct research and compile results and findings into written reports. Staff members have extensive experience in developing methodologies for incorporating complex social and empirical artifact information into meaningful findings relevant to contextualizing practices throughout the tribe's homelands. The reticence to compile data-heavy written reports is two-fold. The first reason is rooted in the nature of archaeology and historical ethnographic information: it is a discipline that is continually augmenting and revising its information base, necessitating the use of perpetually incomplete understandings (albeit the best currently available) and resulting in findings that are representative of that given moment in time. The second concern with written reports results from the first: misconception about the permanence of understanding. Once something is written and printed on the page, it can acquire an unintended level of permanence, creating a perception that the actions, practices, and interpretations are encapsulated at that point in time. This has resulted in tribes today having to 'prove' their place in the contemporary world. Indeed many of the stereotypes and misunderstandings of tribes today are based on unchanged interpretations from a century ago. This is why context is so important to understanding practices and places of significance to the tribe.

3. Grand Ronde and the North Oregon Coast

The following section is a description of Grand Ronde's cultural and historic connections with the Northern Oregon Coast. The information gathered in Section 2 is brought into a narrative format to provide context. It seeks to highlight the Tribe's perspective of understanding, connection to the coast, and summary contexts of oral histories, viewsheds and points of interconnectivity between natural resources, practices, and place.

3.1 Perspectives of Understanding

Tribal understanding of self, place, and resources are chronicled through a variety of sources. These include, but are not limited to, oral traditions, written sources, the landscape, and archaeological record. Each source type is equally valid and meaningful, though the level of detail may vary. Each indigenous group will have its own perspective on the reliability of these sources; however, Grand Ronde uses each type to contribute to a broader understanding. It is the role of the listener or reader to be aware of the level of detail and resolution.

Tribal understanding of place is multilayered and multifaceted, based on an individual's incorporation of previous generation's uses, contemporary needs and technology, and ever-present consideration of future generations. Western concepts of imposed boundaries to define areas do not fit with indigenous understandings, in which places or resources may be limited only by when an individual stops thinking about it. For instance, dentalia shell, a social, cultural and monetary resource of utmost importance to tribes throughout the Greater Pacific Northwest, originated in the coastal waters of British Columbia. Although peoples well outside of the place of the shell's origin never visited British Columbia, its importance as a source for the material was known and therefore of significance to the communities well beyond its immediate location. Dentalia represent not just physical wealth, but in some communities the acquisition and maintenance of the larger shells (or large quantity) is indicative of spiritual wealth as well (Bommelyn 1997; Hajda 1984). Woven into this perspective is the concept of "dissociative proximity," meaning that though a group or individual within a group is not in direct association with a place or resource, through trade networks, familial connections, seasonal gatherings, etc. the access to the resources or places is assured.

3.2 Tribal Understanding of Place

Historicity, in Western tradition, is the desire to "prove" the accuracy of past events largely from primary and written sources. The emphasis on identifying a "truth" of the past has tended to separate it from the present. However from an indigenous perspective, the past is merely a continuation of the deep past into the present. This complex method of seeing time not as a chronological marker, but as a means of contextualization, can be difficult to convey to those not initiated to this type of understanding. Furthermore, each source type (written, oral, or even pictographic) is equally accurate and contributes to understanding. Tribal perspectives often value experiential aspects over those in print, such as taking part in ceremony, gathering, eating, visiting, or otherwise interacting with a specific location and resource – which creates a connection to the past, present and future. For example, when gathering, an elder may tell an *Ikanum* or myth story about the resource, and sing songs that may or may not be spiritual in nature and part of the gathering process. They may discuss their elders teaching them how things were done, thus ensuring that future generations have the same cultural knowledge and practices, and thereby blending the deep past, with the past, present and future. The significance of this perspective lies in the deeply rooted interconnection of place and practice through time.

A tribal concept of place, and particularly landscape (a mosaic of distinct places), is often achieved from multiple vantage points – place, community, tribe, resource, self, etc. – and often understood from these perspectives simultaneously. This multiplicity of understanding also occurs in a temporal perspective. In other words, a place has a connection to people originating from time immemorial. From a Western perspective, that might be seen as linear time through which different stories, tales, myths, historic accounts, documented activities, and first person experiences all are equal lenses through which a landscape is understood (Figure 4). For Grand Ronde that is best summarized as the *Ikanum*, Historic and Modern eras. *Ikanum* refers to the myth-age, a time when mythological figures and events took place prior to the coming of what we perceive as modern human beings. This often corresponds with figures like South Wind, Ice and monsters of a wide variety. The Historic era corresponds to the archaeological definition and refers to the introduction of the written word, and is often associated with ethno-historical accounts and journals. The Modern era generally applies to memories and stories from the previous generation or two, including recollections, and accounts.

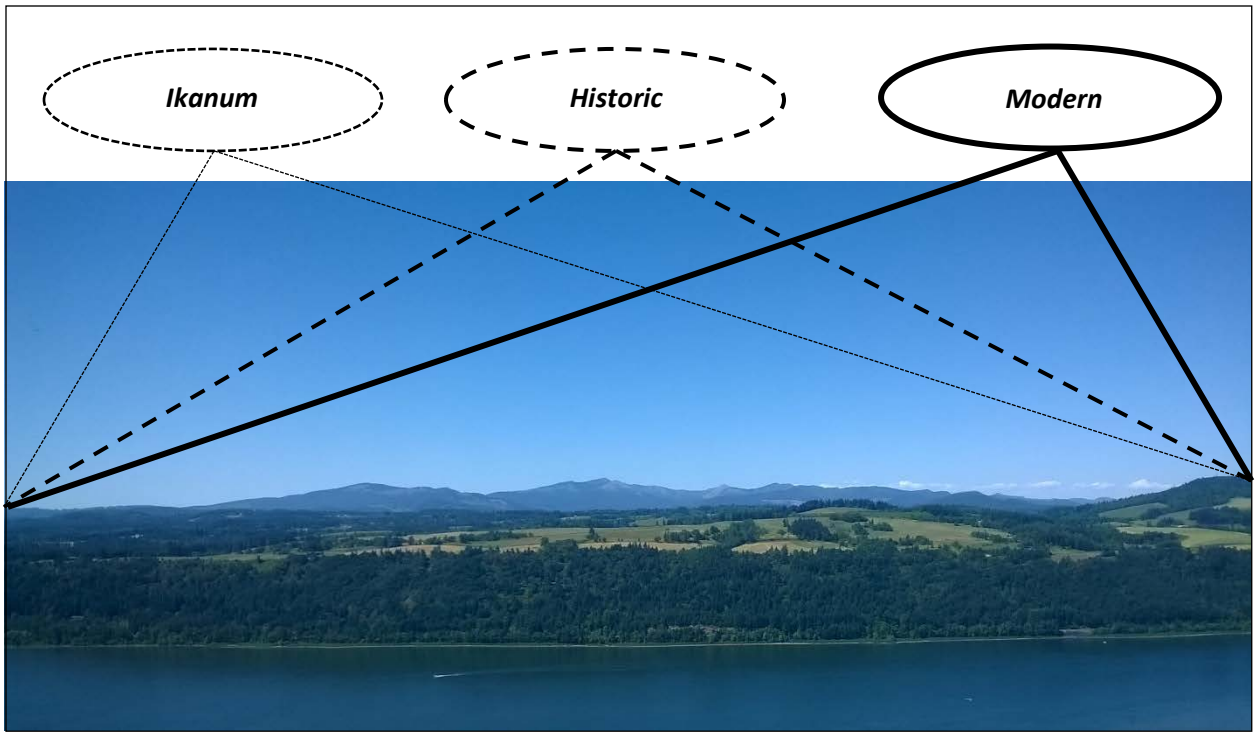

Figure 4. Visual representation of landscape understanding
Through the Grand Ronde Tribal Cultural Lens.

As with any account or recollection of the past, the further back in time, the less detailed resolution survives. Additionally, the fewer associative actions and places survive until "rediscovered" through corroborating sources. This is not to say that old accounts are not relevant, it is that the relevance and direct association to action or place is no longer understood within the modern context. For instance, it was not until the Missoula floods were accepted fact, by way of hypothesis testing, that flood stories held by Willamette Valley tribes were accepted reference recounting the same episodic events of mass regional inundation. Aside from suggesting temporal and spatial connection between resident tribes and the events fourteen thousand years ago, it also reaffirms the relevance of "stories" to elucidate understanding of the past.

This complex interaction of past, present and future means in a realistic sense that oral traditions, modern practice and published interpretations may at times have the same weight, but practice and the past will often override written interpretations. A good example of this is the recording of a story in the *Kalapuya Text* in the early 1930's by Melville Jacobs while in Grand Ronde. This story titled *Coyote, Panther, Whale, and the Flood securing fire* (Jacobs *et al* 1945) is about a flood in the Willamette Valley. Although published in 1945 with the flood later "confirmed" by geologists in the 1960s, it is old information for Grand Ronde. In this example, oral tradition demonstrates the maintenance of knowledge through time into the present, rather than as a disconnected portion of some mythical background.

3.3 Geographic Area

For the purposes of this case study, three distinct geographic areas were selected. Each study area is a swath of terrestrial/marine interface measuring approximately 10 miles north-south by 50 miles east-west (Figure 5). They were chosen as manageable units of study that would include of a variety of landownerships (federal, state, county, municipal, and private) as well as ensure a diverse area of cultural heritage and understanding.

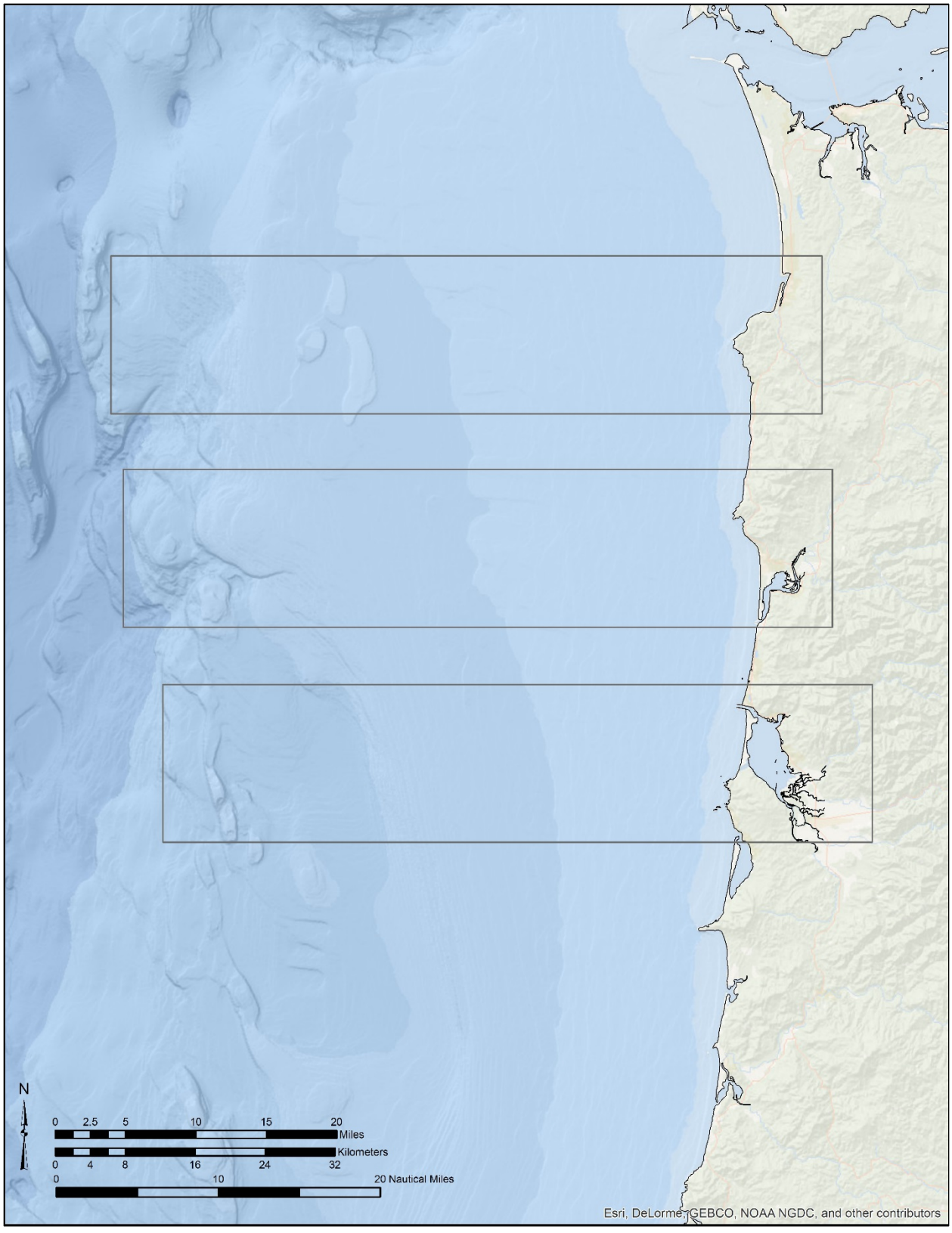

Figure 5. Grand Ronde case study areas

3.4 TCL Methodology

Due to the complex nature of information handled by the Tribal Historic Preservation Office (THPO), it was necessary to develop an appropriate information gathering process and recording structure to accommodate these sensitive needs. As a result, the development of the overall process necessitated conversations with staff as well as other tribal members to identify appropriateness. It quickly became apparent that achieving the level of recording detail necessary to protect the sensitivity of information would require a time commitment that was not feasible for the program staff. Subsequently, based on further conversations, it was determined that the data utilized for this study would be limited to that accessible through the "public or readily available record." This meant books, published notes, etc. held in libraries or on-line would be used, as well as first-person accounts.

3.5 TCL Findings

This case study analyzes and summarizes the ethnographic information of the tribes commonly referred to as the Tillamook and Clatsop Chinook who called this region home, and how they are connected with the Grand Ronde Reservation. The Confederated Tribes of the Grand Ronde Community of Oregon has a long and entwined connection to the North Oregon coast. This complexity is based on the lack of ratified treaties along the entire Oregon coast, efforts on the part of the federal government to relocate indigenous peoples into and within the region, and the cultural need for people to leave their respective reservations to interact with their ancestral homelands.

The first section looks at some of the oral traditions surrounding the landscape to contextualize how these people understood their world. This is followed with an ethnographic overview of the Tillamook and Clatsop Chinook. It includes descriptions of areas of significance and an analysis of the cultural importance of place and trade routes to the inland. The next section looks at how the first associations between the Tillamook and Clatsop Chinook with the Grand Ronde Reservation took place, including relocations and gathering after reservation establishment. Following this is a discussion of the early 20th century through termination in the 1950s. The case study closes with an analysis of these connections and areas that may need additional research in the future.

3.5.1 Chinookan Ethnography

The Clatsop Chinook primarily inhabited the area around the mouth of the Columbia River, particularly its lower reaches on the south side of the river (Silverstein 1990). European contact in this area began in the 18th century with increased frequency in the 19th century, resulting in epidemic diseases, treaties and relocation efforts. While earlier contact occurred with both European and potentially some Asian populations, they were not sustained and in most cases poorly documented. As a result, the first outsider-written recording and transcription of the region's residents are traced to this time. It should be noted that the effects of European originated diseases had been felt in the region for at least two centuries by the time of the first written histories of the region.

The Clatsop Chinook have not been systematically studied as a separate group, but have had extensive ethnographic research conducted on them as a result of their important location and studies focusing on the Chinook people as a whole.

It is important to understand the relationship between oral histories and the communities that hold them, as it frames their understanding of place. Myths or *Ikanum* create a framework for how people see their place in the world. They justify their existence and place meaning on what resources they use and how they interact with each other and their neighbors. The result is that myths, history and the present all

intermingle, creating a context of cultural being that enables people to see places as connected to their lives, creation and well-being.

3.5.1.1 Oral Tradition/*Ikanum*

The oral traditions of the Lower Chinook were primarily collected by Franz Boas in the late 19th century (Boas 1894) from informant Charles Cultee[2] in Bay Center, Washington. He self-identified as Wahkiakum, one of the bands of lower Chinook, and spoke lower Chinook and the Kathlamet dialects. The stories he shared with Boas primarily gravitated to thematic schemes identifying mythic figures in the shapes of animals such as Coyote, Blue Jay and Bear but also included anthropomorphized abstract elemental figures such as Thunder.

Other Chinookan oral traditions include the *Kathlamet Chinook Text* (Boas 1894), *Clackamas Chinook Text* (Jacobs 1945), *Wishram Text* (Sapir 1909), and a host of unpublished notebooks and studies primarily used to develop these main corpus.

Of specific note for this project is the creation of the Clatsop Plain, built up of sand sediments deposited over millennia at the south side of the confluence of the Columbia River and the Pacific Ocean (Alt and Hyndman 2007; Orr and Orr 2012) (Figure 6). In the epic of Coyote (Boas 1894:101) it states:

> Coyote was coming. He came to Gôt'a't. There he met a heavy surf. He was afraid that he might be drifted away and went up to the spruce trees. He stayed there a long time. Then he took some sand and threw it upon that surf: "This shall be a prairie and no surf. The future generations shall walk on this prairie." Thus Clatsop became a prairie. The surf became a prairie.

This story is important in two respects: first, it is the opening statement of the Coyote epic, a very prominent mythic figure in Western Oregon imagery. Second, the creation of the plains are tied to a supernatural event and specifically made on behalf of people by Coyote. The reference to the length of time Coyote stays in the tree may be a reference to the necessary time for the creation process to occur and create the landform. This epic goes on to identify all of the taboos associated with salmon fishing by reporting Coyote's breaking of them.

Other locations that show up in the myth section of Boas' collection of oral traditions are:

- Seaside or Nakōt!'a't, in *Stikua' Her Myth* (Boas 1894:133) identified as an important village site in the myth times. This same location is mentioned as a place for gathering and the home of Coyote[3] in *Coyote His Myth* (Boas 1894:101).
- In the myth '*Cikta Their Myth'* a mythological young girl is killed and becomes people: He took her at her hair and swung her around five times. Her belly burst. Now he threw her down. She fell and lay there. Then the boys pelted her with stones and cut her to pieces. Her body was scattered in all directions. Her legs were thrown to Nehelim. Her hair was thrown inland, her ribs were thrown up the river. Therefore the Nehelim have strong legs, the Cowlitz have long hair, and the tribes of the upper river have bandy legs (Boas 1894:21).

The Chinookan myths of Thunder have a lot of similarities to those of the protagonist in the South Wind Epic of the Nehalem Tillamook (Figure 7), but unfortunately the Chinook storied locations are not as specific during Thunder's adventures and actions of setting the world in order.

[2] A biography of Charles Cultee is in the Chinook Text by Franz Boaz.
[3] This location is identified as Niā'xaqcē in Boas and translated to niaḱákʷsi, "where the little pines are," in Silverstein 1990:534.

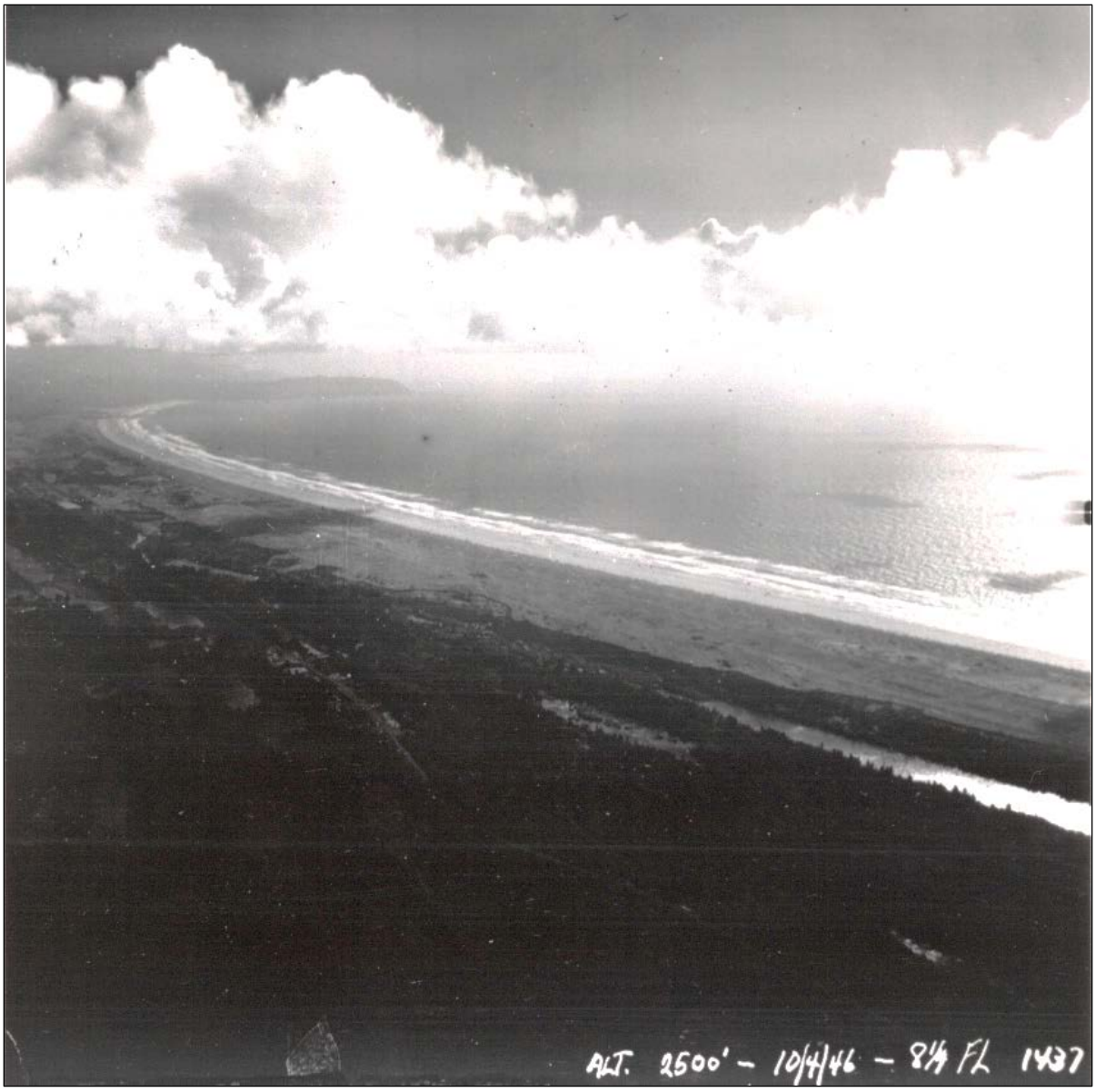

Figure 6. Aerial photo of Clatsop Plain taken at 2500 feet facing south-southwest (1946).

While not part of the myth cycles of the Chinook, Boas did record some linguistic material with English translations of the Clatsop (and Shoalwater Bay) Chinook language (Boas 1890: MS 350b). It was not until 1960 that the base language recorded by Boas was identified as Clatsop by Dell Hymes. The Confederated Tribes of Grand Ronde (CTGR) has conducted an analysis of place names in the region as part of a larger ethnographic project undertaken in 2012-13. However, since then new sources and places have been identified, which include locations and other interesting descriptors suitable to this study. Identified in Boas' (MS 350b) Chinook language-based unpublished ethnographic reporting work are the following place names (Table 4).

Figure 7. Sequential stops identified in South Wind's Journey.

Table 4. Chinook place names and their contemporary counterparts.

Indigenous termed Location	***Possible Location as Identified Today***
Ikē'ne q em	possibly Nakaniakam or Necanicum River
Siāmistē'matí	Mouth of River
Ē'matl	Ocean
mā'tlqōnē	close in shore
mā'tlanē	far out in sea
iā'me latē	bad or unlucky place (descriptive)
Tlia'kētlpatē	Elk River
Tle'me'ntl'eme'nēilqa'yē	muddy land (descriptive)
Ĭs'uitlqa'lemq	pipe (made of white limestone from Tillamook Head)
Skēpanā'wung	Skipanon
Konī'ts'atq	a tribe on the coast of Washington
Sk'alō's	Point Adams
Tillamuk	Bluff
Awā'mstaa	Tillamook Head

3.5.1.2 Cultural Geography

Cultural Geography concerns the area of primary habitation of the Clatsop Chinook. While their range of use expands dramatically outside of this space, the area of primary habitation often has a rich level of oral histories and myths associated with it, requiring an ongoing relationship to ensure cultural continuity.

A survey of the ethnographic material was done by reviewing documents and other source materials held by the THPO, as well as conducting keyword searches on the Tribe's archival documents. Although the full extent of the Clatsop Chinook areas of use were not fully identified via ethnographic materials, primary use and habitation areas have been identified. For the Tillamook, these areas span the south shore of the Salmon River in the South[4] to Tillamook Head in the north (Seaburg and Miller 1990), and from Tillamook Head to the mouth of the Columbia River and upriver to around Tongue Point (Silverstein 1990).

3.5.1.3 Chinookan Ethnography

The ethnography of the tribes and bands associated with the lower Columbia River has been reconstructed primarily through ethnographic studies and contact period writings, and supplemented by archaeological reports. The following section focuses on ten elements of cultural understanding available through the ethnographic information. Most of the available ethnographic information derives from Melville Jacobs (1956), Franz Boas (1890, 1894, 1898), and Phillip Drucker (1934). All worked with tribal people to record linguistic and ethnographic information in the early to mid-1900s. Additional information is available from Gibbs (1853), Verne Ray (1938), and Michael Silverstein (1990), among others who have either conducted ethnographic work in the area or compiled and refined previous work of others. It is from these sources that much of the following information is derived. These are:

- Culture Groups, specifically Tribes and Bands;
- Language;

[4] Seaburg and Miller include the Siletz Tribe as a transitional group of Tillamook, and their homelands extend southward to about 15 miles south of Siletz Bay (Seaburg and Miller 1990). Because this study focuses on the Tillamook/Clatsop association with Grand Ronde this southern group has been excluded.

- Riverine Resources;
- Floral Resources;
- Faunal Resources;
- Seasonal Resource Availability;
- Settlement and Housing;
- Technology;
- Political Organization; and
- Treaties and Relocation.

3.5.1.4 Tribes and Bands

The main tribal division that inhabited the Lower Columbia River is the Chinookan Tribes, of which there are at least seven major groups.[5] Each tribal group is divided into separate linguistic and/or social tribal groups with related or closely associated languages. Seven sub-groups and two related language groups existed among the Chinookan tribes (Silverstein 1990). The Lower Chinookan people inhabited both the north and south sides of the Columbia River, from the mouth spanning upriver to the vicinity of Tongue Point. The Cathlamet Chinook inhabited the neighboring region further upriver to present day Kalama. From there, the Multnomah inhabited the lands further upriver to the east side of present day Portland, Oregon. The Clackamas Indians inhabited the area up the Columbia and Willamette River confluence and its tributary the Clackamas River (Silverstein 1990). The Cascade Chinook occupied lands stretching from the east side of Portland to the area around Little Wind River and the Columbia River. The last two groups, the Wasco and Wishram, stretched further eastward upriver to the Tenmile Rapids near Celilo Falls (French and French 1998).

3.5.1.5 Language

The Chinook language is an independent branch of the Penutian phylum (Silverstein 1990) and has some structural elements related to Salishan (Silverstein 1990). The language group has two primary dialects: Upper and Lower Chinook. Upper Chinook ranged from the Wasco and Wishram lands down river to the area around Grays Bay and Tongue Point. The Lower Chinook group was centered on the mouth of the Columbia River (Silverstein 1990).

The Chinookan people did not identify themselves as a part of a greater collectively identifiable group based on language. Instead they self-identified based on their resident location and that of their relatives. The political/social groups that inhabited the case study area were known as the Clatsop, in residence from Tillamook Head to the mouth of the Columbia River and upriver to Tongue Point (Silverstein 1990) (Figure 8).

[5] Lower Chinook, Cathlamet Chinook, Multnomah Chinook, Clackamas Chinook, Cascades, Wasco and Wishram.

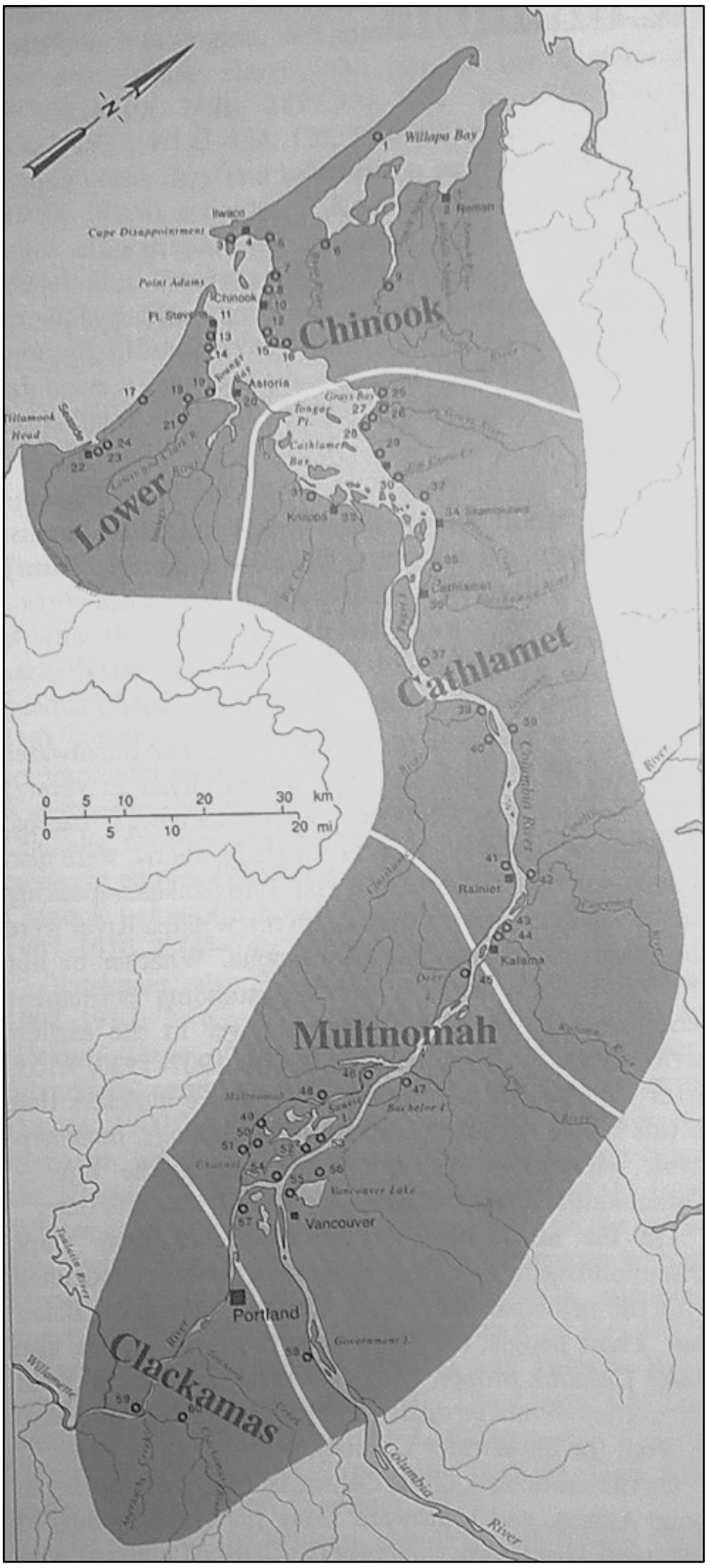

Figure 8. Lower Chinookan Divisions (Silverstein 1990:534).

3.5.1.6 Environment and Resources

Marine & Riverine Resources

The Columbia River has large anadromous fish runs and a high population of resident fish. Salmon and other fish were caught and utilized by most of the tribes and bands residing adjacent to the Columbia River, whereas neighboring inland tribes would often use their familial/kinship and political connections to the Chinookan people to access riverine resources. Historic records clearly illustrate a cultural focus on fish dominated by salmon, although sturgeon, steelhead, trout, eulachon, smelt, sardines and herring were culturally important as well (Ray 1938:107).

Seals, sea lions, otters and occasionally porpoise and dolphin were also harvested from the Lower Columbia River (Ray 1938:113, 118). In the cases of sea lions and otters, they were most likely limited to the tidally influenced waters downriver from the Cascade Falls, now modern Cascade Locks. Porpoise and dolphins were most likely gathered near the mouth of the Columbia River and in its brackish waters.

The importance of whaling has not been established through archaeological research, but the volume and importance of whales and their respective resources is very prevalent in the Chinook Oral Traditions (Boas 1894). This resource may be more associated with the seaside area known to have whaling technology and remains in archeological sites, but more systematic research is needed to understand the importance of this resource to the Clatsop Chinook. Recent work by University of Oregon student Gabriel Sanchez researches this point and is worth noting. It identifies that whaling occurred, but the level and importance could not be fully established due to the limits of the project. Further research would be worth conducting to fully understand this relationship between whaling and the Clatsop Chinook.

Terrestrial Faunal Resources

Many animal species were utilized by Chinookan Tribes as a food source, and as valued materials for ceremonial or decorative purposes. Historically, game animals included deer, elk, silver gray squirrel, townsend chipmunk, Pacific mountain beaver, cougar, bobcat, raccoon, black bear, and the grizzly (Aikens 1975). Although not native to the area, antelope are mentioned as being hunted when salmon runs started to decline for the season (Ray 1938:117-118).

Other available species utilized for food and/or ceremonial purposes were ruffed grouse, sooty grouse, Coopers hawk, killdeer, mountain quail, robin, California quail, and various migratory waterfowl such as ducks, swans, and geese (Aikens 1975). Waterfowl were hunted from canoes affixed with a blind constructed of green boughs (Ray 1938:118).

Animals often hunted but not eaten included the wolf [northwestern timber wolf], raven, seagull, crow, owl, eagle, reptiles, eels, turtles and frogs (Ray 1938:118).

While whales do not show up in the archeological record substantively, the species does represent an important component of the oral traditions and appear in some of the ethnographic accounts. Tools associated with this activity are also apparent in a few sites around Seaside, but the level and complexity of their use is still not fully understood.

Botanical Resources

Botanical resources can be considered as serving three principal functions for residents of the Lower Columbia River: first as a food source, second as basketry and housing material, and third as habitat for hunted animal species. Roots utilized by the Chinookan people include lupine, bracken fern, horsetail

rush, edible thistle, wapato, cattail, skunk cabbage, cow parsnip and camas (Ray 1938:120-121). Some of these resources were readily available and some were traded between neighboring groups based on access and seasonal availability. Berries and fruits included, but were not limited to, salmonberry, strawberry, blueberry, red huckleberry, blackberry, gooseberry, black currant, salal, gooseberry, Oregon crab apple, cranberry, bearberry, shotberry and Oregon grape (Ray 1938:121-123). Nuts and stems utilized both for technology and food included the horsetail rush, salmonberry, cow parsnip, wild celery and oak (Ray 1938:120-12).

Seasonal Resource Availability

Since most resources utilized by Columbia River tribes and bands were cyclically hunted, harvested and tended, understanding seasonal availability of plants and animals assists with reconstruction of tribal movement across the landscape. Subsistence patterns explain resource availability, as well as locating certain habitation locations. For example, a lowland prairie that was seasonally flooded during the pre-contact period might produce cultural material indicating the use or processing of camas, whereas highland areas with little or no fresh water may retain lithic quarries or recurrent, temporarily occupied hunting sites.

Some of the plants utilized by resident populations required extensive processing and preparation before they could be used as a food source. For example, camas must be cooked for three to five days. Some plants such as the *lomatium*, cow parsnip, and wild onion are part of the Nightshade family and can be toxic if misidentified or not properly prepared.

3.5.1.7 Housing

Chinookan people utilized winter housing structures similar to their southern and inland neighbors, the Molalla and Kalapuya, but on a larger scale. The known examples of these structures, based on extrapolation from their archaeological features such as plank and post molds, were a slightly rectangular construction with an interior space dominated by a centrally located fire pit. Plankhouses were seen during the initial contact period and were noted in the written and graphic record of early Euro-Americans in the region (Figure 9). Stylistically the structures had gabled steep roofs (Drucker 1934; Matson et al. 2009; Moss 2011; Sobel 2004; Zenk 1990). Most plankhouses were used on a seasonal basis, often during the winter months, with temporary camps being utilized throughout the remainder of the year for convenience of movement and proximity to needed resources (Drucker 1934; Saleeby and Pettigrew 1983; Zenk 1990; Zenk and Rigsby 1998).

The homes were inhabited by multi-family units with interior space partitioned with tule or cattail mats. The main area housed a centrally located fireplace, usually a pit (Drucker 1934; Zenk 1990; Zenk and Rigsby 1998). The locations of each family within houses were based on economic and/or social status. For example, wealthier individuals and families with more status would have been located toward the back of the dwelling with poorer families and slaves allocated space near the entrance of the home (Sobel 2004).

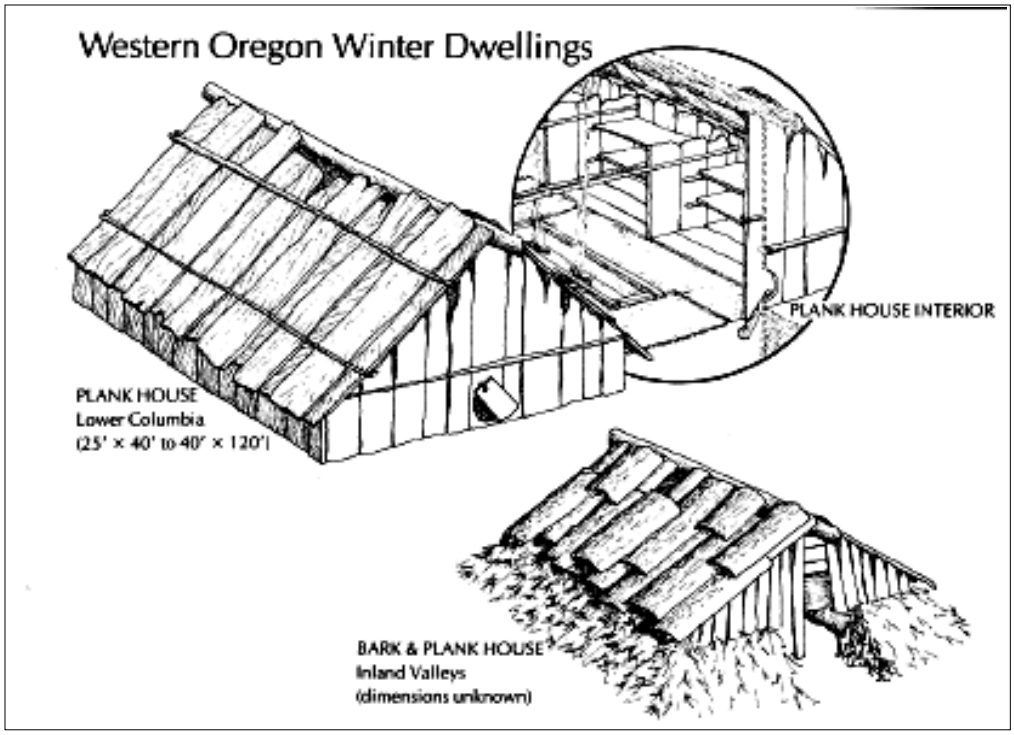

Figure 9. Illustration of Plankhouse construction (Faun Rae Hosey from Zucker et al. 1983)

3.5.1.8 Technology

Most technology utilized by the Chinookan Tribes has been reconstructed through the archaeological record and ethnographic descriptions, with some information provided through oral tradition, stories, and early contact-period journals and writings. Plankhouses were constructed out of cedar. Sources suggest canoes, although most often made of cedar, were also made of fir and cottonwood (Drucker 1934; Frachtenberg 1911; Zenk 1990).

Clothing and mats were often fabricated from cedar, cattail, and animal hides. Baskets and associated items like nets and bags were made from a diverse array of materials: cedar, hazel, fern, juncus, tule, cattail, willow, ponderosa pine, maple, alder, Oregon ash, nettle, iris, and dogbane. Basketry was utilized for storage, cooking, hunting, fishing, cordage, clothing, among other uses and was often highly ornamented (Drucker 1934; Frachtenberg 1911; Zenk 1990). Many tools were frequently a composite of multiple materials combined into a finished item; for instance, wood, sinew, feathers, and stone would be necessary for constructing an arrow or atl-atl dart. Other tools, such as those made of groundstone, would have been made of a single material yet would have required the use of several other items in its fabrication/shaping.

3.5.1.9 Political Organization

The Chinookan Tribes were loosely organized based on village autonomy with head-men or -women being elected as leaders. Often familial legacies emerged and defined accession to authority for future generations (Ray 1930). Each village had one “chief” who had authority over the local village group and was involved in organizing resource extraction and settling disputes (Ray 1938).

The Chinookan culture groups (tribes and bands) exhibited higher degrees of social stratification with “chiefs”, high status free people (who often exhibited cranial deformation), middle class free people,

poorer freed people, and slaves (Ray 1938). Cranial deformation was practiced by the most of the upper classes of the different bands (Ray 1938).

People with spiritual powers or 'shamans' were part of the social group; although an individual of any of the freed 'classes' often had spiritual power associated with them at some level. These individuals, of either sex, often had special roles within the bands or villages where they resided, though their position was often tenuous and could be challenged. It was possible that unforeseen deaths or illnesses could be blamed on these individuals and they could be killed in retaliation for inflicting harm on others (Ray 1938).

3.5.1.10 Spiritual Practices[6]

The main focus of spiritual practices on the Columbia River prior to Euro-American contact was the acquisition of a guardian spirit or *t'fNanfwas*. This word's literal translation is *a guardian spirit*, one that had a personal relationship with the supplicant and who gave the individual songs and dances. These were performed during Winter Spirit Dances or Chinook Dances. The term also refers to the practice of healing or doctoring (Johnson and Zenk 2008:107-108). The supplicant alone would seek *t'fNanfwas* at a remote location at night often over the course of several days (Suttles 1990:544; French and French 1998:373; Sobel 2004:154, Hunn 1990:237-241). It has also been recorded in oral tradition that some seekers would gain spirit powers during dreams or as a gift from elders if found worthy. Some individuals would have to repeat the acquisition process several times and a few would never gain any *t'fNanfwas*.

Certain individuals with these powers would participate in healing ceremonies to doctor people, or equally could inflict harm on another through the use of their power. The *t'fNanfwas* would often represent itself as animals, birds, fish, or intangible elements such as Thunder (French and French 1998:373), dreams, handling of the deceased ,or other specific non-visible things (Aguilar 2005:133). Regarding specific locations of spiritual places, some authors (Whaley 2010:9-10) have indicated that locations may be movable, or not specific to distinct places, making it difficult to ascertain specific locations of spiritual places -- the belief being that the process of obtaining the spirit power was more important than the location. As such, these locations are not fixed points along the Columbia River, in contrast to those that seem to have more distinctly defined locations in the southern areas of Oregon (Whaley 2010:9-10).

In addition, ceremonial activities took place for specific events in a person's life, including a child's first naming (Boaz 1894:238-243; Boyd 1996:97, 293; Curtis 1970:179; Ray 1938:66; Spier and Sapir 1930:258). It should be noted that official namings usually occurred around the first birthday rather than at birth; until this time the child was often referred to by a nickname (Aguilar 2005:189; French and French 1998:371). Ceremonies also took place at a child's piercing, usually the ears and septum, which often occurred within the first few years and occasionally even before an official naming (Aguilar 2005:183-187; Boaz 1894:238-2433; Boyd 1996:293; Drucker 1934:28, 30; Spier and Sapir 1930:261), and at a girl's first menses (Boaz 1894:238-43; Curtis 1970:175-177; Ray 1938:71-72, Spier and Sapir 1930:262).

Ceremonies also took place at the time the first berries were gathered by a young girl, and at the first kill by a boy, which could include the first bird kill and his first salmon catch, although mostly reserved for upland game (Aguilar 2005:121-122, 160, 182; Boaz 1894:238-243; Drucker 1934:27-28; Ray1938:118; Spier and Sapir 1930:261). Ceremonies also occurred at times of marriage (Aguilar 2005:171-172; Boyd 1996:99-101; Curtis 1970:99; Ray 1938:73; Spier and Sapir 1930:217-220). Additionally, events

[6] The symbolism behind some of these practices is not discussed out of consideration for current cultural practitioners.

associated with mortality, like funerals and memorials, also had ceremonial activities, often held a year after the internment of the deceased (Boyd 1996:104-113; Curtis 1970:99; Ray 1938:74-77, Spier and Sapir 1930:271; Swan 1992:189), and raising of the dead -- a practice where for several years the remains of the deceased, as well as his or her family, would be assisted by specific people with the transition to the world of the dead (Aguilar 2005:133-134).

Some events had gifting involved with them, and were often based on reasons such as political alliances, good harvests, or as methods to display the wealth of an individual or family (Aguilar 2005:189, 162 citing Spier and Sapir 1930:271). There are some indications that the Wahkiakum and other tribes in the Willapa Bay region at the mouth of the Columbia River had secret societies that may have been an influence from more northern tribes, but no evidence suggests that this was the case in the middle and upper regions where tribes came to Grand Ronde (Ray 1938:89-92).

Each of these ceremonial practices was conducted under specific conditions and unique social prescription. Seeking spirit power was a personal event that was taken to specific well-known locations under controlled circumstances during specific times of year. These could last anywhere from three to five days depending on the individual, the spirit power, local tradition, or success. Naming, burials, memorials and piercing generally allowed for the entire community to participate with the family. They were often conducted in one of the plankhouses of the community sponsoring the event and had varying lengths of time. First harvest and naming were generally one day events, with piercing lasting up to five days (Drucker 1934). Ceremonies involving menses were dramatically different, often requiring a one day ceremony at the onset and a time of sequestration and seclusion away from the community lasting at least one month, and another ceremony at the end of this lasting up to five days (Boaz 1894:244-247). Daughters of chiefs were different in that they would have a ceremony at the beginning of their first two menses (Boaz 1894:244-247), the ceremonies were generally with the community and held in one of the plankhouses, but could be gender restrictive in some locations.

When an individual died, the mourners would often stay with the body for up to five days prior to internment. At the end of the five days, several planks of cedar were taken from the side of the house and the body was removed through this opening and carried to the place of internment on the boards (Ray 1938:74-77; Spier and Sapir 1930:270). This practice is similar and most likely has the same reasoning as that of the Tillamook, which is discussed later. Internments were often in sepulchers on elevated bluffs, charnel houses on islands in the river, in canoes or carved boxes in elevated areas or trees (French and French 1998:373; Silverstein 1990:543-544; Yarrow 1878:65-68). After the interment, the plankhouse would be abandoned for a period of time and if the individual was the chief the house may be deconstructed and moved to a new location or occasionally burned to the ground (Drucker 1934:34; Ray 1938:74-77, Hajda 1984; Swan 1992:212).

People with specific types of spirit power could conduct healing or curing ceremonies. They were most often conducted within the plankhouse where the individual lived and could last from several hours to days (Boyd 1996:121). The ‘medicine person’ conducting the ceremony, at times several individuals or a ‘medicine person’ and their assistant, would locate themselves near the sick individual. They would sing songs with accompanying participants, assistants, or themselves drumming, often with sticks or power figures on planks, poles, scaffolding surrounding the sick individual, or on the floor of the house (Boyd 1996:121; Curtis 1970:104; Lee and Frost 1968:236-237; Ray 1938:86; Spier and Sapir 1930:201; Strong 1906:60; Swan 1992:182). The individual being cured was often placed on the floor, sometimes on mats or blankets (Lee and Frost 1968:236-237; Parker 1990:251; Strong 1906:59-60; Swan 1992:182). Feasts and gifts were often given after the ceremony took place and it was customary to pay for the curing, although price could vary.

Winter Dances, sometimes referred to by a host of other names including Chinook dances, spirit power dances, power dances, and other linguistic-specific names, were conducted by most Chinookan Tribes along the Columbia River. These communal[7] ceremonies were held in the plankhouse of the sponsoring community, often in the largest one, but could at times be held in any house. These ceremonies were utilized to display the spirit power that individuals had gained from their early pubescent journeys to remote locations. Songs, dancing, rattles, the display of power sticks or boards, and drumming were all conducted during these events. Drumming could occur from hitting poles, power sticks, or boards on the floor, ceiling, or wall of the house, or could be done on planks or poles placed in the house for the ceremony, and at times feet were used on the wood floors to enact the drumming. Food may be served during the event, but just as often may not be. Additionally there were dietary restrictions for people based on their specific spirit power. The participants would often dance on elk skins or on elevated platforms in the back of the house, but this is inconsistent in the ethnographic record. Fires may be kept during the event, and at times specific items or food would be deposited in the fire during the ceremony depending on the requirements of a specific person's spirit power (Boyd 1996:129-133, 138-139; Curtis 1970:99-103; French and French 1998:373; Lee and Frost 1844:163; Ray 1938:81-83; Silverstein 1990:544; Spier and Sapir 1930:201). Power sticks and boards were carved images in wood, often cedar or alder, that were physical mediums of a person's spirit power. There are accounts of them being made of stone as well, which are more often found in archaeological context. These carved and painted images were owned by individuals who may have several of them, and were displayed during Winter Dances and sometimes in the homes of the individuals. Jacobs records in his notebooks:

> Clackamas rarely used feathers in the dance. Maybe a man would have besides a rattle, a single eagle feather ( )[8] it was his ( ) his powers' "thing" or a painted buckskin belt ( ) or some sacred thing used only in dance, would also be his ( ), his power's "thing".
> Such "things" of the power would be carefully wrapped up (and done so at the dance by the dancer's spokesman) in a sort of sacred bundle, and put off in a certain sacred place (now called Jenning's Lodge, near Oregon City) where all such individual sacred bundles were put; the rattle of course is the most common of the dance power sacred things thus carefully wrapped in its bundle.
> The ( ), the long suspended horizontal or vertical pole drum, was also carried down from the same rest place, where it was kept with other sacred objects, the smaller objects hung high up in the tree as high as possible for safety. Big doctors put their ( ), sacred implements for caring, etc., there in that place. I suppose on several trees there; it "was a terrible bad place"; because of the powers thereabouts. (All the medicine doctors their tools they put them away here. A long time ago it was a bad) place. (Jacobs nd, Notebook 53: 62-66)

When a person died, these ceremonial objects were often buried with them (Boyd 1996:122-126). These power sticks or boards being imbued with spiritual power were known to move of their own volition according to oral tradition. Some reputable Indian doctors were known to solicit people to hold them and attempt to keep them still, the individuals that tried to, inevitably failed to do so, and would describe the touching of these objects as similar to a description of an electric shock today (Boyd 1996:123-124 citing Kuykendall 1973). Neighboring tribes (Kalapuya [Willamette Valley], Klickitat [Eastern Washington]) of the Columbia River Chinook are known to have had the same or similar objects prior to and during early contact, although they had location variations and participated in similar religious practices (Boyd 1996:122, 124). Additionally, other tribes (and bands) utilized other objects as talisman imbued with the same basic spiritual values (Boyd 1996:125-126).

[7] The exception being the groups that had secret societies such as those at the mouth of the Columbia River (Ray 1938:89-92).
[8] In the hand-written notebook, this text is illegible.

What can be gained from understanding this is that the three types of locations are intertwined. These locations are places where an individual gains access to spiritual power individually, communal space and places of creation. An individual, usually during puberty, undergoes ritual entrance into adulthood, at the same time being introduced to cultural spiritual practices. Part of this takes place in a communal environment and part in solitary settings. After successful completion of these initiations, the individual brings their spirit power back to the community and assists in enacting communal spiritual practices at specific locations during culturally appropriate timeframes. This interaction of locations creates a ceremonial complex with known spiritual locations that are both individual and communal in nature. This landscape of spiritual locations also has interactions with group identity, based on myth places and known areas that are both spiritual places and taboo locations, since not everyone is allowed to specific locations, based on familial/class identity and appropriate supplications for specific types of spirit power.

3.5.2 Tillamook Ethnography

The following ethnography of the Tillamook Tribes and Bands has been reconstructed primarily through ethnohistorical studies, contact-period writings, and supplemented by reports of the archaeological record. The following section focuses on ten elements of cultural understanding available through these sources. These are:

- Culture Groups specifically Tribes and Bands,
- Language,
- Riverine Resources,
- Floral Resources,
- Faunal Resources,
- Seasonal Resource Availability,
- Settlement and Housing,
- Technology,
- Political Organization, and
- Treaties and Relocation.

3.5.2.1 Oral Tradition/*Ikanum*

The majority of the recorded collection of oral traditions originated with Elizabeth Jacobs, as published by William Seaburg and Franz Boas. Additional research into this community has been done by M. Terry Thompson, Douglas Deur, and Stephen Dow Beckham among others.

The one story that has the most bearing on the Tillamook worldview is the South Wind epic. The story records the trials, tribulations, and actions of a seminal character at the core of the establishment and understanding of the world held by the Tillamook and other coastal peoples. This epic details the establishment of the Tillamook world order and the creation of resources for the Tillamook people. Of specific note is the path South Wind took across the landscape and the specific resources of primacy in the Tillamook worldview. This story is pivotal in that it illustrates how the world was created. “South Wind fixed the world to be as it is now. You can walk the land and see where he both walked and shaped the land before you” (Deur and Thompson 2008:14).

This even reflects the Tillamook perspective on the land and their place in it: "people belong to the land – the land did not belong to the people. The earth was their mother. Sadie[9] said land was very sacred to them – believed all departed spirits to be all around us" (Beckham nd:28).

The journey spans to numerous places that are known places today – their contemporary names are provided here. South Wind begins his journey in Neskowin and travels to Nestucca, then Netarts and Tillamook. He travels up the Tillamook River, then to the Kilchis River and Kilchis Point. From there he goes to the area of modern day Bay City and spreads camas around the Tillamook world. He returns to Kilchis Point and eventually travels back to Bay City and Garibaldi where he set to sea. He comes back ashore in Barview and then goes to Fishery Point, Nehalem, the Nehalem River and then back to Fishery Point. He goes to Neahkahnie Mountain where he makes the sea rough in the winter time, and then travels to Short Sand Beach, Arch Cape and then Ocean Beach. From there he goes to Cannon Beach, Tillamook Head, and Oceanside.

Here the importance of whales as a resource gets reiterated, and then he travels to Fort Stevens, Clatsop, and then up the Columbia River. He makes Peril Rock and turns people into rocks, a version of which is told by the Chinook, and then travels to Mount Saint Helens. He stops at a rock along the Columbia and cries, making the rock rusty red and striped. He then travels back downriver to Ileac, Fort Canby, Bay Center, Knot River, and then returns to the South. He ends his journey in Siletz River where he transforms himself, wife and child into three rocks and "rules over the kingdom of salmon." The importance of the ocean during his epic is established multiple times with resources such as whale and salmon being highly important to the lives of the Tillamook people, but also in a conversation with Bluejay in which it is stated: "that Ocean, he's a king, he's the chief of all chiefs." (Deur and Thompson 2008:15)

There is some discrepancy whether the three rocks are the resting place of *Asa'ai'yahaL* [South Wind] or *T'ka* (Figure 10) the first man, woman and their child (Boas 1898:145). This may be due to regional differences between the northern and southern bands of Tillamook, but the important function of this place is the association of both the epic transformer figure, South Wind, with these rocks, and the creation of man. There exists both this version and the one regarding man being born from the eggs of Thunderbird (Swan 1992:203-204).

The importance of the ocean to the Tillamook cannot be overstated as the origin point of almost all the Tillamook resources. South Wind takes on a prominent role in that he changes the seasons and allows the bounty of the ocean, river and land to flourish and therefore provide the resources necessary to man. Most of the primary resources used by the Tillamook either reside in the ocean or require it for part of their development.

[9] Sadie Rosa was a descendant of Chief Kilchis and an informant of Stephen Dow Beckham. His notes are in a copy of The Tillamook Indians by Sauter and Johnson. She and her family never relocated to any reservation in Oregon or Washington.

Figure 10. *T'Ka* at Siletz Bay. Photo by Eirik Thorsgard.

3.5.2.2 Tribes and Bands

The Tillamook people historically were located just south of the Clatsop Chinookan band. Historical records of place names are almost exclusively in the Chinookan language and the intermarriage of the two groups seems very heavy. The most Southern band of Tillamook, the Siletz; were a transitional group between the Salishan speaking Tillamook and the Penutian speaking Alsea people to the South (Seaburg and Miller 1990). They resided primarily from the Seaside area in the North to South of Siletz Bay (Figure 11).

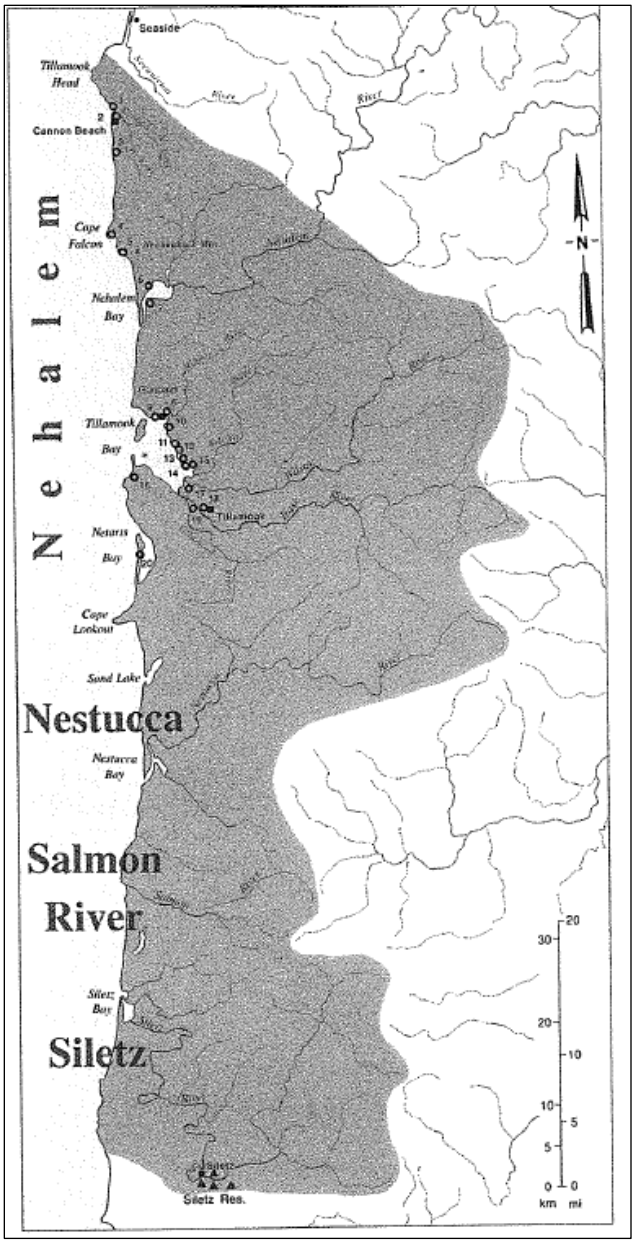

Figure 11. Tillamook Divisions (Seaburg and Miller 1990:561)

3.5.2.3 Language

The Tillamook are the southernmost branch of the Salishan language group. Their language has closer connections with Central Salish, such as Squamish, Nooksack, Clallam and Lushootseed (of the area) than the northern branches found in Washington area. The Siletz branch of the Tillamook language group is the most divergent branch of the language (Seaburg and Miller 1990:560), most likely due to its interface with the neighboring Alsea to the south and adoption of its language structure and use.[10]

[10] Personal communication with Henry Zenk in 2013.

3.5.2.4 Environmental Resources

Marine and Riverine Resources

The Oregon Coast has a large number of rivers including the Salmon, Nestucca, Nehalem and Siletz Rivers which, like the rivers to the north, have large anadromous fish runs as well as high populations of resident fish. Salmon and other fish were caught and utilized by most of the tribes and bands occupying the adjacent lands along the Oregon Coast. The Tillamook people also visited the Columbia River to fish at Tenas Illahee island and possibly other locations (Jacobs 2003:3-4).

Salmon were the primary aquatic resource sought in rivers, with seals, sea lions and whales being sought in open marine environments. The ethnographic information regarding whale hunting is fairly extensive, but the archaeological record has not been systematically analyzed enough to confirm how focused this type of resource extraction may have been (Sanchez 2014).

Terrestrial Faunal Resources

Most Tillamook resources were marine in nature, the use of terrestrial resources was present, but was not stressed or prioritized. Terrestrial resources included elk, beaver, bear and muskrat. Elk specifically were used not just as a food source but the hides would be constructed into a form of armor (Seaburg and Miller 1990:560) or used in trade to neighboring tribes.

Terrestrial Botanical Resources

A large variety of botanical resources were utilized by the Tillamook, primarily based on a seasonal cycle of availability. The importance of these resources and riverine/coastal resources can be seen in the naming of the seasons that the Tillamook recognized. Three of the seven seasons are named after berries, three after fish, and the remaining one as an abstract name but associated with fishing (Jacobs 2003:80).

Seasonal Resource Availability

Since most resources utilized by Northern Oregon coastal tribes and bands were cyclically hunted, harvested and tended, understanding seasonal availability of plants and animals assists with reconstruction of their movement across the landscape. Subsistence patterns explain resource availability, as well as locating certain habitation locations. For example, Tillamooks would reside during the summer near the beach or estuaries for fishing, and during the winter move further inland to avoid coastal weather. Winter was also dominated by religious activities for the Tillamook (Seaburg and Miller 1990:564).

Some of the plants utilized by resident populations required extensive processing and preparation before they could be used as a food source. For example, camas must be cooked for three to five days. Some plants such as the *lomatium*, cow parsnip (*Heracleum maximum**)***, and wild onion (genus *Allium**)*** are part of the Nightshade family and can be toxic if misidentified or not properly prepared.

3.5.2.5 Housing

Dwellings were similar to those of the Chinook (Figure 9, p. 38).

3.5.2.6 Technology

Most of the tools constructed and utilized by the Tillamook were of perishable materials. Most utilitarian objects were constructed of wood, bone, shell and antler, with hides and basketry material used for clothing and baskets (Seaburg and Miller 1990:561-562).

3.5.2.7 Political Organization

Tillamook society had two primary classes, freemen and slaves. Those individuals who may have had considerably more political power may have been chiefs or headmen, but the exact number and fluidity seems to be under some debate (Seaburg and Miller 1990:565). This same dichotomy existed with the difference of those who had obtained some type of 'guardian spirit' or *t'əmanwas.* A slave who acquired one could be afforded more liberties but was still considered a slave (Jacobs 2003:96-101).

3.5.2.8 Spiritual Practices[11]

Unlike the Chinook Neighbors to the north, there was no ceremony accompanying the birth of a child, although several taboos were observed. No males could be in attendance at a birth, and the father of the child would not sleep for ten days. After birth the mother would not sleep for five days and would lie on a bed pressing on her stomach to ensure that all of the blood from the afterbirth was expelled. During the first three days she would have a wet nurse feed the baby; the belief was the mother's milk was poisonous during this time. During the first fifteen days the mother would stay in a type of confinement, washing her breasts in warm water and anointing them with bone marrow (most likely from deer), and would steam her hips through a hole in the bedding. The child's umbilical cord would be kept after it fell off and placed into a pouch with feathers which was kept by the child until the age of five or six. If the child lost it during this time, the belief was the child would become unruly and disobedient. After the birth any materials used in delivering the baby and the mother's clothing would be disposed of in the forest. The afterbirth was buried at the foot of a spruce sapling to ensure that the child would grow strong and tall (Seaburg and Miller 1990:562; Jacobs 2003:124-130).

Children were named about the time that they turned six years old. During this time a religious leader, always a man, would come and a feast, gift-giving, and dancing would take place. The more affluent the family, the larger the ceremony would be. Family and friends of the child to be named would attend, but young people and children were not allowed. The belief was the pain from the piercing would be more if other children were present. The ceremony would take place after noon and the child and all of the guests, excluding the religious leader, would eat before the ceremony. The religious leader conducting the piercing would smoke before the ceremony to ensure that the child's ears would not get sore. The mother would sit in the middle of the room with the child on her lap, and the religious leader would pierce the ears (and nose if a boy) with a bone needle with elk sinew to keep the hole open. Each piercing would result in a gift being given to the religious leader. After completion, the religious leader would call out the child's name, which would become the child's permanent name (these names were usually matrilineal). The names of recently deceased were normally not allowed, and a prescribed period of time after death (usually one year) was required prior to the name being brought out in the community (Jacobs 2003:130-131; Seaburg and Miller 1990: 562).

Young girls reaching the age of menstruation (usually between the ages of eleven and twelve) were instructed by their mothers about puberty rights – taboos and acceptable behaviors associated with their first menses. The girl would be in seclusion in their home during this time, although during all subsequent

[11] The symbolism behind some of these practices is not discussed out of consideration for current cultural practitioners.

times the women would leave and reside in the menstrual house usually on the edge of the village near the forest. The area around the girl's bed would be partitioned off with rush-material mats, and an elderly woman would attend the young girl for four or five days. Often the elderly attendant would be a spiritual person, but this was not a requirement, however she would be paid for her services by the family.

The girl would not be allowed to eat during this time, and would only have water available during the evening. Breaking of the taboo and eating was believed to shorten the life of the girl. A body scratcher would be provided as the young girl was not allowed to touch her face or hair with her fingers; to do so would cause her to get wrinkles and lose her hair. The scratchers were made from a piece of spruce limb and shaped similar to a pencil and would be attached to beads the girl wore during this time. The hygiene products used were constructed out of cedar bark that was pounded until it became soft cotton-like material and would be kept and cleaned by the girl and used and replaced as needed for the rest of the girl's life. On the first day, the girls face, hands, forearms, and lower legs would be covered with a red pigment consisting of red clay and elk marrow. Mentioned in the ethnographic information by Boas, this may have also been done with red ochre.

On the evening of the fourth and fifth days, the young girl would be awoken and prepared by the attendant to go out in the woods alone for an all-night vigil to gain *t'əmanwas*. The young girl would be dressed in a blanket adorned with beads and dentalia, a beaded buckskin piece worn between her braids and over her shoulders, and a basket hat made specifically for her. She would be provided a cane to assist her due to weakness originating from her lack of eating in the previous four days and she would enter the woods alone and repeatedly bathe (five times) in a cold stream and remain there until a *t'əmanwas* approached her. She would not inform anyone of what approached her during this time until she was at least middle aged. She would have to hurry back to the house before daylight, as she was not allowed to eat when evil eyes could be upon her. For the next ten days (after her menses) the girl would repeatedly bathe (five times) in the mornings in a stream and have to return to the plankhouse prior to daybreak. She was allowed to eat some food after bathing but before the birds sang; if the birds sang while she was bathing it was believed she could die. Each morning she would rub her body down with rotten alder pulp to make her skin smooth and hairless. After this her hands, forearms, lower legs, and face would be repainted in the red pigment and she would wear her blanket, basket hat, and hair decorations during this time. During this time, the young girl was not allowed near the fire or be allowed to touch it. After this time, these articles of clothing would become part of her regalia to wear for special occasions.

Other taboos associated with this were that any utensils used by the young girl had to be kept separate from everyone else's for two months. For a year after the ceremony, certain dietary restrictions may apply, specifically the eating of eels or steelhead which were considered strong *t'əmanwas* animals, red huckleberries (which were the food of Wild Woman, a mythic figure who was dangerous), and crab, which could cause her to have her hands curled up like arthritis. Breaking these dietary restrictions could cause sickness or death. Also during this time (two months), a young girl was not allowed to eat anything speared or caught in a net unless she place bad *t'əmanwas* on others eating from the same source; and could not eat around pregnant women or their childbirth would become difficult. After the two month time frame the girl would use the menstrual house with the other women of the village and the taboos were relaxed (Jacobs 2003:134-140; Seaburg and Miller 1990:563).

Boys would obtain *t'əmanwas* during the time when their voices changed. They would go to the woods, often near a stream or pool of water, and fast and bathe five times. This was normally done for at least three days but could last up to five days. After which he would 'catch' a song which would determine his *t'əmanwas* that in turn would become part of the spiritual practices when the young man was middle aged. Occasionally a *t'əmanwas* would reach out to someone without his participating in this ceremony, but this was highly uncommon. Young men that were being trained by spiritual leaders would often have a more formalized process to be determined by their mentor (Seaburg and Miller 1990:563).

A boy's first kill and a young girl's first gathering were not allowed to be eaten by them; they would be given to elders in the community (Seaburg and Miller 1990:563).

Death was viewed as an important part of the community with many associated ceremonies and taboo restrictions. If a person was ill or known to be in failing health a young man would be sent to retrieve a medicine person. The young man would take a gun (post-contact), blankets, dentalia and other shells valued as currency, and other gifts to pay for the medicine person's services.

A person killed by accident or during war or conflict would be recovered and brought home to ensure appropriate ceremonies could be conducted. However, for living members of the community to partake in discussions about the process or to be able to view the canoe made for the dead outside of the burial ceremony was/is taboo. A medicine person would not stipulate a cost to the family, and never refused any payment, or to attend the dying. The medicine person would often be nearby *doctoring*, a term used to describe singing and dancing *t'əmanwas* related songs and dances often associated with death ceremonies, and would stay with the deceased after they had passed and sing every night there after for five nights. If it could be afforded, the deceased would have a canoe commissioned specifically for their burial; if not, friends and family of the deceased would find a canoe carver and pay to have one made for them. When possible, the dying individual would be shown the canoe that was constructed for them.

After passing, the family of the deceased would have the body of the departed prepared for burial. Their face would be washed and painted red, including the part in their hair. The eyes were closed and bandaged based on the belief that if a deceased's body saw someone, it could cause bad luck or even try and take the living with them to the land of the dead. The body would be dressed in fine clothing and wrapped in a blanket and then wrapped from head to toe in overlapping strips of cedar bark five or six inches in width. If the deceased was a man or a child, a man who was not a member of the household would attend to the wrapping. If a married woman died, her husband wrapped and dressed her. If the deceased was a young girl, several (2-3) women would attend to the clothing and wrapping of the body. During the two or three days prior to the burial, friends and relatives gathered to attend the funeral. Any gifts brought would be buried with the deceased. Items that were not able to be dressed with the body (non-clothing items, and extra clothing) would be placed in the canoe with the deceased. Anklets and bracelets of dentalium shells would be wrapped along with the body under the blanket and cedar wrappings (Jacobs 2003:140-143; Seaburg and Miller 1990:564).

The deceased would be kept in their bed during the mourning period before burial and accompanied by several people prior to burial. The belief was that someone had to stay with the body to ensure that it did not get up and move away. At least two people were there at all times to ensure that no one fell asleep; if one was to fall asleep the deceased could capture the sleeper's soul and take it with them to the land of the dead. The fire in the house had salal leaves added to it during this entire time. The crackling sound and bright fire would keep other spirits out of the area. All of the houses in the community would do this during this time.[12] Every morning the medicine person paid to attend the deceased would sing. He may be paid extra for this service, but not always. No cooking would take place in the house where the deceased lay. Members of that household would go to a neighboring home to prepare and eat their meals. Children were not allowed to be in the house with the deceased or to attend funerals (Jacobs 2003:140-143; Seaburg and Miller 1990:564).

Burials always took place before high noon, and sometimes significantly earlier, this was done to ensure that the deceased whose spirit was believed to be asleep would not wake and attempt to take funeral

[12] It should be noted that the Tillamook and Nehalem people lived in plank houses made of cedar planks, and a village or community could have as many as ten or twenty of these structures (Jacobs 2003:70).

participants/observers to the land of the dead. It was believed a person who was victim to this would go home, become sick, and soon die if a medicine person was unable to recover their soul from the land of the dead. On the morning of the funeral, the deceased was placed in the canoe, which would have a hole in the bottom to allow rain to drain out of the canoe. The canoe would be painted with red stripes "like the spokes of a wheel" (Jacobs 2003:142). While inside the residence, the deceased would be placed flat in the bottom of the canoe. Afterwards, the planks on the corner or side of the house would be pulled/removed to have the canoe and body removed. It was believed that it was dangerous for children to enter a doorway that a deceased person's body had passed through (Jacobs 2003:140-143; Seaburg and Miller 1990:564).

The men who dressed the body of the deceased would serve as pallbearers at this time. The one who had handled the head and shoulders of the deceased would take the prow of the canoe and the individual who handled the other portions of the body would take the relative position on the canoe. They would be all single young men based on the prescribed post-burial purification practices, "being too much for a married man" (Jacobs 2003:140-143; Seaburg and Miller 1990:564). These individuals would be paid for their services, usually with items equivalent to the value of a gun (post-contact) or several blankets. If a pallbearer stumbled during the procession it was a sign that the individual would have a short life. During the procession, no one would precede the burial canoe, if a person was to accidentally step in front of it, the soul of the deceased could rise up and take the interloper's soul with them to the land of the dead. When at the burial location, people would stay moving, even if only slightly; standing still was believed to potentially cause paralysis of the legs (Jacobs 2003:140-143; Seaburg and Miller 1990:564).

At the burial location, the canoe was placed in the crook of 'installed' forked poles creating a platform (also in the limbs of live trees). The prow of the canoe would be slightly elevated of the stern, and another canoe was turned upside down and placed over the top of this canoe. Mats, wooden dippers, and bowls that had the bottoms perforated or pierced would be strung up on the canoe, or on a pole above it. The holes were to ensure that no living person used them, as this could cause sickness. No paddles were left with the canoe (Jacobs 2003:140-143; Seaburg and Miller 1990:564).

If a slave died, the owner would pay for a small inexpensive canoe to be constructed for the deceased. If a miscarriage, stillbirth, or infant (too young to talk) died, they would be placed in the burial canoe of a relative. The child would be dressed and wrapped by the father and then taken to the relative's burial canoe. Some young men would attend in order to lift the top canoe allowing the father to place the child within the burial canoe. A child's toys were always buried with them. The father and any aids would then attend the necessary purification rituals for handling the dead (Jacobs 2003:140-143; Seaburg and Miller 1990:564).

Occasionally a year or two after the death of an individual, a husband or brother would desire to have the body redressed; this was seen as a token of affection and/or respect for the deceased. To do this the individual would hire two young men to go to the canoe, take it down from the forked poles, clean the bones, and redress the deceased. Usually the assistants would be paid well due to the taboos associated with handling the dead and the required purification rituals after having done this (Jacobs 2003:143-144; Seaburg and Miller 1990:564).

Cleansing or purification after handling the dead was conducted with utmost importance. A person who underwent this process would retire to the woods to fast and bathe for five days and nights. They would bathe every morning and evening and rub conifer needles all over their body. Young men would carry a whistle and a tiny bow in order to blow it as notice as they approached their homes. The occupants would hear them approaching and throw open the door as the young men came running inside. They would enter the house and run to the middle where they would drop to one knee and raise their small bow and mimic shooting arrows back through the door (mimicking the shooting of the bow was believed to scare away

spirits) while a medicine person sang songs for them. Afterward, they would return to the forest to sleep alone. On the fifth night, the individual would sweat and bathe, and then approach the house the same as the previous nights, with his whistle and bow. On this night camas was prepared for them while the medicine person sang. After the whistle and bow actions, the young man would sit down facing the medicine person, who would be handed the camas, and in turn would throw the camas into the mouth of any individuals who had attended and/or dressed the head and torso. After this, the person who had dressed the legs would be the focus of the medicine person. All the while the medicine person would say "now if this goes in your mouth straight you will live long and be well, but if it misses or smears you won't live long" (Jacobs 2003:144). After this, the young men were allowed to rejoin the larger community. The clothing, whistles and bows of the young men, and anything else they touched, would be taken into the woods and kept there. It was not uncommon during this process of purification for a young man to gain a new *t'əmanwas*. To not undergo the required cleansing could potentially cause an individual to become paralyzed or even shorten their life (Jacobs 2003:144-145; Seaburg and Miller 1990:564).

Other ceremonial practices, such as Winter Dance, were usually held during January or February (some authors indicate this time was between December and March). The event itself is usually sponsored by one individual. It was/is a time for each person who has *t'əmanwas* to come together to dance and renew their power. Immediately before the dance event, the hosting individual(s) can become ill because of stress and impacts to their spirit. After regaining their health, in a show of thanks to the community they will sponsor the event. The dance is held in a large house, beginning after dinner and running until at least midnight. The sponsor sings their spirit song first, with others singing theirs thereafter (Jacobs 2003:163-168; Seaburg and Miller 1990:564).

Using the reported ethno-historical information recorded in the THPO Database described in Section 2 above, it is clear that there are numerous resources and places utilized by indigenous coastal residents. Figure 12 below depicts the approximate loci of specific resources identified through the reviewed source materials. Depicted is an amalgam of *Ikanum*, historic, and contemporary periods of resources, practices, and associated places. The temporal differentiation of where these resources and practices were located is not shown in this graphic. Given the cultural interpretation discussed previously about the continuity of culture and history, the resolution was decided to be done in a very inclusive manner.

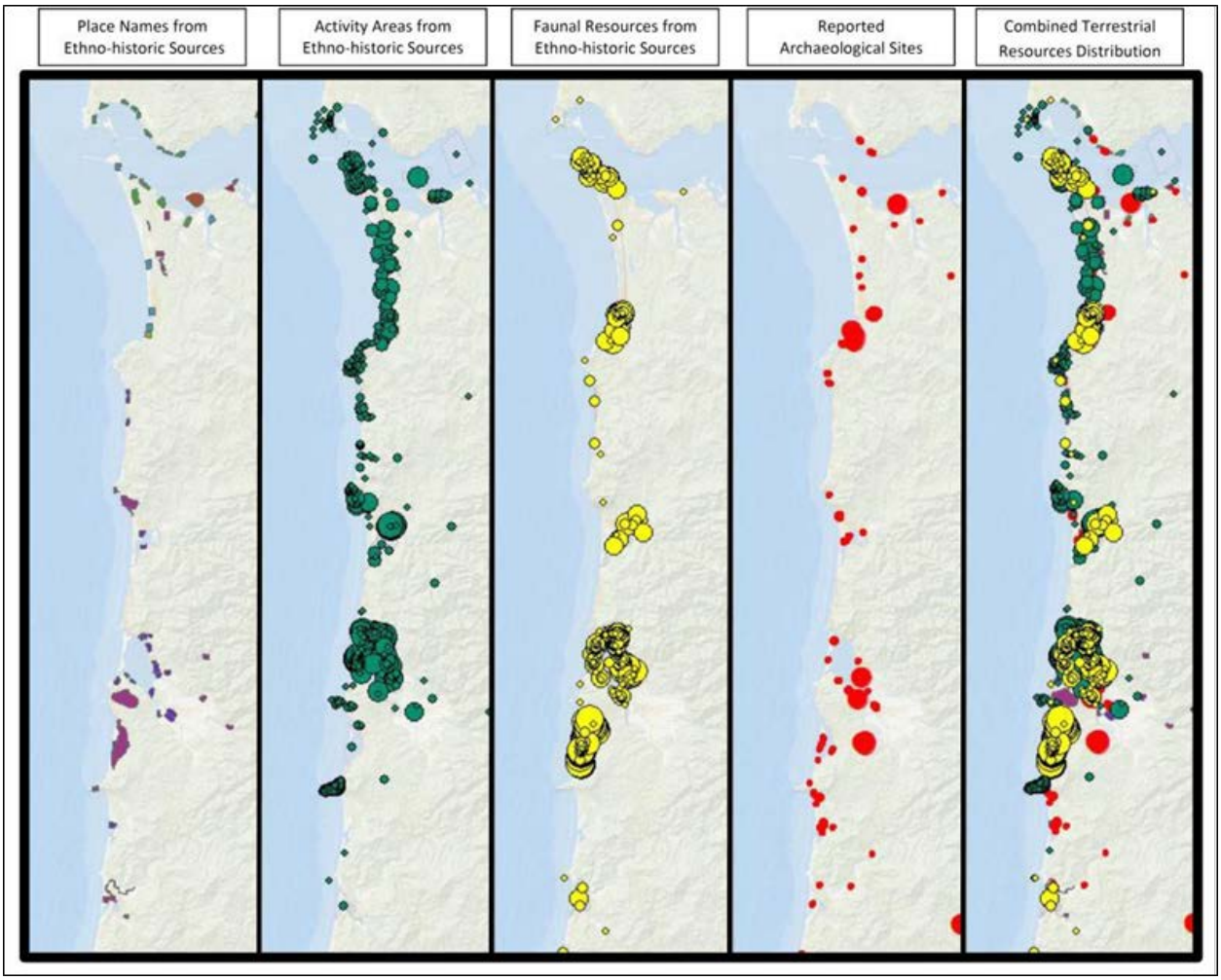

Figure 12. Resource locations significant to the Tribe.

3.5.2.9 Tribal Uses

Oral Histories

Oral Histories were conducted with 15 Grand Ronde Tribal members in informal settings. No set questions were developed to ensure that the tribal membership could self-identify resources of importance and uses. Questions were guided towards coastal use and open water use to ensure that the information was relevant to the study area as much as possible. During these interviews and interactions, several thematic concepts arose in the information provided. This chapter is structured around these thematic concepts.

3.5.2.10 Offshore Uses

Salmon

The use of salmon in the past is well documented in the ethnographic and historic records. Currently a large number of tribal members use salmon as a form of subsistence. The larger group accesses this through fish distributions that are organized by the Tribe's Natural Resources Department; a smaller but more focused group obtains salmon through fishing and trading. Some tribal members, due to familial

connections at other reservations, obtain salmon in a variety of locations including but not limited to the Columbia River, Deschutes River, Rogue River, Klamath River, Salmon River, Nestucca River and the ocean.

Some of these activities specifically done in collaboration with family from other reservations may or may not be associated with treaty rights reserved by these other communities. Grand Ronde Tribal members have very limited rights outside of those provided to normal citizens of Oregon. Those who are participating in subsistence fishing are typically not participating in reserved rights, and are primarily doing so under Oregon fishing permits and licenses.

While the majority of those personally accessing salmon and other salmonids are doing so in the rivers, a small group does obtain them offshore. Unfortunately, the informants were not very forthcoming on how far off the coast, or even which geographic features they were near, making identification of these sites within the case study area difficult.

All tribal members that were solicited for information about what impacts could result to salmon from offshore development cited concerns about habitat, specifically for both salmon and pacific lamprey. Heavy concern was placed on impacts to the food web and potential impacts that could be made from these developments on kelp beds, migratory patterns and the potential impacts of electric or magnetic impacts from any lines that could bring energy back onshore from offshore energy development.

Concern was also expressed for religious/spiritual reasons about impacts to the home of *T'ka* or South Wind,[13] who in the Tillamook myths set the world in order and retired to the land of salmon to maintain the world from there. These concerns were more abstract, and hard to identify specific impacts, other than "meddling in affairs beyond our knowledge."

Pinnipeds

Grand Ronde does not have any rights to gather or hunt any pinnipeds. Having said that, several tribal members anecdotally have indicated that they have obtained teeth and other body parts either from trade, or by obtaining them from carcasses of deceased animals when opportunities have arrived. All of these materials seem to be used in either clothing or adornment for ceremonial or spiritual practices. A few result in being used as gifts, but in these instances are associated with ceremonial cultural practices such as namings,[14] and bringing out songs associated with cultural practices related to the Grand Ronde Plankhouse *achaf-hammi*.[15]

Whale

Whales are another protected species that Grand Ronde does not have legal access to harvest. Attempts have been made in the past to navigate the NOAA process to obtain parts of whale for cultural practices, but so far have been unsuccessful. A very small minority of tribal members has had the opportunity to eat whale meat; every instance where this was identified was done through access to communities in Washington or Alaska that have some limited access to whaling. Some members of this group have

[13] Or First Man, depending on the source and family. See *Ikanum* section.
[14] For information about this practice refer to the Ethnographic sections associated with spiritual practices. No recording or information gathering will be reported about current practices in deference to concerns about sharing non-public information.
[15] Grand Ronde has a cedar plank house which is used for cultural gatherings and spiritual practices. During its original opening, it was given the name *achaf-hammi*, which literally translates as "cedar house" or "plank house" in Tualatin Kalapuya.

managed to obtain whale bone from these same community interactions. Given the rarity and difficulty in obtaining this resource, the importance is generally looked upon with some reverence and is so far exclusively used in carvings that are part of the regalia of those who have obtained them and used in spiritual practices.

There is a desire by the tribal membership to obtain access to bone for use in both objects of cultural and spiritual practice. There may be an attempt in the future to work with NOAA and other agencies to obtain access, even if limited, to gather this type of material.

Canoes

Grand Ronde's use of the canoe is extremely extensive. The community has a non-profit organization known as the Grand Ronde Canoe Family that organizes the community's participation in the annual Canoe Journey that takes place in the Greater Pacific Northwest. The Canoe Family has participated in the Canoe Journey for the last 8 years, and during that time has regularly used the canoes on inland rivers (primarily the Willamette River, Yamhill River, Santiam River, and Salmon River) and has paddled along the coast in Oregon, Washington, and British Columbia for the purposes of practice, teaching youth the principals of the canoe, and participating in the annual Canoe Journey. While the Canoe Family is a non-profit, its mission and close association with the Tribe have made operations seamless in supporting its goals.[16]

The Tribe has not extensively mapped the entire area of use by the Canoe Family, but in recent years has attempted to track the movement of the canoes via GPS to enable tribal members unable to participate to see the journey and receive updates from those on journey.

3.5.2.11 Cultural Knowledge – Viewshed Issues

Several locations have ethno-historical references as places of importance and continued cultural knowledge and practice. While this list is not comprehensive due to the sample size of tribal members, it is important to note these locations and why they are still considered part of the cultural narrative of Grand Ronde. Each of these locations had at least one tribal member note them as a place of importance for specific reasons, often based on *Ikanum* or oral tradition, which typically included gathering, hunting or fishing.

Clatsop Plains

Several tribal members have indicated that they have gathered shellfish, wapato and camas in this area. Some of them also indicated knowledge of the story about how Coyote created the Clatsop Plains and viewed it as a mythic landscape, and they were concerned about development – both present and future. Of these informants, one elder indicated that being able to see the ocean from the plains was important as part of the narrative of Coyote setting the world in order, and that impacts to this viewshed could undermine the ability to accurately tell the story of how this place was created. Several also discussed their perception of the metropolitan nature of the plains prior to European settlers, and they were curious about impacts to archaeological sites, and specifically villages and burials.

Cascade Head

Cascade Head is a protected location just north of the Salmon River and is managed by the US Forest Service. This bald promontory rises nearly 1,200 feet directly above the Pacific Ocean at the north side of

[16] The primary goal is alcohol and drug prevention for tribal youth.

the mouth of the Salmon River. Many tribal members are aware of the myth titled "The Journey Across the Ocean," a literary account recorded in 1890 by Franz Boas from Salmon River informant Hyas John.

This account has a central motif concerned with people who lived beyond the horizon and across the ocean to the west. In the tale, one of five surviving brothers escaped from these people and ran to his plank house calling out: "the men from the other side of the ocean have taken my brothers." The tale continues: "he went to the top of Bald Mountain (modern day Cascade Head), at the mouth of Salmon River, where he stayed twenty days fasting. Then he dreamed of his brothers. After this he returned to the village and asked all the people to accompany him across the ocean to see what had become of his brothers." There are several variations of this that get repeated but the central theme of people traveling across the ocean and returning to this location remain constant (Boas 1890; Boas 1898:27-30).

In addition, the Tribe has regularly used Camp Westwind which is a camp on the south shore of the Salmon River for Youth Camps and cultural practices. This location was also a fishing camp operated by the Grand Ronde Reservation during its early years. The view to the west from Cascade Head is often used in telling of the tale to youth about cultural knowledge, and is seen by several tribal members as being a location that can be used to obtain spirit power.

Neahkahnie Mountain

Beyond the material covered earlier in regard to Neahkahnie Mountain, several tribal members indicated awareness of the Oral Histories related to the mountain and its association with Ice and the South Wind epic. One indicated that there is an ochre that is white located just north of the mountain, but was not specific in whether it is on the mountain or nearby. The concept of the mountain being a place of power where one could obtain spirit power is also prevalent among those informants who are more knowledgable in cultural practices and history.

Saddle Mountain

Saddle Mountain is an Oregon State Park, and has public access and trails. Grand Ronde's Tribal Historic Preservation Office worked on a joint project in this area for locating potential California condor (*Gymnogyps californianus)* roosting areas in caves on the mountain in 2012. This project was led by David Moen and had tribal staff participating in the survey due to the identification of this area as a mythic landscape (Whale and Thunderbird Story) and its identification as a place to gain spirit power. The location was only noted by tribal members as associated with the myths, but it is very likely that there are other uses, although none became apparent during the interviews.

Ekhanie/Ocean

The most important testimony of tribal members about the ocean revolves around two concepts. The most prominent concern is the food web issue and concerns that large scale projects of any kind could adversely affect it. Specific mentions include the relationship between salmon and kelp beds, the unknown migratory pattern of pacific lampreys, and the potential interrelationship between salmonids and habitat loss.

The other issue identified is the deification of the ocean itself. This concept is captured most eloquently in a quote from the Epic of South Wind: "that Ocean, he's a king, he's the chief of all chiefs." (Deur and Thompson 2008:15).[17] There is a prevalent concept that the ocean is the origin of all food, and the use of resources and places along the coast is perceived as a form of communion with the divine. Tribal

[17] Quote of Bluejay from the South Wind Epic.

members utilize, recreate, and pray in these locations both to obtain needed resources and to participate in spiritual/cultural practices.

4. Analysis and Application

4.1 *Ikanam* Era Stories

The following section presents analysis and application of information gathered and processed as part of this study. The information is based on close to six thousand points of data that were collected through processing historic documents, another fifty archaeological sites, and numerous oral histories and interviews. The purpose of using these diverse data sources is to demonstrate possible applications of each.

Previously presented in Section 3, oral tradition speaks to a repeated telling and understanding of stories with strong reference to practice and place on the landscape, for instance the epic of South Wind's journey. This story originating in the *Ikanam* era, when considered in its recent historical and modern context, refers to many known points on the landscape of today (Figure 13). Often these places are identified by their contemporary place names (e.g. Garabaldi, Trask River, etc). However, many of the earliest recorded versions of these stories do not necessarily cite the same specific loci for South Wind's trials and actions. Even in the modern telling, there are locations of South Wind's deeds that are not linked to readily identifiable geographic features on the landscape today.

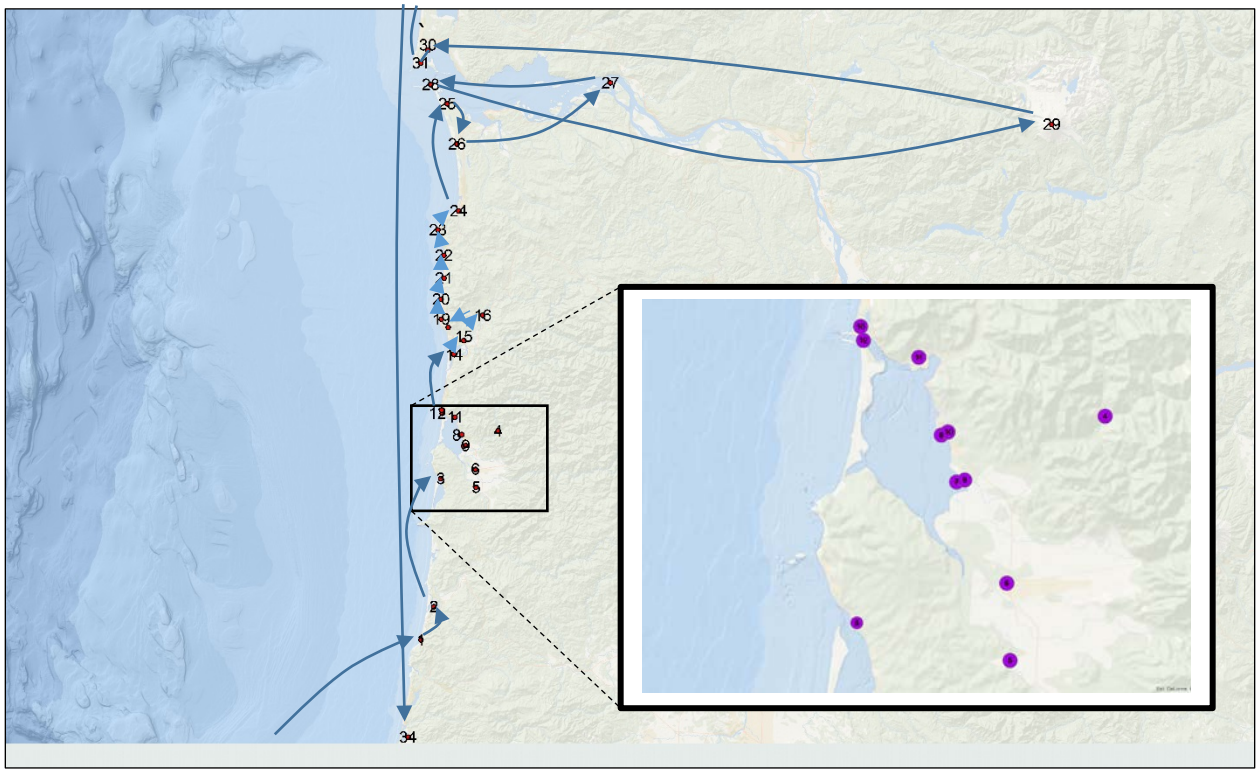

Figure 13. Path of South Wind as told today.

There are numerous explanations for why this may be the case. Those associated with the regional geography revolve around the dynamism of coastal landscapes exemplified annually by landslides, tectonic shifts, erosion, sedimentation, and elevated sea levels. Each of these forces, repeated over

generations, will reshape the landscape beyond recognition from when the stories were first told. Based on the presence of human occupation at Paisley Cave beginning 14,300 years ago, the longevity of "flooding" events in stories of the Willamette Valley Tribes likely reflects the episodic Missoula floods between 15,000 and 13,000 years ago. It is highly likely that people inhabited the coastal region at this time. Based on the projected coastline at approximately 15-13,000 years ago (Figure 14) the coastal region would have been dramatically different and provided numerous locations for South Wind's deeds and actions. This demonstrates that even oral histories and stories require examination and consideration through multiple lenses, due to their ability to speak to landscapes of today as well as the past.

4.2 Oral History

Discussion Themes

NOTE-- the following are only EXAMPLE questions. These are not intended to be "just answer the question" questions. These are to be open ended questions to provide for conversation about a variety of experiences had on the coast. Though geographically the interest area is the north coast any place and resource along the coast is of interest. The key information is place, activity, and resource/s.

How long have you been going to the coast?
What sort of things do you do at the coast?
    Hunt, fish, camp, boat, Art, firewood, other?
Coolest thing done?
Coolest place? Most memorable place?
    If willing to share, What made it so significant?
Ever do things only as just your family or with others?

The information below is a synthesis of several informal unstructured interviews with fifteen different tribal members. In order to facilitate access to information and to allow informants to feel comfortable, each was interviewed in a place of their choosing to discuss this project and was not recorded. Following these initial interviews, each was approached again by a staff member at a local event, which were both cultural and/or tribally sponsored social events. During these interviews, notes were taken on information that was relevant to this study. Each informant was contacted again several weeks later to solicit more information, to which only a few agreed. Notes on these interviews were pulled together and formalized into the synthesis below to ensure that the informants are not personally identified, and that only information relevant to the study is provided.

Tribal members today continue to fish, hunt, and gather clams, basketry material and medicine all along the Oregon coast.[18] Most recently, the Tribe, through agreement with the Oregon Department of Fish and Wildlife now issues and manages all hunting permits on its reservation lands. Tribal members, while restricted from harvesting pinnipeds and whales, have utilized trade networks and familial connections to other indigenous people and reservations to collect whale and seal teeth, bones, and other animal parts for cultural practice or for subsistence. Tribal members who have the ability to access marine mammal parts either through trade or other means have used these parts in the ceremonial practices associated with *achaf-hammi*, the Tribe's Plankhouse. Tribal members interviewed during this project focused on fishing, both in the ocean as well as in the Nestucca and Tillamook Rivers and the mouth of the Columbia River, as well as to a limited extent in the Salmon River.

[18] The Tribe does not have treaty-guaranteed hunting and fishing rights, but the Consent Decree does allow the Tribe to hunt and fish some resources in the Trask Management Unit, and the Tribe has obtained ceremonial hunting rights within the same area under agreement with Oregon Department of Fish and Wildlife.

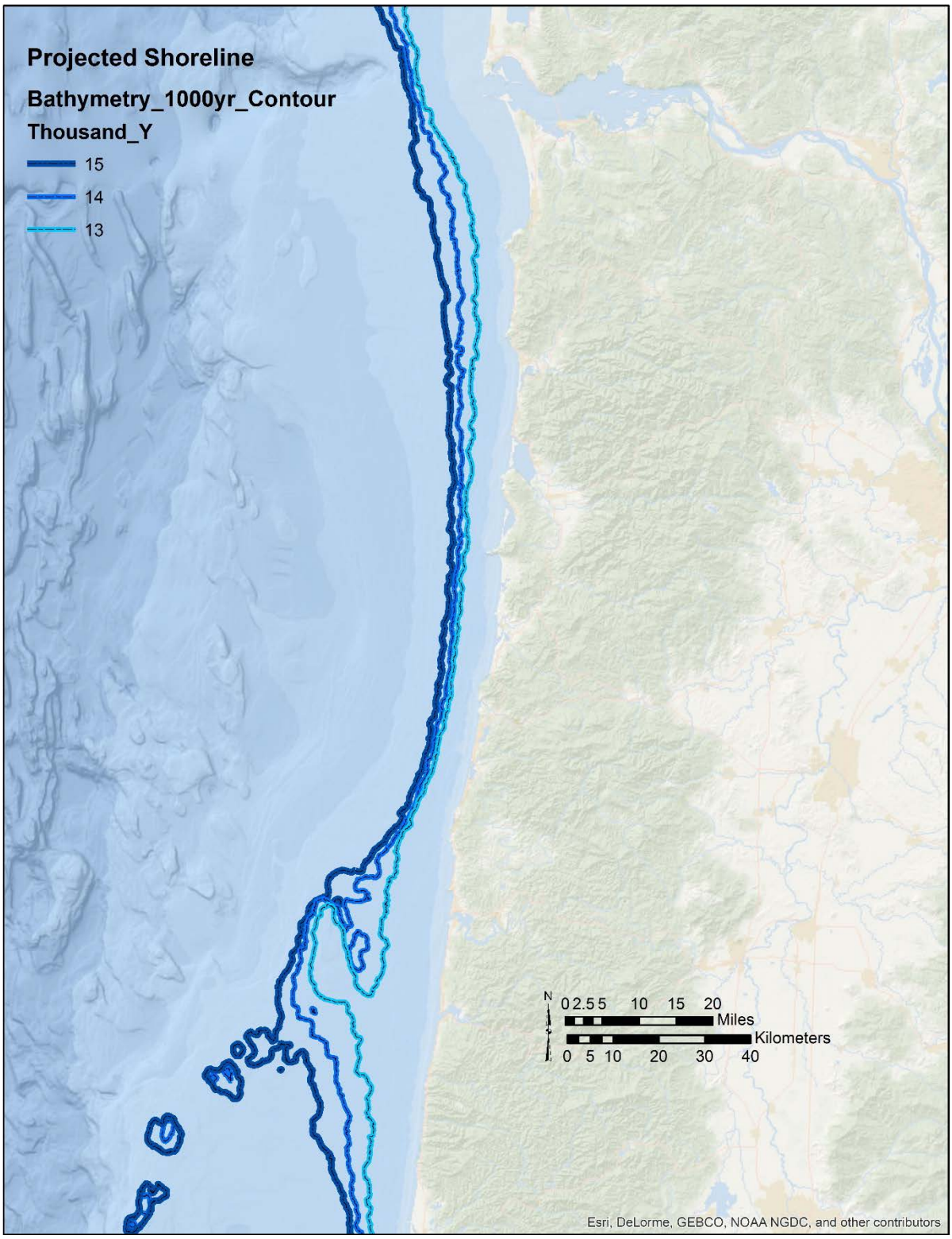

Figure 14. Projected Oregon coastline approximately 15-13,000 years ago.

Examples of this in the community include Tribal members accessing these locations through the Trask Hunting Unit, administered through the Oregon Department of Fish and Wildlife, and the recent agreement between this organization and the Tribe to administer its own game management. Tribal members did have a few specific locations that were mentioned, but these are not being revealed as part of this study. Hunting of game focused on deer and elk, with a very few indicating that bear is also hunted. The largest concentration of this is in the Trask Unit, where tribal members can access both tribal hunting tags as well as state issued permits, and for a few hunters, participation in the ceremonial hunts administered by the Tribe. Hunting of waterfowl was identified by several tribal members, with locations of Tillamook Bay, Coos Bay, New River, Stillcoos Lake and the mouth of the Columbia River being specifically named and relevant to the study area. Species of note were teal ducks and mallards, although other duck subspecies seem to be obtained when possible at these and other locations.

Gathering of shellfish seems to be a bit more problematic: the rules from the consent decree and the method it is administered by ODFW have created confusion on the rights retained by the Tribe. Tribal members who participate in gathering shellfish currently use most of the Oregon coast, with locations around Siletz Bay and north being the areas of use most focused on, and a few folks going as far north as Shoalwater Bay. This distribution could be familial in nature or due to ease of access; more research would be necessary to fully understand the full distribution and access areas.

The Tribe's Canoe Family routinely practices and utilizes the Coast both as part of the annual Canoe Journey as well as part of the practice of teaching youth and tribal members about protocol and uses of the canoe for safety and cultural continuity. The Canoe Journey has had a great deal of tribal participation starting in 2005 and continuing to today. This event usually ranges from 80-150 people traveling along with the canoes as far north as Canada and focusing on travel along the Oregon and Washington coasts. For the last several years the Tribe has mapped these journeys so that tribal members unable to participate in person can take part in the journey through social media. This is important in that current technology is allowing the Tribe to enable membership who would otherwise be disenfranchised from participating to take part in current cultural practices, creating a sense of community.

Likewise, the Tribe's Education Department and Cultural Programs have run annual youth camps and other cultural activities and events at Camp Westwind, a private camping area at the mouth of the Salmon River, the same location as an ancestral village and the fishing location for the Grand Ronde Reservation shortly after relocation. Other locations used for cultural and educational activities have been the B'nai B'rith Center in present day Lincoln City on Devil's Lake and other non-tribally organized locations along the Coast of Oregon.

More tribal members participate in gathering of basketry and traditional art/craft material than any other activity associated with the coast. Gathering of plants for food, medicine and basketry seems to have the widest distribution. Several tribal members have traveled as far as northern California and the Olympic Peninsula. One tribal member has trade networks into Canada and has a collection of yellow cedar. One tribal member identified gathering black seaweed and drying it for later consumption. Resources identified include but are not limited to: camas, shells, spruce root, skunk cabbage and cedar. A unique location north of Neahkhanie Mountain was identified as a location to gather ochre; this material was specifically noted as being 'spiritually' important due to its association with the mountain and the difficulty in obtaining it. The exact location was not identified, but is assumed to be on or near Neahkhanie Mountain.

In most circumstances specific locations were not shared. Hunters and gatherers associated with Grand Ronde keep locations that are deemed lucky or productive inside of social and familial lines and tend not to share them with others. In a few cases very site-specific information was gathered, and has been

generalized to ensure that locations associated with specific tribal members or their families are not overly pressured by increased activity.

Overall, tribal members at Grand Ronde spoke about issues and concerns about the pressure of not having unfettered hunting and fishing rights and the constraints this put on them to subsist and teach the next generation. There is a generalized concern about this important cultural practice not being kept alive, and in the case of one tribal member it is stated quite clearly:

> "We have children in our community, who have never had our traditional foods, they have never eaten salmon or deer. How are we going to keep our culture alive when the most basic things like food are not available for them to experience with their families and community?"

4.3 Cultural Resources and Places on the Landscape

Often assumed to be limited to archaeological sites and associated artifacts, cultural resources for the Confederated Tribes of Grand Ronde refer to more than the physical remains of the Tribe's progenitors. It encompasses the places where artifacts are recovered, places that may not have an artifact-based signature, as well as foods and plants consumed, used, and managed over generations. As a result, although possible, it would be inappropriate to discuss any one resource without inclusion of contextualization afforded by other contributing resources.

For demonstration purposes in this case study, the following discussion is limited to faunal and geographic resources identified through review of ethno-historical and oral history source materials. Figures 15 and 16 below are deliberately at a scale to obscure their exact locations, but they do provide a representation of generalized distribution and density of location. Location in this instance is limited to those places in which specific loci could be discerned from the text either directly or indirectly by associated context. Because terrestrial faunal species, on the whole, tend to have a high degree of mobility and range of distribution, only those with specific locations were georeferenced for this study. For instance, a reference to elk hunting on the coast is not included here, whereas "herding elk into a stone enclosure" at a specific place is included. The result demonstrates a high percentage of historic and oral history-based references to faunal extraction and processing places in close proximity of the shoreline. Their distribution also suggests nodal based concentrations at or adjacent to areas of sheltered and bayed waters.

Archaeologically, this is not a surprise: liminal boundaries between ecological zones are often the places where most archaeological sites are identified. Not only are the archaeological sites found within these interface zones, so too are the places of significance and the known faunal gathering and hunting sites. When examined at a higher resolution, it also is evident that places of significance, gathering, and archaeological sites very rarely overlap – again not a surprise from an archaeological perspective. However, there is a high degree of correlation between the three data sets based on visibility. In short, hunting, gathering, and places of significance have a high likelihood of being visible from one another. In this way, the role of sight lines and viewsheds is emphasized, as discussed by oral history interview subjects and conversations with elders. This conforms to the importance of the practice of teaching by way of traversing the landscape. One of the most utilized modes was via canoe, where paddling from one place to another facilitated the teaching of place and practice.

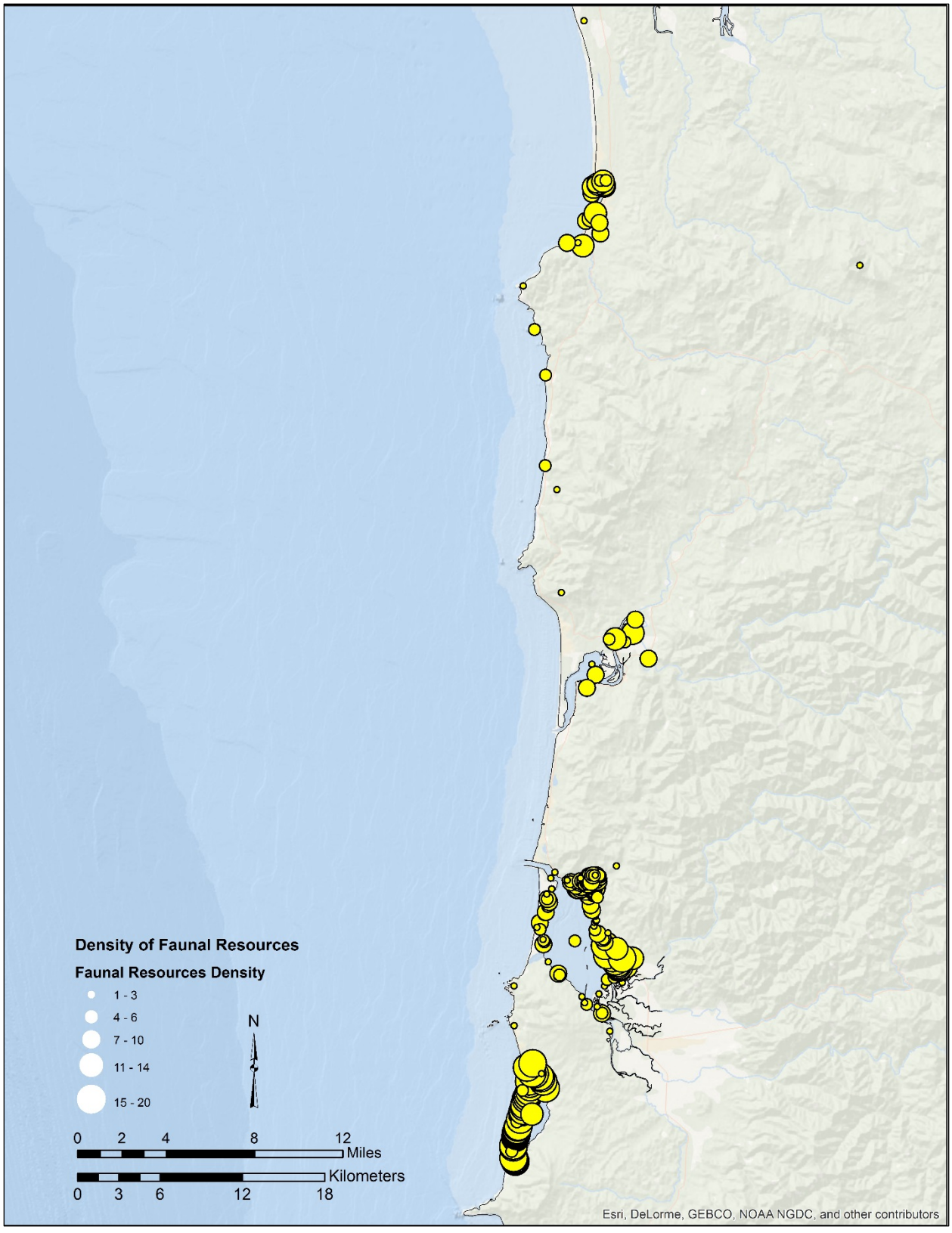

Figure 15. Density of faunal resources as recorded in ethno-historic resources and oral histories.

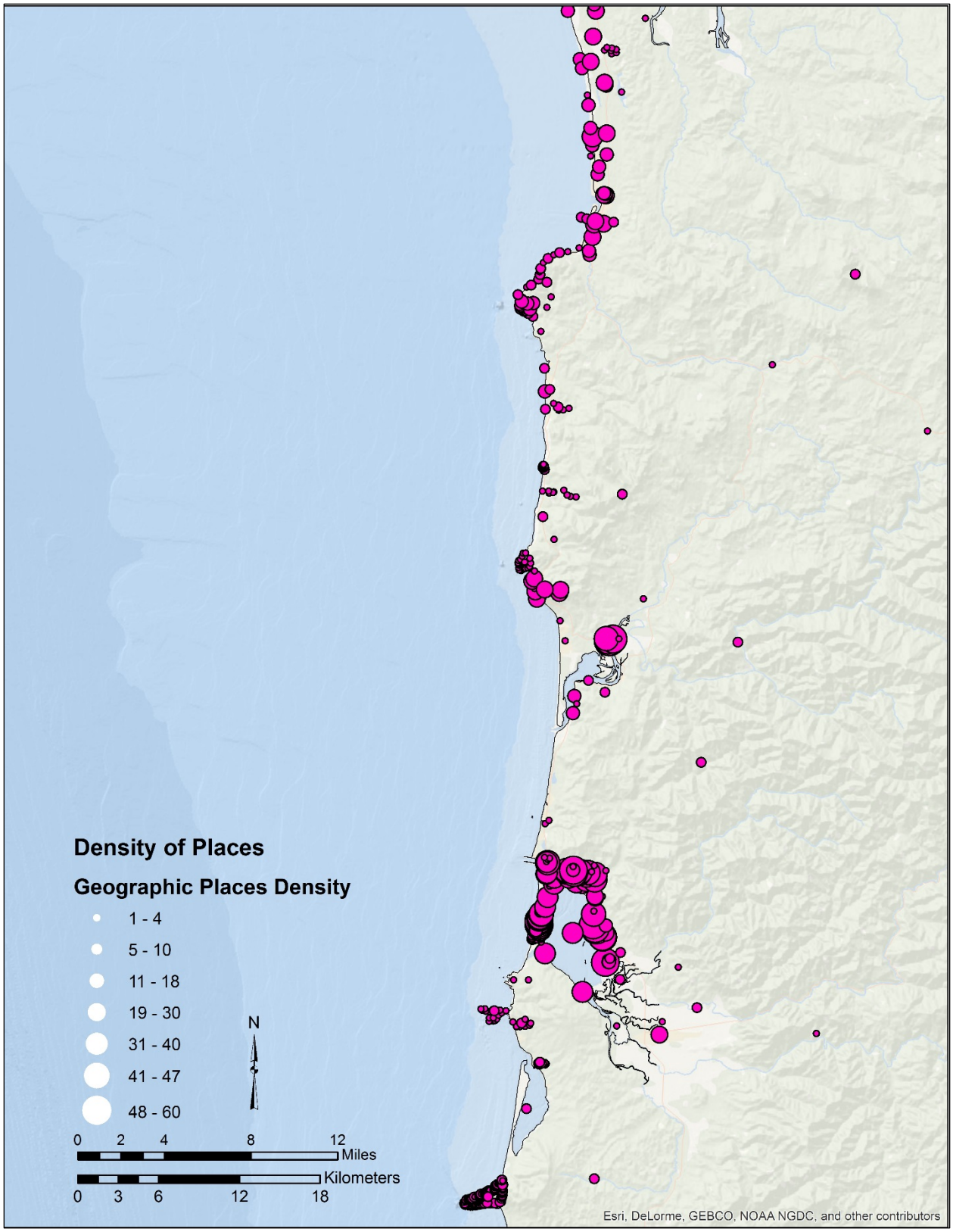

Figure 16. Density of significant places based on ethno-historic resources and oral histories.

In an effort to build a useful tool for modeling and identifying places of concern, "visibility" is a convenient avenue, as it protects the specifics of known site loci and their associated cultural practice (Figures 17, 18, 19). Though it is limited to line of sight concerns, this approach does allow for compiled maps of "sensitivity" in advance of construction projects that may adversely impact lines of sight. In addition to helping identify locations of potential impacts to known places of concern, this approach can contribute to the development of site probability maps.

Based on viewsheds, the distribution of these places within the three study areas demonstrates that the minimum number of relevant sites within 30 miles of shore is ten or fewer, and a maximum off the coast of Tillamook Bay is 30. Because places of concern and cultural practices reflect those of previous generations, employing visibility, line of sight, proximity to liminal environmental interfaces, and other key attributes can help identify places for concerted examination when engaging with submerged paleo-landforms off the coast.

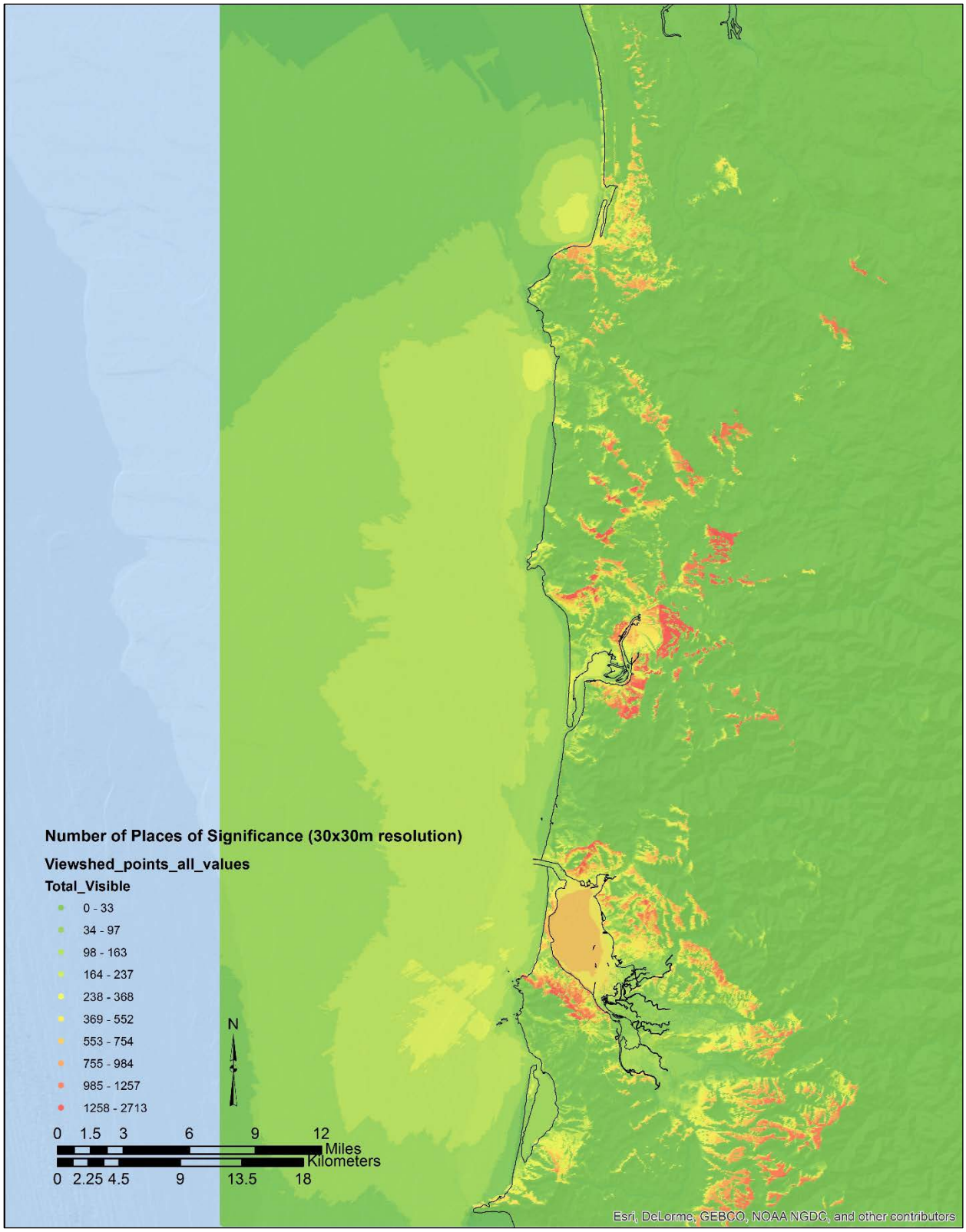

Figure 17. Density plot of all visible places of significance compiled in single image.
Green=low, Red=high**.**

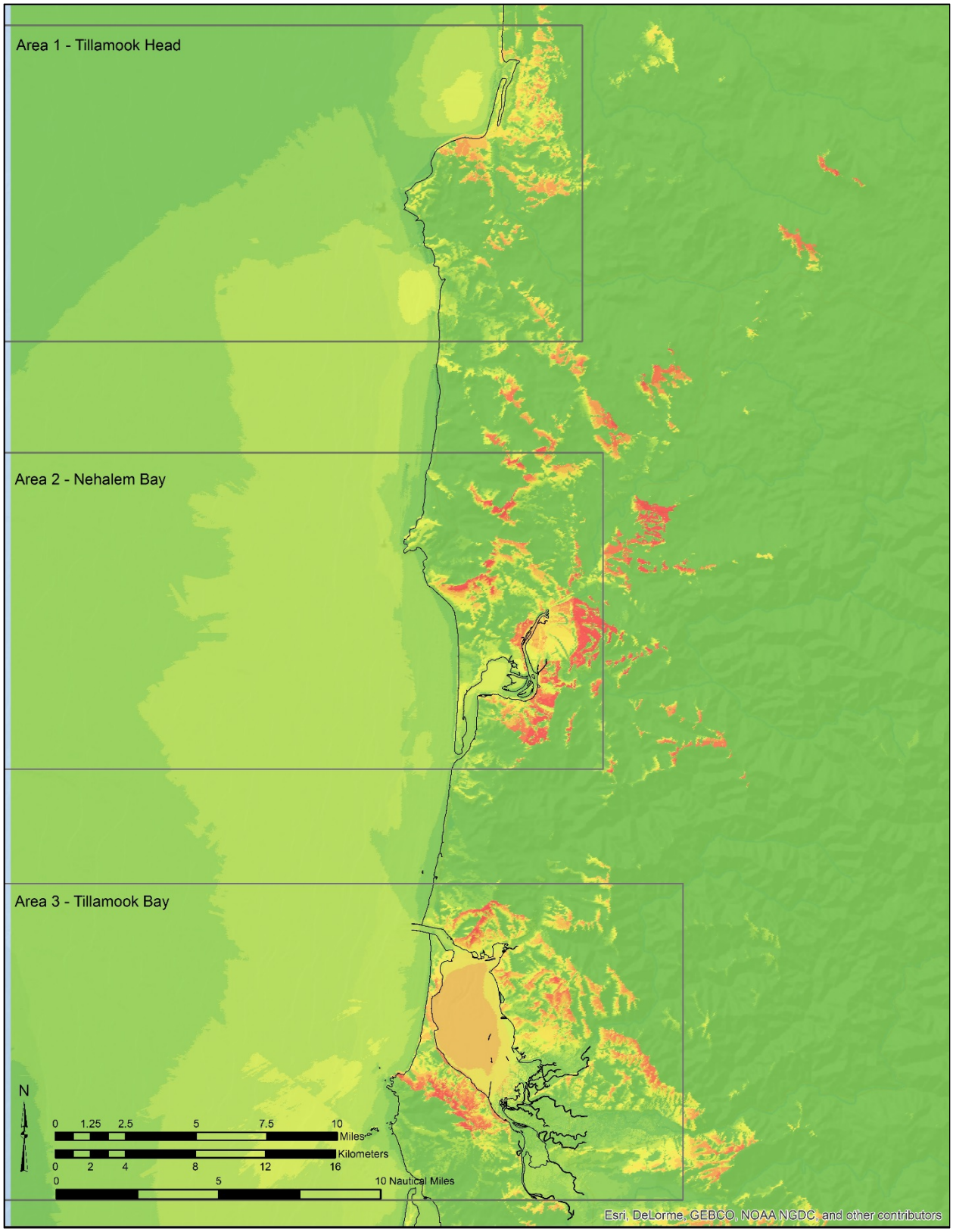

Figure 18. Density plot of all visible places of significance within study areas.
Green=low, Red=high.

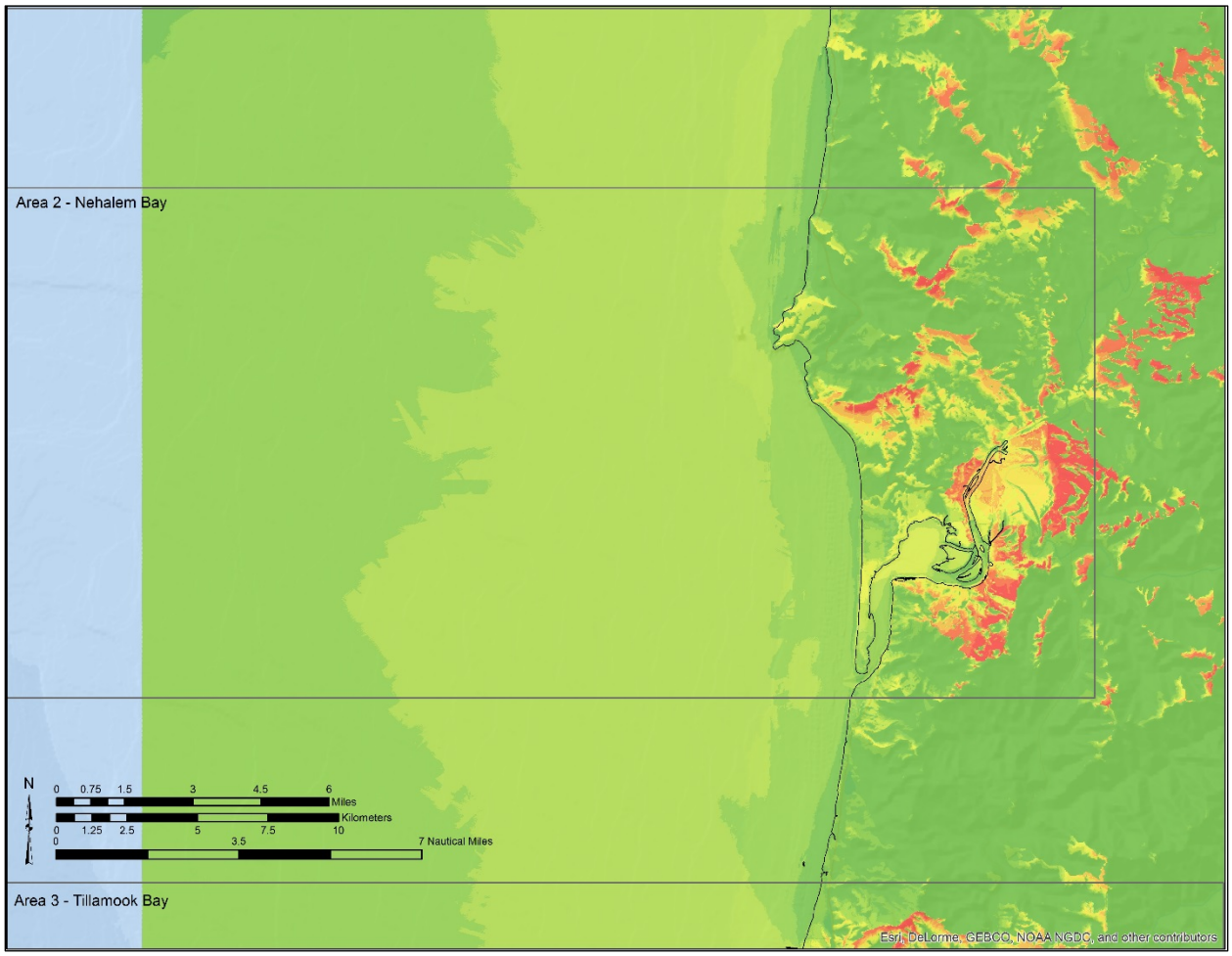

Figure 19. Nehalem Bay study area sensitivity.

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Addendum: Cetacean Hunting at the Par-Tee Site (35CLT20)

ETHNOGRAPHIC, ARTIFACT AND BLOOD RESIDUE ANALYSIS INVESTIGATION

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Senior Honors Thesis

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Project Summary

The Confederated Tribes of Grand Ronde Community of Oregon (CTGR), Land and Culture Department, Tribal Historic Preservation Office is creating an ethnographic and ethno- historical database to quantify ethnographic data related to the Northern Oregon Coast.

Specifically, the area of interest was the historic land and sea base of two distinct yet, intimate communities, the Salish speaking Tillamook and the Chinookan speaking Clatsop, who lived near the mouth of the Columbia River. As an intern in the Tribal Historic Preservation Office of the CTGR I helped complete these tasks of analyzing and organizing the previously created ethnographic database. The purpose of the database is to provide statistical figures in the interpretation of oral histories and pursue the validation or negation of the ethnographic data using archaeological investigations. This ethnographic data was recorded in Geographic Information Systems (GIS) software to provide a geographic representation of the material.

Due to the high prevalence of ethnographic information related to whales and porpoises (cetaceans), and a need for CTGR to verify this ethnographic information, I focused on an archaeological site situated within present day Seaside, Oregon. The Par-Tee site (35CLT20), a complex archaeological site contains evidence of whale hunting. I investigated whether active or opportunistic cetacean hunting occurred at the site location by Tillamook and/or Clatsop peoples during prehistoric times. In addition, I sought to identify the harpoon technology which may have been used to hunt large sea mammals via blood residue analysis. Future, radiocarbon dating is also planned on the material remains of the whale hunting event, specifically a humpback whale phalange with an embedded elk bone harpoon point, to determine the antiquity of whale hunting within the region. All material remains examined in this report originated from within the Par-Tee site, collections which are now housed at the Smithsonian Institution's National Museum of Natural History.

Introduction

In this project I explore the importance of whales and other cetaceans to prehistoric peoples who inhabited the Northern Oregon Coast, from the mouth of the Salmon River northward to the mouth of the Columbia River. This area is thought to be associated with both the Tillamook and Clatsop tribes. Site 35CLT20, also known as the Par-Tee site, is located near the territorial interface of the tribes at the southern extent of Seaside, Oregon. The site is culturally associated with the Tillamook, as determined by the National Museum of Natural History (NMNH), Smithsonian Institution. The cultural connection was established during a repatriation claim by the CTGR (Arbolino et al. 2005). The site was originally excavated by amateur archaeologists George Phebus and Robert Drucker during the late 1960's and 1970's. Phebus and Drucker (1979) attributed the site to a prehistoric maritime culture. Maritime cultures are considered to have acquired a large portion of their caloric or protein intake from marine resources. Historically in the Pacific Northwest only communities located further north than Oregon in Washington (Makah, Quinault, and Chehalis) and Vancouver Island, British Columbia (Nuu-chah-nulth and Ditidaht) have been recognized by anthropologists as whaling cultures (Losey and Yang 2007; Underhill 1978). However, ethnographic and ethno-historical data document the practice of whale hunting and scavenging occurring along the Oregon Coast. For example, a historical reference of whale hunting by the Siuslaw (located south of the project area) states:

"It took about a year to make one of those graceful, powerful war canoes, a craft in which they journeyed 75 to 100 miles into the ocean on whaling expeditions, catching whales weighing 60 to 80 tons. In towing these heavy loads they formed the canoes into a long chain for added power" (Knowles 1965:9).

Such historical accounts provide anthropologists the opportunity to speculate that whaling could have occurred along the Oregon Coast during prehistoric times.

Recently, Robert Losey and Dongya Yang (2007) demonstrated that opportunistic whale hunting was conducted by the inhabitants of the Par-Tee site. Losey and Yang found evidence of a broken elk bone harpoon point imbedded within a humpback whale (*Megaptera novaeangliae*) phalange. DNA analysis conducted on the bone harpoon point demonstrated that the elk DNA matched the unmodified elk bone within the collection, suggesting that the tool was made and used locally (Losey and Yang 2007:669). However, Losey and Yang did not address ethnographic and ethno-historical data relevant to whale hunting among the Tillamook and Clatsop tribes, data which suggest whaling may have occurred historically in the region. In addition, no supportive evidence was provided for the hunting technology that would have been used to take these large sea mammals.

I expand upon the research initiated by Losey and Yang (2007) by analyzing ethnographic and ethno-historical data pertaining to whales, whale hunting, and whale scavenging among the Tillamook and Clatsop Tribes. In addition, I explored the potential for whale hunting technology among the prehistoric peoples of the region via comparative artifact analysis and blood residue analysis. Comparative analysis of harpoons from the Par-Tee site was conducted at the Smithsonian Institution's National Museum of Natural History during June 2013. Using computed tomography (CT) scans of the humpback whale phalange (NMNH Number: A556355-0), I determined the dimensions of the imbedded point. After arranging for a loan of a sample of the Par-Tee harpoon points to the University of Oregon Museum of Natural and Cultural History (MNCH), I worked with Dr. John Fagan at Archaeological Investigations Northwest Inc. (AINW) to conduct blood residue analysis on twelve harpoon points in an attempt to determine the species hunted with them.

Maritime Adaptions on the Northwest Coast

The Oregon Coast comprises a portion of the kelp forests which run from Japan to South America. Research has demonstrated that the peopling of the Americas likely occurred along this rich resource belt often termed the kelp highway (Erlandson et al. 2007). This suggests that maritime cultures within Oregon may have significant time depth. However, current understanding of ancient coastal sites beyond 4000 years is limited in Oregon, due to sea level rise, tectonic forces, tsunamis, and erosion (Erlandson et al. 1998).

The Oregon Coast is part of the Pacific Northwest Coast Culture Area which encompasses the area from Cape Mendocino in Northern California to Yakutat Bay in Alaska (Aikens, Connolly, and Jenkins 2011:211; Lightfoot 1993:167). Differences exist between the Northern and Southern Northwest Coastal regions. In Alaska and segments of British Columbia the bordering mountains are steep and high generally lacking coastal plains but containing, numerous offshore islands and protected marine waters. This results in coastal areas much more easily accessible than terrestrial areas to coastal peoples. In contrast, California, Oregon, and Washington contain much larger areas of unprotected high energy coastlines with less imposing coastal mountains and coastal plains, making terrestrial species more available (Aikens, Connolly, and Jenkins 2011:212–213; Drucker 1955:5; Moss and Erlandson 1995:6–8). Thus, in studying subsistence practices within different coastal areas, anthropologists expect to find a higher emphasis on marine species where terrestrial species are more limited.

Anthropologists differ in their interpretations of maritime culture or maritime adaptions and the prerequisites in defining these cultural patterns. It is implied that maritime groups lived near and attained a significant portion of their subsistence from the sea, possessed seaworthy watercraft, potentially hunted large sea mammals, and obtained some foods from resources beyond the littoral zone (Workman

and McCartney 1998:361–362). Often, extensive sea mammal hunting, deep sea fishing, semi-sedentary villages (containing semi-subterranean houses), and the accumulation of large shell middens have been considered hallmarks of maritime cultures (Lightfoot 1993:175; Workman and McCartney 1998:364). These cultures often termed "complex hunters gatherers" live relatively sedentary lives, based on large-scale food processing and storage, the presence of large houses, complex technologies, higher populations, the ability to affect their surrounding environment, the accumulation of large shell middens, and developed social complexity (occupation specialization and social stratification) (Ames 1999:25–28; Aikens, Connolly, and Jenkins 2011:212–217; Butler and Campbell 2004:328; Lightfoot 1993:178; Erlandson et al. 1998:9). The features outlined above are witnessed within the Northwest Coast and the project area.

Shellfish use in the form of well-developed middens becomes apparent in the Northwest Coast around 5000 B.P. (Lightfoot 1993:173; Workman and McCartney 1998:364). The oldest known fish trap, associated with mass storage of fish, on the Southern Northwest Coast is dated to ca. 2400 B.P. (Erlandson et al. 1998:15; Tveskov and Erlandson 2003). The specialized sea mammal hunting technology (i.e. the composite "toggle" harpoon) is present on the Northern Northwest Coast by 3000 B.P., with barbed bone dart points present between 6000 B.P. and 5000 B.P.(Workman and McCartney 1998:365). The oldest large rectangular structure on the Northern Oregon Coast (Palmrose site 35CLT47) has been dated to 2600 B.P. and 1700 B.P. (Phebus and Drucker 1979:9; Connolly 1992; Aikens, Connolly, and Jenkins 2011:247). It is not until the Late Holocene (~3500 years ago) that a vast majority of archaeological sites (94%) along the Southern Northwest Coast exhibit the prerequisites for complex hunters, gatherers, and fishers with maritime adaptions (Erlandson et al. 1998:9–10; Moss and Erlandson 1995:14). The dearth of old sites along the Oregon Coast makes it difficult to understand the deeper history of the evolution of maritime cultures in the area.

Geomorphology of the Oregon Coast and of the Seaside Area

Early sites (Before 4000 B.P.) are rare along the Oregon Coast. This is due to geologic factors such as erosion, landslides, tsunamis, and tectonics forces of the Cascadia Subduction Zone (Erlandson et al. 1998). Together the natural phenomenon have affected site preservation and visibility (Minor and Grant 1996; Lightfoot 1993:174). Changes in sea level and coastal geomorphology are believed to have affected prehistoric settlement within the last 3000-4000 years B.P. (Connolly 1992:47; Butler and Campbell 2004:335). Due to the rarity of ancient sites, understanding prehistoric resources, and their use, within coastal regions is often limited to later sites (Erlandson et al. 1998; Moss and Losey 2003).

The city of Seaside, Oregon is located at the southern extent of the Clatsop Plains. The plains are comprised of sand dunes, beach ridges, and other sediment accumulations from the Columbia River and Tillamook Head. The coastal plains represent the sedimentation of an ancient estuary once present within the Seaside region (Connolly 1995). The sedimentation reportedly began 3,500 years ago, with 400 year old dunes making up the primary dunes in Seaside, west of the Necanium River (Connolly 1992; 1995). (Figure 1 [in thesis; Figure 20 in this document]).

Shellfish remains from the Par-Tee, Palmrose, and Avenue Q sites in Seaside provide evidence that a quiet-water estuary once existed within the area (Phebus and Drucker 1979; Connolly 1992; 1995). In addition, evidence of tectonic subsidence events have been documented within the project area based upon abruptly buried peat deposits dated between 2000 and 450 B.P. (Connolly 1992; 1995). The last large earthquake and tsunami event along the Oregon Coast is believed to have occurred in AD 1700.

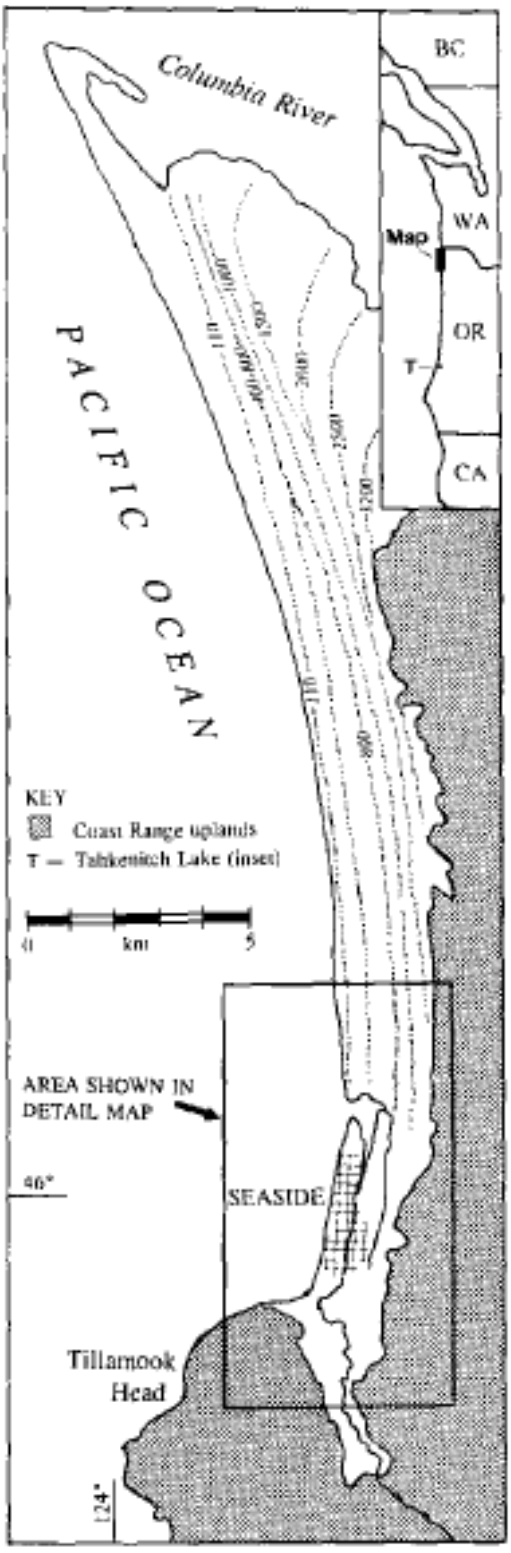

Figure 20. [Figure 1.] Map of the Clatsop Plains and Seaside, Oregon, demonstrating dune ridge chronology.

Ethnographic Background

The Tillamook and Clatsop peoples inhabited a large geographic area beginning near the mouth of the Columbia River (Clatsop) and continuing south to the Siletz River (Tillamook) (Verne 1975:123; Jacobs and Seaburg 2003:2; Aikens, Connolly, and Jenkins 2011:216). During the historical era the interface of these two tribes was located near the present location of Seaside, Oregon (Lewis et al. 1904:vol. 3; Jacobs and Seaburg 2003:2). It is unknown if this boundary extends back to pre-contact times or if this was a recent phenomenon due to population loss and displacement. However, the Clatsop and Tillamook people shared a close cultural connection and members of both groups often intermarried (Jacobs and Seaburg 2003:4; Arbolino et al. 2005:6). During the historical period Clatsop tribal members also adopted the Tillamook language (Boas 1894; Jacobs and Seaburg 2003:4; Arbolino et al. 2005:6). Today members of the Tillamook and Clatsop are represented at the CTGR, the Confederated Tribes of Siletz Indians of Oregon, within the federally unrecognized Clatsop-Nehalem Confederated Tribes, the federally unrecognized Chinook Nation, and other tribal communities.

Due to evidence that the Tillamook and Clatsop have shared a common territory, a certain amount of cultural overlap occurred. Because ethnographic research suggests that cetacean hunting may have occurred within both groups, I will approach the ethnographic information of these populations together.

Tillamook

The word Tillamook is a Chinook word for the people meaning "Those of Nehalem" (Boas 1965:3; Crawford 1983:4; Edel 1939:2). The Tillamook represent the most southern group of the coastal Salish (Boas 1898:23) and were divided into two main groups: the Nehalem of the north and the Siletz in the south (Edel 1939:2). The Tillamook language was spoken along the Northern Oregon Coast and along all coastal rivers south to Siletz (Edel 1939:2; Jacobs and Seaburg 2003:2).

It has been noted that dialect variations existed within the Tillamook language, including Nehalem, Tillamook, Nestucca, Salmon River, and Siletz (Crawford 1983:4). Concerning the Tillamooks, Melville Jacob's stated that, "All one has a right to say is that river villages, speaking a number of Tillamook-Siletz provincialisms, occupied or possessed this territory. They were neither one tribe, nor two tribes, nor many tribes" (Jacobs and Seaburg 2003:2). In AD 1805 Lewis and Clark noted the similarities of the Tillamook (Kil-a-mox) and Clatsop, "The Kil- a-mox in their habits and customs, manner dress and language differ but little from the Clatsops, Chinooks and others in the neighborhood" (Lewis et al. 1904:vol. 3:326).

Linguistic data suggest that the Tillamook migrated southward from the Strait of Georgia or Puget Sound region. Although no dates have been provided for the time of the potential migration, the northern region exhibits Salishan-Marpole phase sites, similar to the Palmrose site in the Seaside area, suggesting a migration 2400 RYBP and 1500-1000 RYBP (Moss 2011:98). Tribes from the northern region (Strait of Georgia and Puget Sound) conducted whale hunting to some extent, perhaps the ancient link to whaling witnessed in Oregon is tied to a migration from the northern region. However, further research is needed to confirm the connection. In addition, linguists have concluded that Tillamook and Chinook languages had converged grammatically demonstrating the close relationship of these two distinct people (Arbolino et al. 2005:8–9).

Clatsop

The Clatsop are Penutian speakers of the Chinookan tribe living from the south bank of the Columbia River, along the Clatsop Plains and inland (Verne 1975). The Chinook and Clatsop were renowned traders

and fisherman who demonstrated superb canoe handling and navigation (Lewis et al. 1904:vol. 3 part. 2; Verne 1975). The Chinook facilitated trade north and south along the coast and the interior (Drucker 1955:12; Braun 1999:30). Items traded included whale meat, blubber and oil obtained through trade with the Makah, Nuu-chah-nulth and Quinault (Braun 1999: 32). However, according to ethnographic and ethno-historical sources these resources were also acquired locally (Lewis et al. 1904:vol. 3: 324-325; Ray 1938:114; Duer 2005: 117). During the historical era the Clatsop adopted a variety of languages such as Tillamook and Chehalis (Boas 1894).

The Clatsop have inhabited the Clatsop Plains for many generations. This is supported by tribal oral history including, a creation story related to the formation of the Clatsop Plains which began around 3,500 years ago (Evans and Hatch 1999: 13) . The indigenous knowledge of the geomorphology of the region could provide a time marker for habitation as many native oral histories are based on aboriginal knowledge.

Archaeological Investigations Based on Ethnographic Information

Anthropologists differ on the validity of oral histories and their use within archaeological research. The issue is confounded when ethnographic information is applied to ancient sites.

Prior research investigating ethnographic and ethno-historical data have had varied results. For example, intensive salmon fishing is often linked to the growth of social complexity and sedentism within the region (Workman and McCartney 1998:367). It has been noted that estimates of salmon consumption within Northwest sites have been inflated with smaller fish often underrepresented (Tveskov and Erlandson 2003; Butler and Campbell 2004:330). Tveskov and Erlandson (2003) demonstrated the archaeology of tidal fish weirs supported native oral histories related to the technology, with weirs dating to 2000-3000 years ago. Tidal fish weirs were used during salmon runs but were also part of the day to day life of indigenous peoples catching a variety of fish species.

Other research, based on indigenous knowledge and western science, has shed light on geologic forces and the effects that earthquakes and other natural disasters have had on native populations. The Cascadia Subduction Zone is familiar to geologists and anthropologists within the region. McMillan and Hutchinson (2002) demonstrated that Northwest indigenous knowledge related to earthquakes, landslides, and tsunamis had validity when viewed alongside current geologic data. Indigenous knowledge related to geologic events often involved mythological figures that created earthquakes and tsunamis. Although not all events within oral traditions were datable, recent accounts of a Cascadia subduction earthquake and tsunami in AD 1700 were recounted by many indigenous communities demonstrating the accuracy of traditional oral histories during the last hundred years.

Therefore, research based upon oral traditions, previously conducted within the region has demonstrated that native oral histories can provide valuable insights into geologic and archaeological investigations.

Quantifying Ethnographic Data

An ethnographic and ethno-historical data set was established by the CTGR Tribal Historic Preservation Office, Land and Culture Department. This data set provides the foundation for the ethnographic section of this project. Sources utilized represent Tillamook and Clatsop ethnographic sources summarized in Appendix 1.

Entries were input according to the reference's description of faunal resources, with data recorded for the variables type, common name, Latin names, date, season, month, use, source and page number (Table 5 [Figure 2]).

Table 5. [Figure 2.] Example of Ethnographic Database.

Courtesy of The Confederated Tribes of Grand Ronde, Land and Culture Department.

Record	Type	Name_Common	Name_Latin	Date	Season	Month	Myth_times	Historic_times	Modern_times	Hunting_Fishing	Gathering
FAU-0996	Mammals	Whale					y			y	
FAU-1104	Mammals	Whale						y		y	
FAU-1085	Mammals	Whale						y		y	
FAU-1114	Mammals	Whale						y		y	
FAU-1275	Mammals	Whale							y	y	
FAU-1282	Mammals	Whale							y	y	
FAU-1081	Mammals	Whale					y				
FAU-0951	Mammals	Whale					y	y			
FAU-0956	Mammals	Whale					y			y	
FAU-0876	Mammals	Whale					y			y	
FAU-0878	Mammals	Whale					y				
FAU-0880	Mammals	Whale					y				
FAU-0881	Mammals	Whale					y			y	
FAU-0883	Mammals	Whale					y			y	
FAU-0894	Mammals	Whale					y			y	
FAU-0981	Mammals	Whale					y			y	
FAU-1040	Mammals	Whale					y			y	
FAU-1021	Mammals	Whale					y				
FAU-0310	Mammals	Whale						y		y	
FAU-0346	Mammals	Whale						y		y	
FAU-0440	Mammals	Whale					y				

Record	Type	Name_Common	Name_Latin	Date	Season	Month	Myth_times	Historic_times	Modern_times	Hunting_Fishing	Gathering
FAU-0546	Mammals	Whale						y			
FAU-0552	Mammals	Whale					y			y	
FAU-0553	Mammals	Whale					y				
FAU-0584	Mammals	Whale					y				
FAU-0606	Mammals	Whale					y				
FAU-0627	Mammals	Whale					y			y	
FAU-0629	Mammals	Whale					y			y	
FAU-0632	Mammals	Whale					y				
FAU-0768	Mammals	Whale					y			y	
FAU-0770	Mammals	Whale					y			y	
FAU-0772	Mammals	Whale					y			y	
FAU-0815	Mammals	Whale					y			y	
FAU-0832	Mammals	Whale					y			y	
FAU-0837	Mammals	Whale					y			y	
FAU-0838	Mammals	Whale					y			y	
FAU-0865	Mammals	Whale						y		y	
FAU-0871	Mammals	Whale					y			y	
FAU-0874	Mammals	Whale					y			y	
FAU-0798	Mammals	Whale					y			y	
FAU-0580	Mammals	Whale					y				
FAU-0525	Mammals	Whale						y			

Exploration_Relocation	Trade	Transformation	Flora_Association	Fauna_Association	Geography_Association	Keyword	Landform
					Bay City		
					Cannon Beach		
					Dicks Point	*Hobsonville Mill*	
					Gray's Harbor		
					Idaville		
					Netarts Spit		
					Saddle Mountain		
			Roots/ Berries				
							Ocean
				Snake			

Exploration_Relocation	Trade	Transformation	Flora_Association	Fauna_Association	Geography_Association	Keyword	Landform
				Crow			
	y		*Plant*	*Crow*			
				Dentalia			
	y						
	y						
				Snake			

Use_1
South Wind finds a whale on the beach near Bay City, but since he had no knife he didn't know what to do about it.
At Cannon Beach in 1853 Warren Vaughan saw a "captured" whale being cut up. Pieces of blubber and meat were cooked in full-sized canoes by adding water and fire-heated rocks---the fat was skimmed off with
bones, used for the burial ritual bows, secured in the tops of young trees by the two men in the early 1930s who unearthed then reburied canoe burials at Dicks Point after the Hobsonville Mill incident
Smith claims that earlier generations living north of Grays Harbor used to hunt whale, using it as a "portion of their ordinary subsistence".
bones removed from shell midden during 1953 excavation at Rube Wilkens' farm at Idaville
bones removed from shell midden during 1951 (?) excavation by University of Oregon at Netarts Spit
eaten by Thunderbird on the summit of Saddle Mountain
As'ai'yahal convinced two men sitting by the fire together in a house, NctâlE'qsen (flint nose) and TaLE'qtEn (copper for making arrow-points), to fight so that he could have a knife to cut up some of the stranded
meat; the present given to the Tillamook by Txaxá' after they lost the ball game challenge and their stake of roots and berries
caught by Thunderbird like fish
When Thunderbird brought home his catch, the whale would jump and shake the whole mountain. The man staying with Thunderbird was hurt twice trying to watch.
thought by people to be at sea with birds sitting on it, but it was a whale skin covered canoe with people from across the ocean
The men on the other side of the ocean had gone whaling, including the chief, when the last living brother returned to find his wife and son.
meat, in the house of two blind women living on the other side of the lightning door
meat, given in thanks to the canoe men for giving mouths to the mouthless people
pets of Ocean, as were other "ugly animals"
South Wind cut up a whale on the occasion when the old gnarled man visited him, to celebrate and to feed the old man.
The man with the snake belt told a whale that when South Wind packs him, he should pull South Wind out into the ocean. He did, and South Wind was stuck with the whale in the ocean for months, getting cold a
fat, for brighter indoor lighting
grease, drunk in hot soups
beached by Thunderbird, property of man with Thunder power, owner cuts off dorsal fin then sells pieces to others

Use_1
food, measured by number of joints of the backbone
eaten by Ice and his party, sliced by a character called Sharp Nose
two whales breathed into whalers' sweat for Ice and his party, filling the house with steam
A woman's invisible husband and his people brought a whole whale to her.
Crow was eating pitch from a log on the beach, and calling it whale.
hunted by the men living in Thunderbird's place
Thunderbird loved to eat the tail of a whale
hunted by Crow's niece's nephew, traded for plants
Crawling One wished for a big fresh whale and one appeared. He cut it up into pieces.
meat, that Split-His-Own-Head's sister asked her brother to go buy with dentalia she gave him
Split-His-Own-Head's sister told him to go along on a trip to buy whale meat, and he sat beneath the people paddling
meat, served to the man with a crooked leg by South Wind, from a whale South Wind brought home with him from Bay City, that had meat taken from it but never died
like fish to Thunderbird. He would catch them for food, and cut them up on a big board
back fin is the best part, the big fat part. It was taken home to burn in the fire of the man who owned the whale.
Human flesh (meat from face and body, stomach, liver, kidneys) from captured people was used by Those People as whale bait.
the most precious food to the Tillamook
bought by Split-His-Own-Head
bought by Split-His-Own-Head
The man with the snake belt told a whale that when South Wind packs him, he should pull South Wind out into the ocean. He did, and South Wind was stuck with the whale in the ocean for months, getting cold a
Clam Eater stood on a whale until Ice and the people went home, leaving him standing in the rising tide.
eaten by the Tillamook

Source
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Analyzing the quantified ethnographic data for 1,260 entries, I found that 600 entries represented mammals comprising 47.6 percent of all accounts. The two additional fauna with significant percentages were fish (20.6 percent) and shellfish (11.6 percent). Accounts of mammals were dominated by elk (18.5 percent), whale and porpoise (10.3 percent), deer (9.5 percent), beaver (7.5 percent) and bear (6.8 percent). Additional marine resources such as sea otter (2.6 percent), sea lion (3 percent), and seal (4.3 percent) also account for significant percentages of the data. Based upon the high frequency of whale and porpoise, seals, sea lions, and sea otters within the ethnographic data, I focused on marine mammals for my research. I was particularly interested in the gap between the ethno-historic significance of cetaceans and archaeological evidence for the hunting of such animals on the Northern Oregon Coast.

Note on Ethnographic Information: Population Loss and Site Antiquity

Three archaeological sites within the Seaside area are well recognized today. In order of antiquity they include the Palmrose site (35CLT47) (800 B.C. to A.D. 400), the Par-Tee site (35CLT20) (A.D. 300 to 1150), and the Avenue Q site (35CLT13) (A.D. 400 to 1000) (Arbolino et al. 2005:12–16). Because of the antiquity of the Par-Tee site, the application of ethnographic data in interpreting its archaeological materials may be viewed as speculative. However, I seek to demonstrate that the concepts and practices represented within the ethnographic data could provide a lens into prehistoric customs. There are pros and cons related to ethnographic data use in interpreting ancient sites. Researchers have suggested that archaeologists should use archaeological evidence to test whether ethnographic models may be seen in antiquity (Moss and Erlandson 1995:29). However, Moss and Erlandson (1995) also cautioned that the combined effects of disease and land displacement following European contact had major effects on indigenous communities (Underhill 1978:32–33).

On the Northern Oregon Coast Lewis and Clark noted the effects of European diseases on the Clatsop, "This nation (Clatsop) is the remains of a large nation destroyed by the Small pox or Some other [diseases] which those people were not acquainted with" (Lewis et al. 1904:vol.3: 245). In addition, researchers have noted other illnesses such as sexually transmitted diseases, which were introduced by sailors and traders within the Columbia River region as early as 1780s (Thornton 1987:83). Lewis and Clark also noted the potential that procreation (between natives and Europeans) had occurred, the expedition met a member of the Clatsop of which they stated, "With the party of the Clatsops who visited us last was a man of much lighter Coloured than the natives are generaly, he was freckled with long duskey red hair, about 25 years of age, and must certainly be half white at least, this man appeared to understand more of the English language than the others of his party, but did not Speak a word of English, he possessed all the habits of the Indians" (Lewis et al. 1904:vol. 3: 301). For more information of early European contact see *Log of the Columbia 1790-1792* (Society 1920).

Mortality estimates associated with Old World disease epidemics in the Columbia River region vary from 80%-95% population loss dependent upon area and population density (Ramenofsky 1987:7–8; Aikens, Connolly, and Jenkins 2011:411–412). Smallpox outbreaks were noted to have begun as early as AD 1775 and continued into 1853, right before the reservation era.

Campbell (1990) suggested smallpox may have spread from Mesoamerica to the Pacific Northwest during the 1520s. However, Boyd (1999) states that the hypothesis of a smallpox related population decline must be tested in comparable archaeological regions before the hypothesis of a 1500's smallpox epidemic can be accepted (16). Other diseases affected natives within the region such as venereal disease, measles, malaria, influenza, and dysentery (Aikens, Connolly, and Jenkins 2011:410–415). The combined effects of disease and removal from aboriginal lands must be understood to make sense of the ethnographic record. Yet, the ethnographic information may be viewed as a means of deeper interpretation of the archaeological record.

Lewis and Clark provide insight into the lifeways of Northwest tribes half a century before the reservation era began in the late 1850's. During the late 1800's when researchers such as Franz Boas were recording oral histories in Oregon, attempts to assimilate native peoples were underway. As many native people became wary of Europeans, researchers were limited to a small number of consultants willing to speak with anthropologists. Often, researchers conducted redundant questioning (confirming the accuracy of previous work) with a limited number of subjects. Beginning with Gatschet in 1877 through Crawford in 1977-78, fourteen anthropologists over a century spent a total of fifteen months with the Tillamook (Jacobs and Seaburg 2003: 9-29).

Edel (1944) has demonstrated that Tillamook oral histories and there narrations exhibit stability throughout time. Edel collected tales from Clara Pearson, many in Tillamook in 1931. Bess Langdon,

three years later, collected talks from Clara Pearson in English. Although, the two works were collected under different conditions, with a time span between each recital, the texts are nearly identical. Lewis and Clark also noted that natives demonstrated great memory reciting the names of sailors, months that trade occurred, and items traded within the region.

Ethnographic Data: Lewis and Clark and the Ethnographic Era

Ethnographic data demonstrate that the Tillamook and Clatsop were knowledgeable in whale processing. I seek to clarify whether this arises from active whale hunting, opportunistic whaling, whale scavenging or a combination of the three.

Lewis and Clark provide the insight into the lives of Clatsop and Tillamook people for the purpose of this research, nearly a century before ethnographers began research within Oregon. Beginning in November 1805 and continuing into 1806 Lewis and Clark, had constant contact with the Tillamook and Clatsop in the form of trade, conversations, and observations (Lewis et al. 1904:vol 3 part 2; Verne 1975). During this period the tribes that inhabited the Columbia River were already familiar with Europeans. Lewis and Clark noted that, "The Clatsops, Chinnooks, Killamucks (Tillamooks) &c. are very loquacious and inquisitive; they possess good memories and have repeated to us the names capasities of the vessels &c. of many traders and others who have visited the mouth of this river" (Lewis et al. 1904: vol. 3 305-307). A list of 13 traders and vessels who visited the natives for the purpose of trade and hunting were furnished to Lewis and Clark by the natives of the area (Lewis et al. 1904:vol. 3: 306).

The contact between the tribes and outsiders was noted by the explorers who during witnessing the natives scavenging sturgeon that was left by the tide recorded an Indian stating in English, "Sturgion was very good" (Lewis et al. 1904:vol. 3: 276). However, what is most relevant to this project is that Lewis and Clark recorded an instance of whale processing.

On Friday December 27th 1805 Lewis and Clark sent out two men to make salt. The men camped near Seaside, Oregon (Lewis et al. 1904:vol. 3: 291). On December 29th 1805 there was a report from the natives that a "whale has floundered" on the coast. The expedition wanted to acquire some "whale oyle" from the natives but the weather and the parties inability to navigate the waters delayed the expedition from reaching the whale (Lewis et al. 1904:vol. 3: 293-296).

On January 3rd 1806 the Clatsops arrived to trade with Lewis and Clark, bringing berries, roots, dogs, and fresh blubber. The blubber had been obtained from the Tillamooks. Lewis and Clark stated that, "this blubber the Indians eat and esteeme it excellent food" (Lewis et al. 1904:vol. 3). Further reports of the whale continue on January 5th when two members of the expedition returned from salt making, 15 miles southwest of Fort Clatsop (Seaside) near the houses of certain Clatsop and Tillamook families. The tribes had been very friendly with the explorers and had provided them with whale blubber. After this report Clark became determined to acquire more whale blubber and oil. While heading toward the village Clark viewed a Tillamook canoe burial ground and proceeded to the whale. Clark noted while approaching the whale:

> *"[we] crossed a creek 80 yards near 5 cabins, and proceeded to the place the whale had perished, [we] found only the Skelleton of this monster on the sand between (2 of) the villages of the Kilamox nation; the whale was already pillaged of every valuable part by the Kilamox indians…this skeleton measured 105 feet. I returned to the village of 5 cabins on the creek which I shall call E-co-la or Whale creek, [I] found the nativ[e]s busily engaged boiling the blubber, which they performed in a large squar[e] wooden trought [trough] by means of hot stones; the oil when extracted was secured in*

> *bladders and the Guts of the whale; the blubber from which the oil was only partially extracted by this process, was laid by in their cabins in large flickes [fliches] for use; those flickes they usually expose to the fire on a wooden Spit until it is prutty wormed through and then eate it either alone or with roots of the rush or Diped in the oil " (Lewis et al. 1904:vol. 3: 324-325).*

These passages demonstrate the knowledge of whale processing and the value this species represented to the indigenous populations of the Northern Oregon Coast. However, the passage does not provide direct evidence of whaling. Nevertheless, it is known that whale was highly valued and prescribed regulations were observed during the processing of scavenged animals. Oral histories of the Clatsop people recorded by Boas (1894: 263) state that when the Clatsop find a whale (beached) they place holes in the skin and tie straps to it or kelp if straps are not at hand, for themselves and their relatives (therefore marking their portion of the whale). When the people arrive to cut the whale they do so in their respective portion. Those who arrive last take the lower portion of the whale. This demonstrates that beached whales were scavenged and utilized. But, it is unknown whether whales were actively hunted. However, Clark noted the potential of whale hunting within the project area:

> *"The whale is sometimes pursued, harpooned, and taken by the Indians of this coast; though I believe it is much more frequently killed by running on the rocks of the coast S.S.W. in violent storms, and thrown on different parts of the coast by the winds and the tide. In either case the Indians preserve and eat the blubber and oil" (Ray 1938:114).*

The above passage provides insight into the possibility of whaling occurring within the region. Further ethnographic information also supports the possibility of whale hunting. For example, the hunting of whale by Tillamook and Clatsop people is mentioned by Louis Fuller in a 1940's interview with anthropologist John P. Harrington:

> *"when I ask about the California Redwood [kIkfLLfx], says that sometimes the ocean brings floating redwoods way up to the Tillamook coast & such a tree is worth a lot to the indian, that is, if he finds one that is not hollow inside, some of them are hollow…The inds. Make a canoe of it for going out to kill whale & seals" (Deur 2005: 117).*

This supports the possibility that some whale hunting occurred among the Tillamook people and demonstrates that the Tillamook culture was based upon both a maritime and a terrestrial subsistence. Additional evidence of the importance of whale has been found in ethnographic interviews from the Lower Chinook:

> *"This fish (salmon) was of primary importance to the natives, but sturgeon, trout, smelt, herring, and flatfish played each an important economic role. In addition, sea mammals including the seal, porpoise, and whale were extensively utilized" (Ray 1938:46).*

Hence, ethnographic data supports whale being an important subsistence resource, but does not clearly clarify the procurement process.

Franz Boas Whale Tales and other Ethnographic Whale Taboos

Franz Boas collected the following Tillamook materials during a field season in 1890 at the Siletz Indian Reservation. The texts are oral histories which demonstrate the extent of whaling and whale scavenging by Tillamook and Clatsop peoples. I have summarized the oral histories discussed below.

> *In one oral history a man goes to the sea and finds a beached whale. The people of the village came together to butcher the whale. The man who had found the whale cut open the whale stomach and went inside. However, the people who were butchering the whale became angry because the man had cut right into the body of the whale. Someone then wished that the whale would go back out to sea, which it did. After a year at sea the man was finally returned to his people when encountering a canoe (Boas 1965:12–13).*

The oral history demonstrates that whales were to be respected by the people and that particular taboos were followed when processing whale demonstrating that the Tillamook were familiar with whale processing.

Another oral history collected by Boas and later Elizabeth Jacobs (1959) demonstrates the cultural and mythological importance of whale and Thunderbird, a prominent figure in Tillamook and Clatsop mythology. The oral history links whales to Thunderbird, believed to be the creator of the Clatsop and Tillamook people, and mentions whaling, the beaching of whales and the economic importance of whales to the people.

> *In the narrative a man went out to catch salmon. On his journey he encountered Thunderbird who carried the man to his country (on the other side of the ocean). They entered Thunderbirds home, which was made of whale skin and whose entrance was the mouth of a whale. One evening the man went out and saw people fishing with "torches". Thunderbird advised the man that the people were catching salmon meaning however, that they were catching whales. In the morning the man seen that the canoes had many caught whales. After a year Thunderbird returned the man to his people at Nestucka and carried with him two large whales. The people found the man and he sang. The next day he instructed the people to go to the location where they had found him. The people found that two whales had beached at that location. The man instructed them to not carve the whales and instead he went and carved the whales. People from all around came to buy whale oil from the Nestucka people and brought dentalia and other valuable shells (Boas 1965:14–15).*

In another version dictated to (Boas 1898:23–27) similar events took place at Slab creek.

Although there is some variation in that text and the one above they contain the same basic framework and therefore will not be reviewed further. Various oral histories describe a whale hunter who has the power to sing thereby bringing whales to the people.

> *In a further account a man goes into the wilderness to attain "power". He was gone for a year and when he returned he climbed a rock on the Nestucka River. Later he was found singing with his face painted and with his head covered in feathers. He was brought back to his people and dances were held. One morning he instructed three boys to go to the mountains and to take only their knives and butcher the elk the man had previously killed. The boys did as instructed and found four elks in the mountains slaughtered. Afterwards the man instructed the boys to go the sea and bring back*

> *whale meat. In the same manner the boys brought back whale meat. Therefore, whenever the people needed meat the man would sing and he would get elk and whales for the people, and he was paid (Boas 1965:15–16).*

The ability to bring whales to the people has also been noted to have existed within the Chinookan worldview.

> *A Chinook with the proper spirit power would set up a pole on the beach and in that location a whale would drift ashore. Then the man would sing for five days. On the sixth day a whale would be within that location (Underhill 1978:32–33).*

The oral history related to the creation of the Tillamook and Clatsop people also has the potential to demonstrate the importance of Thunderbird and whale to the people of the region.
The cultural significance of whale to the Clatsop and Tillamook can also be understood by an oral history tying a sacred site, the location of a creation myth, related to whale consumption.

> *Harrington's consultants recalled stories of Thunderbird dwelling atop Saddle Mountain and eating whales there. The importance of Saddle Mountain to the indigenous peoples of the area can be understood as oral tradition states, "Clatsop oral tradition, and probably those of other area tribes, indicate that the first Clatsops, Chinooks, Nehalems, Tillamooks, and others were created at the top of Saddle Mountain (Deur 2005: 85).*

I believe the oral histories and ethno-historical data above demonstrate the potential that Tillamook and Clatsop populations may have hunted and utilized whales as long as they have lived along the Oregon Coast.

Harpoon Technologies: Pacific Northwest Coast

Ethno-historical data related to harpoon typologies and their uses reveal that composite toggling harpoons of various sizes (Figure 21 [Figure 3]) were most commonly used for fish and sea mammal hunting (Drucker 1955:25–33; Sauter and Johnson 1974:55). The second harpoon type used was formed from a solid piece of bone either of the unilateral or bilateral barbed form associated with fishing and sea mammal hunting (Drucker 1955:25–26; Sauter and Johnson 1974:57). Lastly, the leister type harpoon (double pronged and often with compound heads) were often fitted with sharp points projecting inward or backward (Figure 22 [Figure 4]) and are associated with salmon fishing (Drucker 1955:26).

Sauter and Johnson (1974: 57) noted that although whale hunting was closely associated with harpoons, "the Tillamook seldom hunted whales. They seemed interested in whales only if the huge creatures wandered into bays at high tide and were stranded when the tide went out-or if they died and washed ashore". As I have shown, however, ethnographic evidence from within the region suggests otherwise. The claim by Sauter and Johnson make fits the traditional view within anthropology associating whale procurement (specialized or unspecialized) to northern coastal tribes.

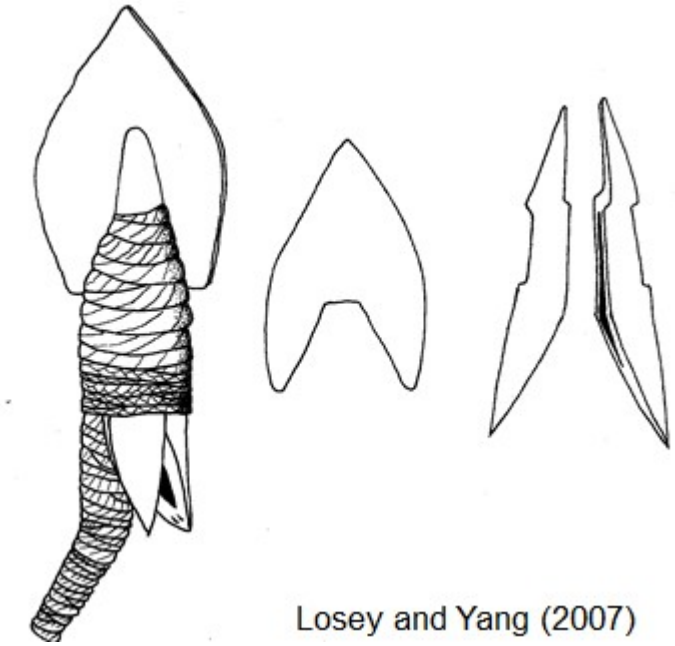

Figure 21. [Figure 3.] Composite "Toggle" Harpoon Point technology.

Figure 22. [Figure 4.] Bone Harpoon Points from the NMNH Par-Tee Site Collections.
Showing a Bi- Laterally Barbed Harpoon (bottom), Unilaterally Barbed Harpoon (middle), and Leister Harpoon Point (top). Photo by the author.

The Par-Tee Site

Excavation of the Par-Tee site was conducted by amateur archaeologists Phebus and Drucker (1979) from 1967 to 1977. The Par-Tee site is a shell midden deposit, heavily disturbed by relic collectors and by the removal of shell for road fill prior to controlled excavation.

However, a substantial portion of the site remained intact (Phebus and Drucker 1979:21). Excavation occurred in five foot excavation squares dug in one foot arbitrary stratigraphic levels, with sediments screened over ¼ in mesh sieves (Colten 2002:17; Losey 2005:4; Phebus and Drucker 1979). A total of 220 units were excavated. The site has been noted to contain half of all artifacts collected during controlled excavation on the Oregon Coast (Losey 2005:7). Carbon-14 dating of the Par-Tee site demonstrates that primary habitation occurred from 2,300 cal B.P. to 800 cal B.P. (Colten 2002:17; Arbolino et al. 2005:13; Losey and Yang 2007:663).

In their report of the Par-Tee site Phebus and Drucker (1979) noted numerous whale bone atlatls (common among the Eskimo) which they related to an extensive involvement in sea mammal hunting. The emphasis of marine resources has been corroborated by Colten's (2002) quantitative analysis of faunal remains from the Par-Tee site. The research suggests that vertebrae remains were predominantly

comprised of sea mammals with pinnipeds, sea otters, and cetaceans representing 65% of the faunal assemblage by meat weight contribution. Of 945 sea mammal bones identified to family level, 154 (16.3%) are cetacean. These include minke whale (Number of Identified Specimens (NISP)=4), harbor porpoise (NISP=25), pantropical spotted dolphin (NISP=1), and bottlenose dolphin (NISP=4) (Colten 2002; Losey and Yang 2007:663). Analyzing all vertebrae species by habitat suggests that 62% of species found within the Par-Tee collection were taken from marine ecosystems (Colten 2002:17-18). Colten (2002) also analyzed a sample from the Palmrose site. Colten found that the Par-Tee site contained a higher quantity of marine species (62%) than Palmrose (58%). Harbour porpoises are represented at both sites while, the Palmrose site contained many bottlenose dolphin remains (NISP=50). The Par-Tee site had a significantly higher rate of cetacean bones such as minke whale and other large cetaceans. However, minke whale was the only identified large cetacean in the sample (by Colten); other large cetaceans were identified to order and not to species. Terrestrial species at both sites are dominated by elk and deer. The Palmrose site contained a higher occurrence of salmon bone by weight while the Par-tee site fish assemblage contained virtually no salmon bones (Colten 2002:18; Arbolino et al. 2005:15).

Later, Dr. Losey (2007) identified within the Par-Tee fauna collection a humpback whale (*Megaptera novaengliae*) phalange with an embedded bone harpoon point. DNA testing was conducted on the imbedded bone harpoon indicating it was made of Elk (*Cervus elaphus*) bone. In addition, the DNA sequence matched the unmodified elk bone from within the collection. The DNA evidence suggests that the whale was harpooned locally (Losey and Yang 2007:657). The humpback whale phalange was excavated from level 4 of unit 21F in the southwest potion of the Par-Tee site. Charcoal samples from the same level of two adjacent units produced C14 dates of 1195±80 (SI-4967) and 1295±70 (SI-4966) (Losey and Yang 2007; Moss 2011:115). I proposed to radiocarbon date the humpback whale phalange and the elk harpoon point to establish a secure date for the harpooning event. Currently, I am pursuing the C14 dating of the artifact and the dates are not available at this time.

The potential that whales and other cetaceans were hunted and struck further north and "drifted" to the Par-Tee site was examined by Losey and Yang (2007). Considering whale swimming speed, distance from closest known whaling community, and that the point embedded in the whale phalange does not match the ethnographic whaling technology of the north Losey and Yang did not believe the whale represented a drift whale. In addition, researchers have noted that humpback whales sink quickly upon death (Monks, McMillan, and Claire 2001:65).

Although the gases of decomposition may have brought some carcasses back to the surface (Monks, McMillan, and Claire 2001:65). Given these results, it seems unlikely that the humpback whale at the Par-Tee site is that of a whale struck elsewhere or the beached carcass of a whale that died naturally. As noted below, there was variation in the harpoon technologies used by Pacific Northwest Coast tribes. Toggling harpoons are closely associated with whaling to the north, but large toggling harpoons are not present in the Par-Tee collection. Instead, the composite points found are too small to have been utilized for sea mammal hunting. However, the Palmrose and Avenue Q sites both contain toggling harpoons. But, the points from those collections were not examined for this current study.

Whaling Culture: Washington and British Columbia

The Nuu-chah-nulth inhabited a large portion of western Vancouver Island, and the Makah inhabited the Olympic Peninsula of Washington State. Wakashan speakers such as the Nootka and the Makah possessed a specialized whale hunting culture in the Pacific Northwest Coast. It is said that only these tribes (and some of their Salish neighbors, who according to anthropologists learned the tradition from the Makah) participated in whale hunting, although this claim is not supported by further evidence (Drucker 1955:11; Underhill 1978:32). The Coastal Salish of Washington inhabited the coast region

from the Gulf of Georgia, Puget Sound, Straits of Juan de Fuca, Olympic Peninsula and most of Washington to the Chinook territory on the Columbia River (within Washington and Oregon).

The traditional technology associated with whale hunting is the composite harpoon (with a sharp mussel or slate cutting blade cemented with spruce gum between two elk horns barbs) attached to long lines, sea-worthy canoe, and seal skin buoys (to create drag that tired the whale) (Drucker 1955:35; Underhill 1978:32). The whale hunt was conducted by a crew of eight men (Underhill 1978:32). During the hunt the crew approached the whale from the rear and always on the left side. The harpooner would then strike the whale just behind the left flipper or near the shoulder. Often, a second whaling canoe accompanied the chief whaling canoe. This second crew would often strike the whale with harpoons and were used as a precaution in case the whale flipped or broke the main boat (Drucker 1955:35; Underhill 1978:37–39). The primary and secondary canoes would continue to strike the whale with harpoons attached to short lines and floats until the whale was weakened from loss of blood and the resistance of the floats. Next, a lance was used to sever the tendons controlling the flukes (tail). Afterwards a long sharp bone point (lance) was driven behind the flipper and into the heart of the whale, killing the animal (Drucker 1955:36; Underhill 1978:39). Once the whale was dead, holes were cut on the upper and lower jaws, and the mouth was tied shut to prevent water from entering the body cavity and sinking the whale. Next the whale was hauled to shore, a very difficult task (Drucker 1955:35– 36; Underhill 1978:39–40). On shore the whale was butchered and the blubber divided by set precedents (Underhill 1978:40–41).

Another form of whaler existed amongst the Northern communities. This whaler or whale-ritualist had the ability to cause whales that died naturally drift ashore (Drucker 1955: 36- 37). As noted earlier this ability was also recognized to have existed within the worldview of the Tillamook and Chinook Indians.

Whaling Technology and Culture: Makah and Nuu-Chah-Nulth

The Makah (Olympic Peninsula) and Nuu-chah-nulth (Vancouver Island) have been closely associated with whaling culture along the Central Northwest Coast (Huelsbeck 1988:1; Monks, McMillan, and Claire 2001:60; Erikson 1999:556; Monks 2011:188). Archaeological evidence from the Ozette, T'ukw'aa and Ch'uumat'a sites within the region may be representative of other whaling cultures within the area.

The Ozette site, located on Cape Alava on the Pacific Coast of Washington, was occupied for 800 to 1,500 years on a year round basis, until the early 1900's (Huelsbeck 1988:1). A prehistoric layer within the site known as area B70 is capped by thick layers of landslide debris (Huelsbeck 1988:4; Erikson 1999:570). Radiocarbon dates from this layer fall between ~250 and 450 B.P. (Huelsbeck 1988:4). From the identifiable whale bones (70% of the assemblage was not identifiable to the species level) in the collection slightly over 50% of large cetaceans are gray whale (*Eschrichtius gibbosus*), 46% humpback whale (*Megaptera novaeangliae*), 2% right whale (*Eubalaena sieboldii*), and 1% finback whale (*Balaenoptera physalus*) (Huelsbeck 1988:4; Monks, McMillan, and Claire 2001:65–66; Monks 2011:195). The Ozette site contained a large amount of mammal remains, but due to screening methods (¼" mesh, the same as Par-Tee) fish species may be underrepresented (Butler and Campbell 2004:360).

The primary tools associated with whaling include the canoe, harpoon (often toggling), line, and buoys or floats (Huelsbeck 1988:6; Waterman 1920). Many of these technologies were recovered from the Ozette site. In addition, several vertebrae, scapulae, a maxilla, and an intermaxillary with fragments of mussel shell harpoon blades imbedded within have been recovered from the site (Huelsbeck 1988:6; Monks, McMillan, and Claire 2001:66). Along the Central Northwest Coast it has been noted that whale hunting harpoon technology did not develop until after ~1200 B.P., when large bone valves from composite harpoon heads first appear in the deposit. Often these points are not seen in large numbers

within cultural areas linked to whaling practices. It has been suggested that these points were carefully treated and stored and therefore would not become primary refuse in the archaeological record. Often these points were incised to increase their effectiveness ritually (Monks, McMillan, and Claire 2001:66) a pattern that is seen at the Par-Tee site. It may also be possible that other harpoon technologies were used in earlier times to take whales, seals, and sea mammals including unilateral and bilateral points (Monks, McMillan, and Claire 2001:66; Sauter and Johnson 1974:55–74). Although the points would be less effective (than toggling harpoons) such technologies may have evolved over time (Monks, McMillan, and Claire 2001:66).

The T'ukw'aa site, located on Western Vancouver Island, British Columbia, is a former village that contains extensive archaeological deposits dating to at least 1200 B.P (Monks 2011:189). The site is located in a defensive position with 20m drop offs over steep cliffs. Such defensive positions are typical of many Nuu-Chah-Nulth village locations. The Ch'uumat'a site is another village near the western edge of Barkley Sound with deeper archaeological deposits than T'ukw'aa with some excavated deposits slightly over 4 m in depth, with radiocarbon dating placing initial occupation around 4000 B.P. (Monks, McMillan, and Claire 2001:62). Whale bones were common throughout the deposits at both sites with the earliest identifiable element (a vertebra) from a stratum dated to 3500 B.P. (Monks, McMillan, and Claire 2001:62; Monks 2011:189).

Research concerning the taphonomy of whale bones brought to village locations, their distribution, and purpose has been conducted on sites within the Central Northwest Coast (Monks 2011). Such research has not been conducted for the Par-Tee fauna assemblage (Colten 2002). Phebus and Drucker (1979:22) noted work areas, fire hearths, and concentrated dietary accumulations within the site but no further data has been provided.

The Cattle Point site is located on San Juan Island in Washington's Puget Sound. This shell midden was excavated in 5 foot squares and in 6 inch arbitrary levels. No radiocarbon dates were available for the site due to the fact that it was excavated in the 1940s before the technology had been invented. However, later work by Stein (2000) placed the Cattle Point site within recognized phases. The site contains three periods of occupation identified by the excavators, based on the stratigraphy of the site. The first phase termed the Island Phase (Cascade Phase) is determined as a period when the occupants were better adapted to life on land than the sea (however, the site is located on an island). The Developmental Phase (St. Mungo, Mayne and Locarno Beach Phases) is seen as a period where shellfish use is first recognized and an increase in bone and antler artifacts is related to exploitation of sea resources. The Maritime Phase (Marpole Phase) artifacts demonstrate a full adaption to the exploitation of the sea. Lastly, the Late Phase (San Juan) demonstrates a recent cultural development, lacking many of the Maritime Phase artifacts (King 1950:3–12; Stein 2000).

Harpoon points from the Cattle Point site include unilateral, bilateral, leister, open socket, and composite harpoon types. Leister points are confined to the Maritime and Late Phases.

Composite harpoons are found in the Developmental and Maritime Phases. Unilateral and Bilateral Points are found throughout the Maritime Phase. Open socket harpoon heads (similar to Eskimo style toggling points which have been viewed as a precursor to composite toggling harpoons) was found during the Developmental Phase. The composite harpoon heads and the open socket style both contain slots for large stone or shell blades (King 1950:43–46). Seals and whale represented the most common marine mammals within the collection.

The Coastal Salish comprise the southernmost recognized whaling culture relative to the Seaside area, the closest culture includes the Quinault with their non-Salish neighbors the Quileute and Hoh (Erlandson et al. 1998:12). Anthropologists suggest that the practice of whaling amongst the Salish was

learned from the Makah (Drucker 1955). Archaeological evidence from various Coastal Salish sites provides evidence of maritime adaptions in the form of sea mammal hunting technologies.

Comparative Analysis: Embedded Harpoon Point and the Par-Tee Collection

I visited the Anthropology Collections at the Smithsonian Institution's National Museum of Natural History in June 2013. The goal of the visit was to examine the Par-Tee harpoon points and attempt to find a match of the embedded harpoon point within the humpback whale phalange. The harpoon technology represented within the Par-Tee site does not match the toggling harpoons from archaeological sites to the north or those described in accounts of hunting large sea mammals. The harpoon points described ethnographically contained a shell or slate blade tip. All measurements were taken using a digital caliper to reduce the possibility of error on the part of the researcher.

Computed tomography scanning was conducted by Dr. Mathew Tocheri, a paleoanthropologist with the Smithsonian Institution's Human Origins Program. Due to the variation in bone density between the whale bone and the embedded elk bone harpoon the dimensions of the point could be determined (Tocheri, Personal Communication, 2013).

Unfortunately, the harpoon point tip was too small to be diagnostic of one particular technology or to match the style within any of the other bone harpoons in the Par-Tee collection. The point tip was 38 mm long, 16.43 mm wide and 9.6 mm thick (See Figure 23 [Figure 5]). Therefore, I selected three harpoon types the leister harpoon, unilateral harpoon, and bilateral harpoon. The three harpoon point types were of substantial size and may have been used to hunt sea mammals.

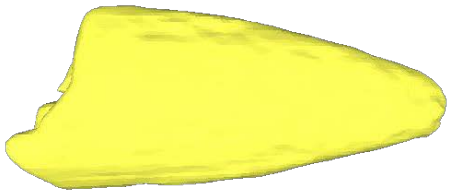

Figure 23. [Figure 5.] Computed tomography scan, of the embedded harpoon point in the humpback whale phalange.

Blood Residue Analysis: Results, Discussion, and Conclusion

Twelve harpoons (four of each type) were selected for blood residue analysis, which tests for blood proteins that may have been deposited on artifacts during use. The test seeks to identify preserved immunoglobulin G (IgG), a large Y-shaped protein. The technique has been widely used in forensic laboratories and has also been applied in archaeology to detect protein residues on stone tools (Fagan

2013). To summarize, the cross-over immuno-electrophoresis (CIEP) method, is based on a principle that all animal species produce antibodies that recognize and bind with foreign proteins (antigens). Therefore, the ability of antibodies to precipitate antigens out of solution is the basis of CIEP analysis (Newman and Julig 1989; Yohe, Newman, and Schneider 1991). While most blood residue studies have focused upon stone tools, I proposed to identify residues on bone tools. The raw material of the harpoons in this study likely is cortical bone of elk and deer (Erlandson, Pers. Comm. 2013). It is preferred that soil samples from the matrix surrounding the artifact are tested as controls during residue analysis (Newman and Julig 1989). However, because the Par-Tee site was excavated during the 1960s and 1970s no control samples could be tested in this analysis. All residue samples for this study were extracted using a five percent ammonia solution, gently agitating the artifact, placed in numbered vials, and refrigerated until testing was completed. The residue analysis was conducted by Dr. Cam Walker and Dr. John Fagan of Archaeological Investigations Northwest Inc. (AINW) in Portland, Oregon. Antiserums used in the study were purchased commercially by AINW. For additional information regarding the blood residue analysis process please refer to Appendix 2.

The harpoon points were tested against the antisera of white whale, bottlenose dolphin, trout, bovine (baleen whales) and dog (seals). Dr. Fagan utilized dog antisera as a proxy to test for seals and bovine antisera to test for baleen whales (Fagan, Pers. Comm. 2013). Ethnographic and archaeological data suggest that cetaceans were hunted by prehistoric maritime cultures of the northern Oregon Coast. Of the twelve harpoon points tested, two artifacts tested positive for blood antiserum. Artifact NMNH #536982 a leister harpoon point (Figure 22 [Figure 4]) tested positive for trout antibodies, which may indicate use on either salmon, trout species, and char. These suggest that the leister harpoon point was used in the manner described by the ethnographic data. Artifact NMNH #536849 a fragment of a unilaterally barbed harpoon point (Figure 24 [Figure 6]) tested positive for bovine blood antiserum.

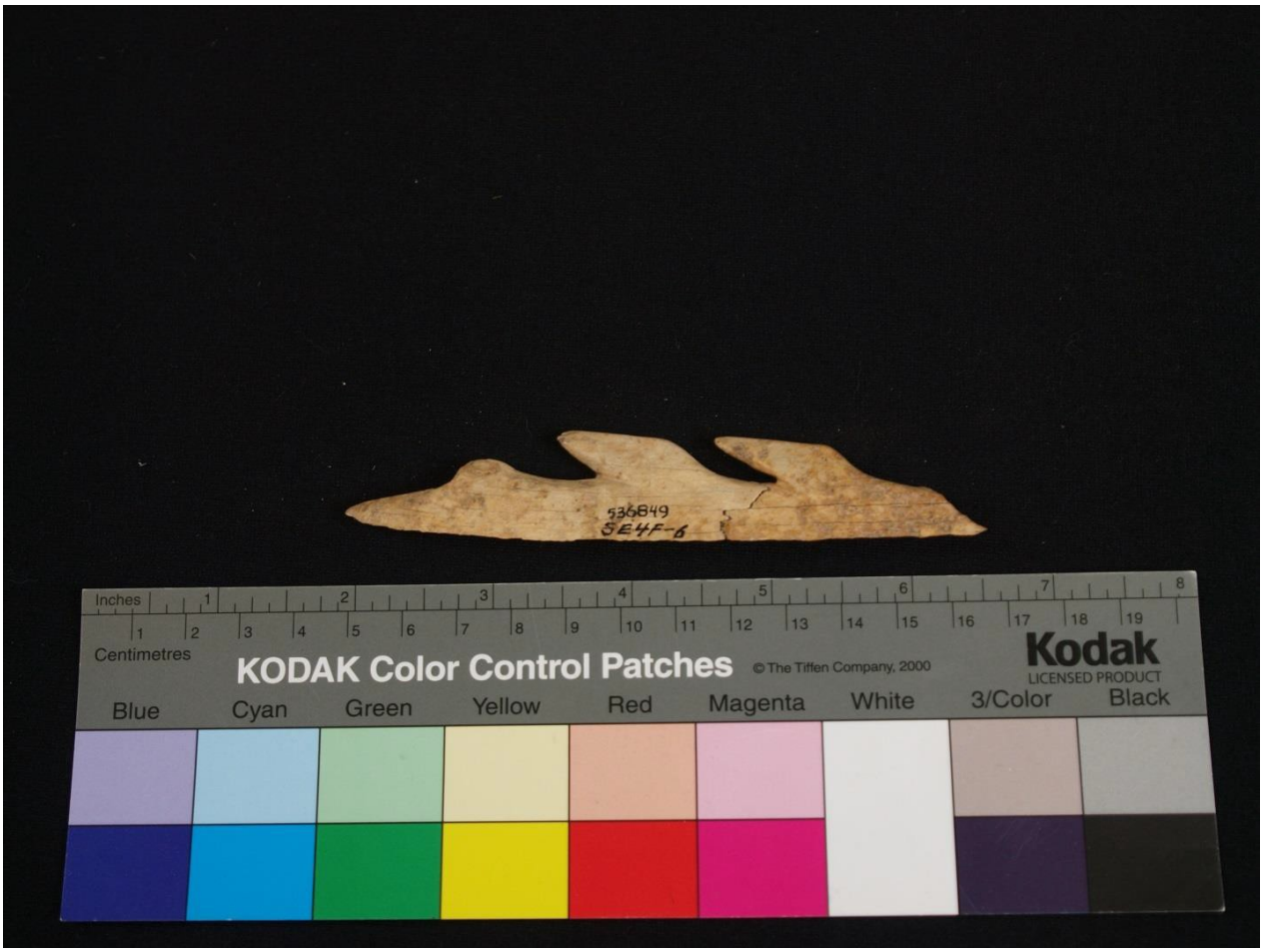

Figure 24. [Figure 6.] Unilateral Bone Harpoon Point #536849.
From the NMNH Par-Tee Site Collections. Photo by the author.

The bovine antiserum reacts with the family Bovidae (e.g. domestic cattle and bison).

There is a possibility that this point (NMNH # 536849) came into contact with bovine blood, although this is unlikely due to the antiquity of the Par-Tee site. Dr. Fagan (2013) suggests that the positive for bovine antiserum may result from cetacean residues. Dr. Fagan states, There remains a possibility that the positive result for bovine residue could represent another species of cetacean. As with all artifact extractions in this analysis, artifact #11 (NMNH# 536849) was also tested against bottlenose dolphin and white whale antisera, and did not react to either.

We had not previously used the white whale and bottlenose dolphin antisera that were purchased for this analysis. Because of this, we ran ancillary analyses to determine the specificity and reactivity of these antisera, both to each other, and to modern species with which white whales and bottlenose dolphins share (distant) evolutionary history: namely the bovine lineage. Interestingly, both the white whale and bottlenose dolphin antisera reacted well with bovine serum, with well-defined precipitin lines. Neither antiserum reacted with bear or dog serum, which could have suggested an evolutionary relationship with pinnipeds. As a matter of course, the reaction between bottlenose dolphin antiserum and white whale serum was found to be weak, a reflection of their divergent evolutionary histories.

Family Bovidae is included within the order Artiodactyla (even-toed ungulates). A number of authors have been making an ever-stronger case for the inclusion of all species from the order Cetacea (whales, dolphins, and porpoises) within the order Artiodactyla, or even creating a new Superorder Cetartiodactyla. The last common ancestor between terrestrial Artiodactyls and Cetaceans closely approximated a modern hippopotamus. The evidence for this evolutionary relationship has been put forth by mitochondrial DNA (Graur and Higgins 1994); RNA (Kleineidam et al. 1999); and even with immunoglobulins, by CIEP and Western blot methods (Nollens et al. 2008). In particular, Nollens et al. (2008) found that bovine serum tested positive against baleen whales, beluga (white whale), porpoises, killer whale, and several species of dolphin, including bottlenose. Therefore, if other Cetacean antisera become commercially available in the future, re-testing the extracts from this set of artifacts is likely worthwhile.

Although the blood residue study did not directly corroborate the hunting of cetaceans at the Par-Tee site, the research does demonstrate that the leister harpoon point (Fig. 4) was used as described ethnographically. As stated the purpose of this report was to test the accuracy of ethnographic data of the Tillamook and Clatsop using archaeological investigations while investigating whaling on the Oregon Coast. My research has corroborated the use of the leister harpoon point to hunt a variety of fish species. In addition, the potential exists that cetacean blood residues were found on the unilateral harpoon point tested in this study. However, until further blood antiserums become commercially available the current results are not definitive.

The limitation of the present study is the harpoon sample size tested with blood residue analysis. The Par-Tee collection contains hundreds of harpoon points recovered during controlled excavation, but only twelve have been tested. Nonetheless, the study does demonstrate the potential that blood residue analysis may have, despite issues related to availability of antiserums and the possibility of contamination. Further research of the Par-Tee fauna collection will no doubt add to the knowledge of resources utilized by the site inhabitants. The collection is substantial and currently understudied. The site artifacts are held by multiple institutions and in private collections which at times lack provenience information. However, further study of the site collection will provide additional information regarding the prehistoric inhabitant's resource use, technologies, and adaptations.

Future research investigating whale hunting in the area should focus on an analysis of the three Seaside sites (Palmrose, Par-Tee, and Avenue Q) analyzing harpoon technologies, faunal remains, and artifacts. As the present study demonstrates the potential exists for future research on these Oregon Coast sites.

Conclusion

In summary, this project investigated the potential that whale hunting, either opportunistic or active, occurred at the Par-Tee site. Losey and Yang (2007) demonstrated via ancient DNA (aDNA) that whaling occurred at the Par-Tee site with locally manufactured harpoon points. My research attempted to identify the hunting technology using CT scans, comparative analysis, and blood residue analysis. Ethnographic research suggested a cultural tradition of whale importance for the Tillamook and Clatsop people. However, the ethnographic data lacked information of the methods utilized in potential whale hunting beyond stating canoes and harpoons were used.

Further, ethnographic research of unpublished works (i.e. The Jacobs Collection, University of Washington) could provide further insight of whale use and whaling activities (Deur, Pers. Comm. 2013). However, the size of the collection and the limited time to complete this research project made such ethnographic work unfeasible for the researcher.

As stated earlier, future research examining the three Seaside sites (Palmrose, Par-Tee, and Avenue Q) for evidence of whale use (i.e. strike marks, evidence of butchering, tool extraction, and an analysis of cetacean bones in the sites) may identify the extent of large sea mammal use in the Seaside region during the Late Holocene.

Acknowledgements

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Appendix: 1

Quantified Ethnographic Data: Sources

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Appendix: 2

Archaeological Investigations Northwest, Inc.

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Vancouver Phone (360) 696-7473 E-mail: ainw@ainw.com
Phone (503) 761-6605 • Fax (503) 761-6620 Web: www.ainw.com

October 2, 2013

Mr. Gabriel Sanchez c/o
Dr. Jon M. Erlandson
Department of Anthropology
308 Condon Hall
1218 University of
Oregon Eugene, OR
97403

Re: Results of Blood Residue Analysis on 12 Artifacts from Site 35CLT20, Clatsop County, Oregon
AINW Report No. 3163

Dear Mr. Sanchez & Dr. Erlandson:

At your request, Archaeological Investigations Northwest, Inc. (AINW), analyzed 12 artifacts from site 35CLT20 in Clatsop County, Oregon. The analysis was done to identify possible blood residues on the artifacts using cross-over immunoelectrophoresis (CIEP). There were positive reactions on two artifacts.

The CIEP technique has been widely used in forensic laboratories to determine the origin of bloodstains as evidence in criminal investigations, and has fairly recently been adapted for use in archaeology to detect protein residues on prehistoric artifacts. The CIEP technique is based on the immune (antigen-antibody) reaction. Extracts of protein residues from artifacts in an ammonia solution are tested against antisera from known animals. The solutions are placed on a gel substrate and exposed to an electric current which causes the proteins to flow together. An immune reaction between the extract and the antiserum causes a precipitate to form, which is visible after being stained. A brief overview of the CIEP technique and an outline of AINW's laboratory procedures are included with this report.

The CIEP tests were conducted between August 20 and September 26, 2013, by laboratory director Dr. Cameron Walker. The extracts from all artifacts (#1-12) were tested against trout, dog, bovine, white whale, and bottlenose dolphin. The trout antiserum was custom produced for AINW by Cocalico Biomedicals, Inc. The bovine and dog antisera are forensic-grade antisera manufactured by MP Biomedicals, LLC. The white whale and bottlenose dolphin antisera are manufactured by Bethyl Laboratories, Inc. Included with this report is a table that shows the results of the tests for the artifacts and a chart that shows the antisera used in the tests and the species found to react with each antiserum.

Standard analysis procedures begin with extracting residues from the artifacts with a 5% ammonia solution. The artifact extracts are then placed singly into gels, and tested against the antisera selected for these tests with the CIEP technique. In addition to the artifact extracts, positive and negative control sera are run with each gel. This is done to determine if there are any contaminants or extraneous proteins that may give false positive results. If an anomalous result such as an extract reacting with multiple antisera or to a negative control serum is obtained, the extract solution is mixed with an equal volume of a 1% solution of a non-ionic detergent to increase chemical bonding specificity, and is run through the CIEP process again. If a reaction still occurs after the addition of the non-ionic detergent, any reactions of those specimens to the antisera are discounted. None of the extracts analyzed for this project reacted with the negative control or with multiple antisera.

As noted on the attached table, there were positive reactions for two of the artifacts. Artifact #1 tested positive to the trout antiserum and artifact #11 tested positive to the bovine antiserum. The trout antiserum will react to species within the subfamily Salmoninae, which includes Atlantic and Pacific salmon, trout species, and char. The bovine antiserum reacts with species within the family Bovidae, which includes domestic cattle and bison.

For the results of this study, particularly with regard to artifact #11, the positive result for bovine most likely represents the preservation of bovine residue. As with all positive results, it was tested twice against bovine antiserum to confirm the result of a positive test.
There remains a possibility that the positive result for bovine residue could represent another species of cetacean. As with all artifact extractions in this analysis, artifact #11 was also tested against bottlenose dolphin and white whale antisera, and did not react to either.

We had not previously used the white whale and bottlenose dolphin antisera that were purchased for this analysis. Because of this, we ran ancillary analyses to determine the specificity and reactivity of these antisera, both to each other, and to modern species with which white whales and bottlenose dolphins share (distant) evolutionary history: namely the bovine lineage. Interestingly, both the white whale and bottlenose dolphin antisera reacted well with bovine serum, with well-defined precipitin lines. Neither antiserum reacted with bear or dog serum, which could have suggested an evolutionary relationship with pinnipeds. As a matter of course, the reaction between bottlenose dolphin antiserum and white whale serum was found to be weak, a reflection of their divergent evolutionary histories.

Family Bovidae is included within the order Artiodactyla (even-toed ungulates). A number of authors have been making an ever-stronger case for the inclusion of all species from the order Cetacea (whales, dolphins, and porpoises) within the order Artiodactyla, or even creating a new Superorder Cetartiodactyla. The last common ancestor between terrestrial Artiodactyls and Cetaceans closely approximated a modern hippopotamus. The evidence for this evolutionary relationship has been put forth by mitochondrial DNA (Graur and Higgins 1994); RNA (Kleineidam et al. 1999); and even with immunoglobulins, by CIEP and Western blot methods (Nollens et al. 2008). In particular, Nollens et al. (2008) found that bovine serum tested positive against baleen whales, beluga (white whale), porpoises, killer whale, and several species of dolphin, including bottlenose. Therefore, if other Cetacean antisera become commercially available in the future, re-testing the extracts from this set of artifacts is likely worthwhile.

It should be noted that the negative results from testing against the selected antisera do not preclude the possibility of a specimen retaining residues from other animals. The liquid extracts obtained from the artifacts have been frozen for storage and will be retained for one year should you wish any additional tests. Please call us if you have any questions about the analysis or this report.

Thank you for providing us the opportunity to run these tests. The results and the process have proven to be of great interest to us.

Sincerely,

John L. Fagan, Ph.D., R.P.A.
President/Senior Archaeologist
Laboratory Director

Cam Walker, Ph.D.
Supervising Archaeologist/

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Attachments

ARCHAEOLOGICAL INVESTIGATIONS NORTHWEST, INC.

BLOOD RESIDUE ANALYSIS COMPARATIVE RESULTS

		TYPE OF ANTISERUM				
RAL #	SITE	Bovine	Dog	Trout	White whale	Bottlenose dolphin
1	35CLT20	-	-	+	-	-
2	35CLT20	-	-	-	-	-
3	35CLT20	-	-	-	-	-
4	35CLT20	-	-	-	-	-
5	35CLT20	-	-	-	-	-
6	35CLT20	-	-	-	-	-
7	35CLT20	-	-	-	-	-
8	35CLT20	-	-	-	-	-
9	35CLT20	-	-	-	-	-
10	35CLT20	-	-	-	-	-
11	35CLT20	+	-	-	-	-
12	35CLT20	-	-	-	-	-
GEL #		2131-2		2131-1	2131-1	2131-2
GEL #		2131-4			2131-4	2131-4
REPEAT GEL #						
REPEAT GEL #						

Key: + = Positive; - = Negative

ARCHAEOLOGICAL INVESTIGATIONS NORTHWEST, INC. RESIDUE ANALYSIS LABORATORY
ANTISERUM CHART

COMPAN	ANTISERUM	HOST	REACTS WITH
BLI*	BOTTLENOSE DOLPHIN	rabbit	Family Delphinidae: dolphins, less strongly with porpoises and toothed whales
	WHITE WHALE	rabbit	Family Monodontidae: belugas and narwhals, porpoises
	CAMEL	rabbit	Order Artiodactyla: camelids, bovids, cervids
BYT*	PIGEON	rabbit	Order
	DUCK	rabbit	Columbiformes: pigeons, doves
CBI*	TROUT	rabbit	Subfamily Salmoninae: salmon, steelhead, rainbow
MP*	BEAR	goat	Family Ursidae: black bear, brown bear, grizzly
	BOVINE	goat	Family Bovidae: domestic cow, bison
	CAT	goat	Family Felidae: cat, mountain lion, lynx, bobcat
	CHICKEN	rabbit	Order Galliformes, Order Anseriformes, Order
	DEER	goat	Family Cervidae: white-tail and mule deer, elk, moose
	DOG	rabbit	Family Canidae: domestic dog, coyote, wolf
	GUINEA PIG	goat	Order Rodentia: guinea pig, porcupine, beaver
	HORSE	goat	Family Equidae: horse, donkey, mule, extinct equids
	MOUSE	goat	Order Rodentia: mice, rats
	RABBIT	goat	Family Leporidae: rabbit, jackrabbit
	RAT	goat	Order Rodentia: rats, mice, squirrels
	SHEEP	goat	Genus Ovis: domestic sheep, bighorn sheep
SIGMA*	HUMAN	goat	Order Primates: humans, apes, monkeys
	SHEEP	rabbit	Sheep and goat, bighorn sheep; less strongly with
	GOAT	rabbit	pronghorn, cervids, and bovids Bovid Subfamilies Bovinae and Caprinae, less strongly with cervids

*Notes: BLI = Bethyl Laboratories, Inc., BYT = Biorbyt Laboratories, Inc., CBI = Cocalico Biologicals, Inc., MP = MP Biomedicals, LLC, Sigma = Sigma Chemical Laboratories.

ARCHAEOLOGICAL INVESTIGATIONS NORTHWEST, INC. RESIDUE ANALYSIS LABORATORY

METHODS AND PROCEDURES

Blood protein residue analysis performed at the Archaeological Investigations Northwest, Inc. (AINW) Residue Analysis Laboratory uses the technique of cross-over immuno- electrophoresis (CIEP) to analyze protein residues extracted from the surface of stone artifacts and other objects. This technique has been widely used in forensic laboratories to determine the origin of bloodstains as evidence in criminal investigations, and has fairly recently been adapted for use in archaeology to detect protein residues on stone tools. The CIEP method used by the AINW Residue Analysis Laboratory is based on techniques developed by the Royal Canadian Mounted Police Serology Laboratory in Toronto, Ontario (Culliford 1971; Newman 1990; Williams 1990). The CIEP technique uses the immune (antibody-antigen) reaction, the principle that all animals produce immunoglobulin proteins (antibodies) that recognize and bind with foreign proteins (antigens) as part of the body's defense system. The ability of antibodies to precipitate antigens out of solution is the basis of CIEP analysis (Newman 1990:56). CIEP indicates the presence or absence of a particular antigen, and is not designed as a quantitative test. While other types of immunoassay have been used effectively to analyze blood protein residues under various conditions, the CIEP test is particularly suitable in that it is sensitive (able to detect protein in concentrations of about two parts per million), does not require expensive or bulky equipment, is relatively fast (about 48 hours per test), and can easily and efficiently accommodate multiple samples (Newman 1990:52).

BLOOD PROTEIN RESIDUES

Blood is composed of red and white blood cells and serum, which is composed of about 150 different proteins including albumin, alpha, and beta globulins. Immunoglobulins are large, Y-shaped proteins with antigen binding sites located on the V portion of the Y. There are several immunoglobulin molecules of different weight, size, and function. The most common type (and the most pertinent for CIEP) is immunoglobulin G (IgG). Other less common varieties are immunogobulin A (IgA), immunoglobulin D (IgD), immunoglobulin E (IgE), and immunoglobulin M (IgM). Some of these proteins can survive in the environment in a nonfunctional but immunologically identifiable form for long periods of time by forming a "covalently cross-linked proteinaceous mass with a high molecular weight" (Marlar et al. 1995:30). This combination of protein, fatty tissues and soil particles is resistant to microbes and is markedly insoluble in water. It seems probable that porosity and surface roughness of the artifact also aids in the preservation of protein residues. Experiments by AINW and others have identified blood residues from mammoth, bison, musk ox, horse, caribou, bear, duck, and trout on Paleoindian artifacts that may be as old as 11,500 years (Forgeng 1998; Loy and Dixon 1998; Williams 1993). Other studies suggest that protein residues can survive in recognizable form for as long as 40,000 years (Prager et al. 1980).

Artifacts can be examined under a binocular microscope (at around 240 x maximum magnification) to identify probable residues, as well as cells, hair and other tissues.
Microscopic examination is not always effective as a screening technique as CIEP can still detect otherwise invisible residues. A common medical test for occult blood is sometimes effective when used to screen the extracted residue solution. However, the CEIP technique can detect residues in more dilute concentrations than is possible with the commonly available occult blood test.

THE IMMUNE REACTION

Immunological forensic tests owe their effectiveness to the antigen-antibody reaction, which allows very specific recognition and identification. Essentially, any molecule that can bind to an antibody is an antigen. For archaeological purposes, the antigen is an unknown protein adhering to an artifact after its use. Antigens are foreign proteins that, when introduced into the blood stream of an animal, stimulate the immune system of the animal to produce antibodies (most commonly IgG protein molecules) with specific binding sites that match corresponding sites on the foreign antigen. Polyclonal antibodies, which bind to multiple sites on the antigen and therefore have a high rate of successful matching to unknown proteins, are the most commonly used reactants in CIEP. The meeting of antigen and antibody forms a very strong bond between the two proteins. The visible line formed in a positive CIEP reaction occurs when an antigen with multiple binding sites matches a group of polyclonal antibodies, binds with them, and causes the proteins to precipitate out of solution (Marlar et al. 1995:28).

Antigen-antibody reactions can be highly specific, although proteins from closely related species share enough of the same binding sites on the immunoglobulin molecule to react in similar ways. More distantly related species react less strongly. The purity of the antiserum used in the analysis is thus of primary importance in determining what species of animal is represented. Quantified analyses have been performed using more sophisticated techniques to test the similarity of immune reactions between related animal species, largely to determine relationships between living and extinct species (Lownstein 1980, 1985). These results and CIEP experiments performed by AINW and others indicate that CIEP can generally distinguish between blood proteins at approximately the taxonomic family level.

ANTISERA

The antisera used in AINW's CIEP analysis are obtained from commercial laboratories.
A forensic antiserum is made by injecting a host animal, typically a goat or rabbit, with a protein solution obtained from another animal. The immune system of the host animal produces antibodies (mainly IgG) in reaction to the foreign antigen. Blood serum drawn from the host animal is purified and tested to determine the range of reactivity of the antiserum. The purified antiserum is then freeze-dried for storage and shipment. After receipt of a new lot of antiserum, the AINW laboratory routinely tests each antiserum against representative specimens from up to 32 different animal species.

AINW obtains forensic-grade bear, bovine, cat, chicken, deer, dog, guinea pig, horse, mouse, rabbit, rat, and sheep antisera from MP Biomedicals, LLC (MPB). Human and goat, antisera are manufactured by Sigma Chemical Corporation (Sigma). Bethyl Laboratories manufactures Camel antiserum, which will also react with pronghorn antelope residue. Duck and pigeon antiserum is obtained from Biorbyt Laboratories. Trout antiserum is manufactured by Cocalico Biologicals, Inc. (CBI). The bear, bovine, cat, deer, dog, horse, pigeon, and rabbit antisera react well within their own taxonomic family (Ursidae, Felidae, Cervidae, Canidae, Equidae, Columbidae, and Leporidae respectively) but do not react with blood proteins from animals from other taxonomic families. Experiments have shown that the deer antiserum reacts well with other cervids such as white-tail deer, mule deer, elk, and moose, but does not react with other artiodactyls such as domestic cows, bison, antelope, goat, or sheep. The MPB chicken antiserum reacts with members of four families of three orders of Superorder Neognathae. These include Phasianidae (pheasants, partridges and quail) and Tetraonidae (grouse) of Order Galliformes, Columbidae (doves and pigeons) of Order Columbiformes and Anatidae (geese, ducks, and swans) of Order Anseriformes. The MPB rat antiserum also reacts broadly at the level of Order Rodentia with many species of rats, mice, and squirrels. The MPB guinea pig antiserum also reacts with many rodents including beaver and porcupine. The MPB sheep antiserum reacts with members of the Subfamily Ovidae including domestic sheep and bighorn sheep. Goat antiserum (Sigma) reacts strongest with sub-family Caprinae, which includes goat, sheep, chamois, and muskox. It will react more subtly with other

artiodactyls within the Infraorder Pecora, specifically the families of Cervidae (deer) and Bovidae (cattle, goats, sheep, and antelope). The Sigma sheep antiserum reacts with members of Subfamily Ovidae, and less strongly with other bovids, cervids, and antilocaprids. The MPB and CBI trout antiserum reacts with members of the Genus Oncorhynchus: salmon, steelhead, rainbow trout. A chart included with this report shows the species found to interact with each antiserum.

THE AINW RESIDUE ANALYSIS LABORATORY

Ancient protein residues are often difficult to extract from the artifacts that have preserved them. The AINW Residue Analysis Laboratory uses a 5% ammonia solution, which has been used for similar applications in forensic medicine (Dorrill and Whitehead 1979; Kind and Cleevely 1969). Ammonia is generally more effective in lifting old and partially denatured blood proteins than other solvents (Newman 1990). A small amount of the ammonia solution is applied to the artifact in a plastic tray, and the tray and artifact are placed in an ultrasonic bath (Branson 2200) for 30 minutes or longer. The artifact in solution is then placed on a mechanical rotator (Thermolyne Rotomix) for an additional ten minutes. Artifacts too large for the ultrasonic extraction may be placed on the rotator for 30 minutes or longer. Residues from soil samples can also be extracted using variations of these methods. The extraction solution is then drawn off and stored in an airtight microcentrifuge tube. The extracts are centrifuged to clarify the sample, refrigerated, and the CIEP test is run as soon as possible after extraction. The extracts may be frozen immediately if testing is to be delayed for more than one week.

AINW's CIEP method uses an agarose gel as a substrate. Standard analysis procedures begin with extracting residues from the artifacts with a 5% ammonia solution. The artifact extracts are then placed singly into gels, and tested against the antisera selected for these tests with the CIEP technique. In addition to the artifact extracts, positive and negative control sera are run with each gel. This is done to determine if there are any contaminants or extraneous proteins that may give false positive results. If an anomalous result such as an extract reacting with multiple antisera or to a negative control serum is obtained, the extract solution is mixed with an equal volume of a 1% solution of a non-ionic detergent to increase chemical bonding specificity, and is run through the CIEP process again. If a reaction still occurs after the addition of the non-ionic detergent, any reactions of those specimens to the antisera are discounted. Experiments at AINW have implicated plant pitch used in hafting prehistoric stone tools as a possible cause of some cross or non-specific reactions.

Electrophoresis is used to drive the antigens and antibodies together. The gel substrates are placed in acrylic electrophoresis tanks filled with barbital buffer solution, then attached to the regulated H.V. power source. The antibodies move toward the cathode because of the overall negative charge on the molecule, while the antigens move toward the anode. A precipitate is formed where the proteins meet and bond in the area between the wells, visible as a white line or arc (Culliford 1971). The gel is soaked overnight in saline to stabilize the reaction, then dried and stained with a standard protein stain as a permanent record of the CIEP results. The dried and stained gel is then backlit on a light table, and examined under magnification for the presence of precipitate lines, indicating positive reactions.

After testing the extracts are refrozen and stored for one year in case additional testing is requested.

HINTS FOR ARTIFACT COLLECTION AND TREATMENT FOR RESIDUE ANALYSIS

For optimum results, the following suggestions are provided for archeologists considering submitting artifacts for blood residue analysis (see also Marlar et al. 1995:36)

1. Handle artifacts as little as possible in the field. Avoid contamination by using latex gloves, the tip of a clean trowel, or other careful methods similar to the treatment of radiocarbon samples.
2. Do not brush off, spit clean, or wash the artifact. Since proteins are known to bind to soil particles, loss of adhering dirt may result in loss of blood antigen.
3. Place the artifact in a clean ziplock bag with as little loose dirt as possible.
4. Submit a small amount (about one tablespoon) of soil from the area adjacent to the artifact. As bacteria or animal excreta in the soil may cause false positive reactions, soil controls are useful for cross checking results from artifacts.
5. Positive results have been obtained from projectile points, scrapers, flake tools, debitage, bone, burned bone, fire-cracked rock, cobble tools, ground stone tools, and soil samples from features and general site contexts. Surface artifacts are also good candidates for residue preservation. Obsidian, CCS, and basalt artifacts are equally likely to preserve residues, although some more porous materials may contain more proteins.
6. When selecting the type of antisera for analysis, consider allowing for a broad range of testing supplemented by more specific testing of positive results (for example, testing positives for chicken against duck and pigeon to narrow the results). If an artifact tests negative for all of the selected antisera, it may still contain preserved residues from other species.

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Makah Case Study

1. Background

The Makah Indian Reservation is located on the most northwestern tip on the continental United States in Washington State. The Makah Tribe signed a treaty with the United States on January 31, 1855 in which the Makah ceded over 300,000 acres of land, but retained the Tribe's status as a sovereign nation. The following case study is built upon this foundation as the Makah Tribe has proceeded from that time forward with the understanding of retained rights and benefits promised by the United States in that treaty negotiation. The treaty of Neah Bay is unique in that it was negotiated with a single tribe and contains specific language retaining the Makah's right to hunt whales and seals in usual and accustomed stations and grounds.

Neah Bay is 70 miles from the nearest town of size (Port Angeles, population 17,000) and is 150 miles from the Seattle metropolitan area. The Makah Indian Tribe is a federally recognized tribe with approximately 2,860 enrolled tribal members. While Neah Bay is the only centralized village on the contemporary reservation, there were five Makah villages prior to contact with non-Indians in 1788.

The Makah Indian Reservation is a 49 sq. mi. reservation encompassing the tip of the rugged and isolated Olympic Peninsula, and is bordered on the north by the Strait of Juan de Fuca and the west by the Pacific Ocean, while the adjudicated usual and accustomed marine area encompasses approximately 1,550 square miles. This marine space is constrained by the U.S./Canada border on the north and has been interpreted by the courts to be limited to areas that Makahs customarily fished and does not include areas utilized in traditional marine mammal hunting, thus it is much smaller than the area traditionally used. This case study is not intended to provide evidence for boundary claims, only to describe the interdependent uses from land to water of the limited area described within the Ozette Tribal Cultural Landscape (TCL) study.

The Makah Tribe continues to work to uphold treaty rights and treaty protected resources as a primary obligation of both the Makah Tribal Council and United States Government. Numerous court cases have been filed both for and against Makah treaty resource use and access. The Ozette TCL exists foremost on the marine waters of the Pacific Ocean.

1.1 Makah participation in the BOEM Tribal Cultural Landscape Project

In 2000, the Makah Indian Tribe entered into agreement with the Department of the Interior to assume the major functions of the Washington State Historic Preservation Officer on the Makah Indian Reservation, and designated a Makah Tribal Historic Preservation Officer (THPO) to oversee cultural resource management. The Makah Tribe has a long history of managing cultural resources, dating back to 1966 when excavation of a trench near the village of Ozette was authorized by the Makah Tribal Council. Following the 1966 and 1967 excavations, the Tribe began a major excavation at Ozette village, in collaboration with Washington State University, the National Park Service and the Bureau of Indian Affairs. The Makah Tribe was selected to participate in this project in part due to the developed THPO program, location, and history of managing ocean resources.

2. Methods

In defining a Tribal Cultural Landscape for this project it was apparent from the beginning that treaty protection and control of information would be of primary importance to the Makah Tribe. It was necessary to keep these issues at the forefront of all discussions and decisions. From the onset of project discussions, many reassurances had to be made that what we were agreeing to do in this project was to collect and synthesize information for our own use and not for any federal agency. Crafting the contract with NMSF to ensure that the deliverables to NOAA and BOEM were focused on the process to collect information rather than the data collected was paramount to having our participation in the project approved by the Makah Tribal Council.

The Makah Cultural and Research Center (MCRC) has a wealth of historic documents, photographs, manuscripts, audio and video recordings, transcripts of audio recordings, legal records, cultural site reports, maps, pre-contact and historic artifacts and publications that relate to the area and resources within the defined Ozette Tribal Cultural Landscape (TCL). In order to document and connect the resources that have been utilized by Makah people for centuries within the TCL, the project team examined the MCRC's resources to determine the extent of the information. The documentation proved to be monumental, in part due to the Makah Tribe's history within the U.S. court system to define and determine areas for harvesting ocean resources, as reserved in the 1855 Treaty of Neah Bay. The Tribe's efforts focused on ocean areas and resources that covered a much larger area than the TCL, so a more narrow focus on the Ozette area was necessary.

The Makah Tribe's Fisheries Management Program manages and documents contemporary commercial and ceremonial and subsistence use of fisheries resources within the Makah Usual and Accustomed (U & A) area. The Fisheries Program was defined as an integral part of the TCL project. The fisheries manager was asked to provide detailed information about the types and abundance of sea mammals, fish and shellfish within the TCL. The information was provided and was given to the Makah GIS specialist for digitization and inclusion in the Makah GIS database.

For the purposes of this report and intended audience, generalized terms for resources and areas will be used. While much of the information collected is available to the public, the Makah Tribal Historic Preservation Office (THPO) staff is standing by assurances made to the Makah Tribal Council and department staff that data will not be shared to outside agencies through this project.

Makah Cultural and Research Center Use and Access Policy was adhered to during research for this project. This is an important component for other tribes to consider before allowing access to resources they hold. It is equally important if not more so, for resources that are generated specifically for the tribe. The MCRC has operated strictly on the principles listed in the policy and has built a reputation within the community as a place where anything from oral histories, family pictures, songs, other material heirlooms can be deposited. It is left up to the individual as to how their property can be shared or restricted. By having policies in place the MCRC is able to seek information from the Makah community as needed. A copy of the policy is appended to this report. The Makah Cultural and Research Center has been at the center of Makah oriented research since its inception in 1979.

2.1 Audio transcriptions

The Makah Cultural and Research Center holds audio collections in a variety of formats including: reel to reel, cassette, as well as digitally uncompressed files. One effort of this project was to transcribe existing audio recordings in the hopes of finding additional information that could be included in the case study. The process of transcribing is time consuming and requires appropriate tools and skilled people.

Transcribing hardware and software were purchased for this project and a computer was provided through the MCRC. This task proved to be difficult to complete with quantifiable success due to a number of staffing issues. Approximately 20 hours of audio recordings were transcribed, which took approximately 8 hours/1 hour of recorded audio. After 160 hours with no new information gained specific to this project, the project team reevaluated the efforts and decided to table the transcriptions. MCRC staff are looking into the potential to contract for transcription services, however it is likely that the process would still need to take place on site to ensure the security of the information. The new oral interviews described below were transcribed and are now a part of the MCRC collection.

Oral interviews were conducted with identified individuals that were known to utilize the case study area. In all cases, the individuals were linked to the area over generations. THPO staff had created a set of questions and provided a map of the area we were inquiring about during the interviews. The map was an essential tool in allowing the respondent to identify where their activities took place. It was unfortunate to have limited our inquiries to the small case study area as certainly more information could have been gathered from our resource people. It is also noteworthy to say that the information base is rapidly disappearing as the generations pass. It is important to conduct the oral interviews even if resources don't allow for immediate transcription. All interviewees were read a standard project description and were asked to sign an interview agreement. Interview questions and the interview agreement form are attached. Individuals were scheduled for interviews and were recorded using digital audio recording devices, and written transcripts were made from the recordings. The interviews documented recent use and connection to resources within the TCL.

2.2 Archival research

The MCRC's archives contain the most comprehensive collection of Makah related information anywhere in the world. While many of the manuscripts are digitized there is still a large assortment of items that are not. Sifting through documents that contain specific information pertaining to our case study area was also time-consuming. There is a vast array of information, some found in very obscure places. Rather than spending hours searching through documents that may or may not provide pertinent information, we directed our research beginning with the primary document that the Makah Tribe relies upon to retain our identity – the 1855 Treaty of Neah Bay. From this point we collected references pertaining to the treaty negotiations and other related publications from people of the time such as George Gibbs and James Swan. Inquiries into Indian Claims Commission records led to other legal proceedings brought forward both by and against the Makah Tribe. These records are very important because they contain the position taken by the Makah Tribe and describe the importance of both places and resources and how the Makah have interacted with them over long periods of time. These court records almost always contain sworn affidavits from Makah members who are no longer with us.

The Ozette archaeological excavation was conducted over an eleven-year period between 1970 and 1981 at the site of the southernmost permanent village of the Makah. Numerous reports have been produced to describe the pre-contact settlement of Makahs living there from 300-500 years ago. The material remains at Ozette provide extensive and quantifiable detail into resource use both on land and the water. So much information that we had to ask "is this detail necessary to build the case for a TCL?" An example, while looking at invertebrates, 90 species are found within the Ozette excavation. Can we merely look at the 10 dominant species to make the case that they are part of the TCL? The answer is yes.

2.3 Data Storage and Access

If a research project will result in publication, the permanent collections of the MCRC can be utilized with permission from the MCRC Board of Trustees. The permanent collections include the archaeological and ethnographic collections, the archival collections and the research library. New data generated from approved research requests is required to be deposited at the MCRC, though access restrictions may be applied if requested. The archival department prefers that deposits include both the audio or video material, and the transcripts. Digital and hard copies of other materials received are archived.

Archival and library materials are stored in rooms that are independently climate controlled. The shelves, cabinets, boxes and file folders that contain the materials are acid free. The rooms have smoke alarms and fire suppression systems, and the buildings are equipped with electronic alarms. Digital copies of the records are stored off site, above the tsunami zone. Though not all records are digitized, the bulk of the collection is digitized and the remainder is in process.

3. Case Study Area

As stated before, the Makah people occupied five permanent villages. Two of those villages lie on the northern side of Cape Flattery on the Straits of Juan de Fuca, opposite Vancouver Island, B.C., Canada. The other three villages are situated on the outer coast, on the Pacific shoreline. Given the parameters to work within by BOEM, the traditional areas along the Straits of Juan de Fuca were excluded as potential study areas as they are not located on the ocean.

As we looked at the areas along the coast for potential to show how closely tied the landscape is to the marine areas, two areas had very high potential. The Wyaatch area to the north extending to the U.S-Canada international boundary has extensive and well documented ocean uses by Makah people and also ties in with both permanent and seasonal villages. However, the use of the land in this area has some limitations due to the local topography and the study area would have to be enlarged significantly to capture the varied usage we know occurred at or from these locations along the coast. This northern village was intriguing as we thought we could potentially learn the most through focused study of the area.

The southernmost Makah village is Ozette. It is a well-documented area that underwent an extensive archaeological study throughout the 1970's. We initially wanted to look into other village areas because so many efforts had already been made to understand life at Ozette during pre-contact times. However, what we found when we looked at Ozette through the lens of complex issues and competing interests, multiple land uses and marine uses, numerous resources, Ozette fit with what we were trying to accomplish in laying out a Tribal Cultural Landscape.

The area we identified captures inland ranges that include a productive river, lake, and prairies as well as the coastal strip with convenient access to rocky offshore islets and extensive marine resources (Figure 32). Competing land interests include the Ozette reservation set aside for Makah by executive order in 1893, Olympic National Park, created in 1938, and various private ownership including commercial timberland. Jurisdiction on the water is no less complicated and includes federal, tribal, and state partners.

This area is typically viewed from the perspective of distinctive sites rather than connected landscape. By connecting these resource areas through human use, we are able to see the interdependence between land and water, technology and resource use, people and place.

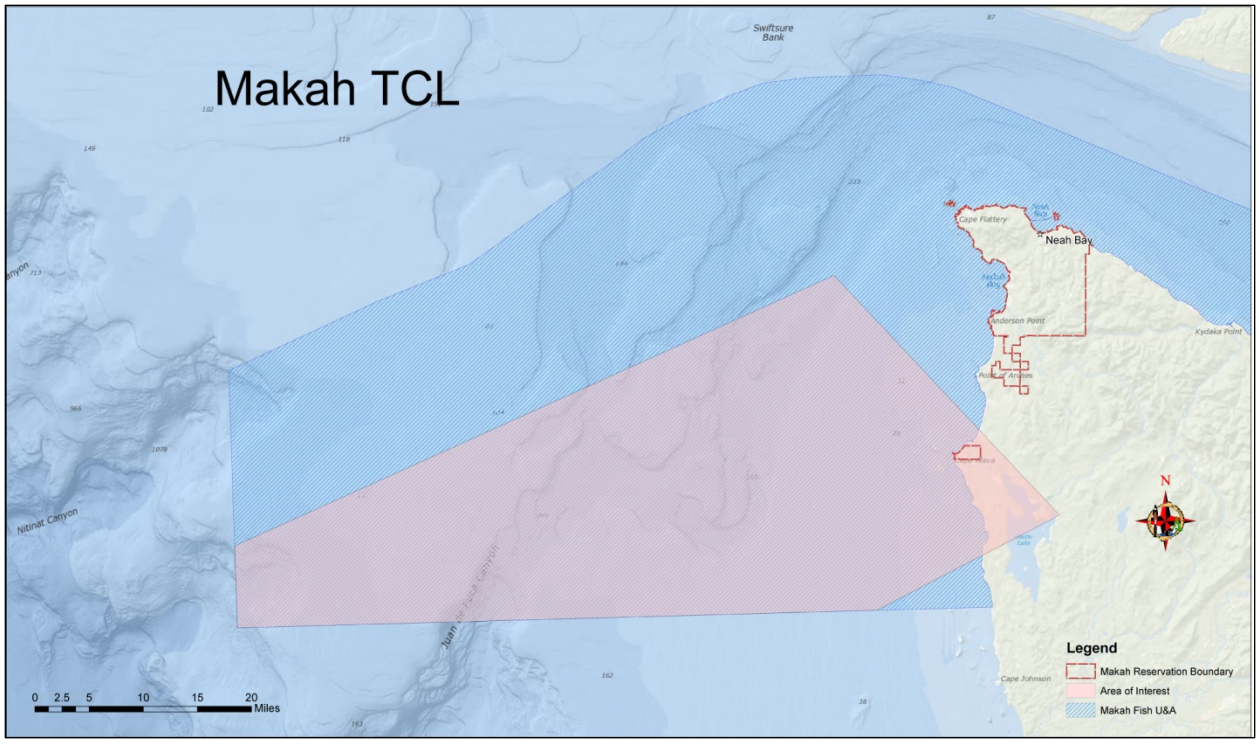

Figure 25. Makah case study area.

4. General Results

The Ozette Tribal Cultural Landscape encompasses an area that includes a lake, a river and their respective tributaries, a series of prairies, forested areas, a coastal strip, rocky outcroppings and islands, near and offshore waters, and the ocean floor. Ocean and wind currents, and the view to navigational landmarks are also part of the TCL as they have assisted Makahs traveling on the ocean to reach their destinations throughout time. Currents create upwelling events that bring feedfish to the upper regions of the water column, generating potential for additional food supplies, and they also carry migrating species of fish and fowl through Makah territory. Makah people have depended upon and managed these resources and areas for countless generations. Makahs not only subsisted in this area and on the resources, but thrived. An abundance of nutritious food resources, harvested and processed during specific seasons, allowed for down time that was devoted to ceremonial life. The surplus resources also were traded to other tribes, and later to settlers, thereby increasing the wealth of the Makah people.

The Ozette Tribal Landscape should not be viewed as a merely subsistence oriented area. The lucrative fishing grounds, access to marine mammals, shellfish, and inland resources, provides for substantial economic value that is in excess of subsistence needs. Ceremonial preparations occur both before and after successful hunts.

Cape Alava is situated on the most western point in the continental United States, which provides convenient access to migrating resources. The Makah have reserved the right of taking whales and seals at usual and accustomed places within our treaty, and are poised to resume hunting gray whales pending a waiver from the Marine Mammal Protection Act. The Ozette TCL demonstrates the need to consider past uses of an area that are not currently in practice, as environmental conditions are dynamic and can produce changes both enhancing and detrimental to particular resources and cultural practices.

Ozette lake is located off-reservation, but was and is still very important to the Makah tribe. The majority of the lakeshore is currently managed by the Olympic National Park. The lake is the spawning ground for a currently threatened salmon stock that was traditionally utilized and remains important to the tribe as shown through extensive efforts to evaluate and enhance the stock. The lake also offers habitat for other plants that have specialized uses (i.e. medicines, weaving). The outlet for the lake is the Ozette river, also important for transportation and for sea mammal and fish harvest, and inland hunting excursions. There are a number of archaeological sites along the lake and river that support the ethnographic information and oral histories that describe these activities.

Forested land surrounds Lake Ozette and the use of the forest has been well understood by current and past generations of Makah people. Though the majority of the food resources traditionally came from the ocean, the products of the forest are critical for accessing and efficiently harvesting resources of the ocean, lake, rivers and the land. Not only are the resources important, but the ceremonial sites on the land are utilized and depended upon to prepare our people to be successful and remain in balance with our environment and creator. Fresh water streams provide clean drinking water, important fish habitat, and additional ritual locations. Hills, rocky headlands and other natural features provide locations for spotting whale migrations which lead to successful whale hunts, in turn providing sustenance and capacity to fulfill ceremonies integral to Makah beliefs.

Hunting camp sites are located in forested areas. Animal trails have always been utilized by humans and have evolved into contemporary paved roads and maintained trails. Temporary shelters are used when hunting expeditions exceed one day. Though bones from more recent hunting camp sites have been located, the soils of the forest bed are not ideal for long term preservation of land mammal bones, but the descriptions of early hunting combined with the presence of land mammal bones and tools in early archaeological sites provide an illustration of early hunting tools, techniques and locations. Traditional use of this landscape within the Ozette TCL has been interrupted with the designation of the area as a National Park and further restrictions of use and management under the Wilderness Act.

West of the forested areas lie the Ozette prairies. In earlier times the prairies were burned by Makahs to encourage plant growth and to create grazing areas for elk and deer. Currently the majority of the prairies are within the Olympic National Park and they are no longer managed with fire, or in any other way managed to maintain the area as prairies. Elk and deer are important resources utilized by Makah people. Land mammal and bird hunting not only provide food, but other parts of the animals (bones, antlers, hooves, feathers) are essential in making tools that are used in sea mammal hunting, and as ceremonial accoutrements.

Beyond the prairies there is more forested land, and beyond the forested area is the coast. Some of the coastline is made up of sandy beaches, and other parts are rocky headlands. The intertidal zone is rich with shellfish and seaweed and other sealife that Makahs have always accessed. Fish can be netted in the surf and otters and seals can be hunted from shore when available. The cliffs above the beaches are useful for spotting whales, seals and incoming canoes and ships.

The village of Ozette is situated within the TCL and is not occupied currently, though it does exist within the Makah Indian reservation. This one square mile part of the reservation is surrounded by the Olympic National Park on the north, east and south and the Pacific Ocean directly to the west of the village. Ozette was occupied by Makahs until the early part of the 20th century, with most Makahs living in Neah Bay by 1920. A school had been built in Neah Bay which all children were required to attend. Makah families moved to Neah Bay both to be closer to their children, and likely because Neah Bay was becoming more of a hub of economic activity.

In 1970, the Makah Tribe, in collaboration with Washington State University, the Olympic National Park and the Bureau of Indian Affairs, began excavating a section of Ozette village that had been covered by a mudslide approximately 500 years ago. The excavation involved Makah tribal members as field school students and hundreds of non-Makah field school students from across the United States. Graduate students from WSU worked with the lead investigator, Dr. Richard Daugherty, to oversee the excavation. The excavation revealed 55,000 artifacts, most from the pre-contact period, and over a million floral and faunal remains. A more extensive description of the excavation and the artifacts is included in the reports identified in the bibliography.

The area in front of Ozette village includes a number of rocks and islands. Some rocks are submerged at high tide. In order to avoid hitting the rocks with a canoe while approaching or leaving the beach, the rocks were moved to either side, creating a 'canoe run'. This feature was created while the village was occupied, and still benefits the Makah when we travel in canoes as well as other tribes when they visit Ozette today. Ozette is often an overnight stop on the contemporary Tribal Canoe Journey route, so dozens of canoes typically land at the village site each summer.

South of the village of Ozette are dozens of petroglyphs. The designs are similar to the designs carved into the wooden artifacts from the Ozette excavation, from the layers that are more than 300 years old. The carvings depict human forms, whales, and even one sailing ship. The petroglyphs are located outside of the Makah reservation, on land currently managed by the Olympic National Park. The Makah Tribe works with the Park to protect the petroglyphs, which is not uncomplicated given their remote location. Many Makahs feel strongly that the designs not be duplicated for commercial or other inappropriate purposes.

The ocean waters out from Ozette contain a wide variety of fish, sea mammals and birds, which Makah people have been dependent upon for thousands of years. Fishing and hunting are critically important to the Tribe, both for subsistence and for commerce. The representatives involved in the treaty negotiations in 1855 repeatedly stressed the importance of maintaining access to the ocean and its resources. Makah fishing areas have been adjudicated by the U.S. Courts, and while the federal courts stated that for sea mammal hunting it is evident that Makahs ventured much further, for fishing the western boundary is set at 40 miles offshore. Additional constraints to accessing traditional fishing areas were added by the U.S.--Canada International Boundary. Even with these reductions, the Makah Tribe currently has the most diverse and largest treaty fishery in the U.S.

The islands within the TCL are similarly held in differing jurisdictions. Some of the islands are within the boundaries of the Makah Indian reservation, while others are part of the U.S. Wildlife Islands refuge. The tribe typically restricts access to these offshore areas within their jurisdiction due to potential impacts to cultural resources.

5. Conclusions

The Ozette Tribal Cultural Landscape is an area of continuing cultural importance, even given the complications of land status and the number of agencies involved in managing the waters of the lake, river and ocean. While we describe hunting, fishing and gathering practices as ongoing, there are restrictions on some resources due to their status as threatened or endangered, or because of the status of land. Even recognizing these restrictions, the TCL is considered a living, interdependent, productive landscape that has been managed by Makahs for countless generations. It is the Makah tribe's intention to continue to be actively involved in the management of the TCL, and of all of the tribe's traditional areas and resources, including land, water, and air.

Within the TCL there are connections that are difficult to describe but nonetheless very important. The fresh waters of the lake and its tributaries, and the river, are sources of drinking water for elk, which traditionally used trails to get to the prairies to graze. These old trails were also used by Makahs when travelling inland from the coast when Makah lived year-round at Ozette village. The trails are now part of the Olympic National Park's maintained trail system that allow thousands of visitors each year access to the coast within the TCL. Makah people regularly hunted elk on the prairies but do not currently due to federal restrictions regarding hunting within National Parks. The antlers of the elk are required for making whaling harpoons, examples of which were recovered during the Ozette excavation. The cliffs above the coast are used to spot whale migrations, which still occur twice each year.

During the days when the village of Ozette was occupied by Makahs, people regularly navigated out of and back onto the beach of Ozette, using the safe passage created by the canoe runs, distinguishable land features, and knowledge of ocean current and wind patterns. The productive fishing banks offshore provided an important food supply to Makah people during these earlier times, and the productive waters offshore continue to provide sustenance and wealth to Makah people.

Place name studies have documented numerous places of importance within the Ozette TCL. The Makah names often describe the resources or characteristics of the place, and are even attributed to fishing banks, currents, waterfalls, islets and rocky outcroppings. Some Makah place-names have been translated into English and are used, and some of the traditional names are slightly changed and commonly used.

6. Interview Questions

10/07/14

Characterizing Tribal Cultural Landscapes

We are working on a project that defines a Makah cultural landscape and we have selected an area that begins at Lake Ozette and extends out 40 miles into the ocean. The information that we pull together will be for our Tribe to use and will not be turned over to other agencies or organizations in its raw form. The information may be summarized and used by the Tribe at a later date

This project is funded by the Bureau of Ocean Energy Management, and will prepare our Tribe to respond to any ocean energy projects that come our way in the future. At this point there are no projects (wind energy, wave energy etc.) underway.

- Please state your name, today's date and your age.

- Describe your involvement with the area we have defined as a Makah TCL.
  The next three questions ask for information on fishing, hunting, and gathering. Please mark areas where you take resources from on the map provided.

- Do you or have you fished, anywhere within this area (identify river, lake, ocean on map if necessary. Provide map of TCL and allow them to mark on map)
  Can you tell me about the resources you access?
  Are they available year round or only seasonally?
  If seasonally, when?
  Are the resources you access used commercially, for subsistence, or both?

- Do you, or have you hunted anywhere within this area? (mark on map)
  Can you tell me about the resources you access?
  Are they available year round or only seasonally?
  If seasonally, when?
  Are the resources you access used commercially, for subsistence, or both?

- Do you or have you gathered, or visited this area? (mark on map)
  Can you tell me about the resources you access/gather?
  Are they available year round or only seasonally?
  If seasonally, when?
  Are the resources you access used commercially, for subsistence, or both?

- If you have visited or utilized the area, how do you characterize the purposes of your visits? (recreational, ceremonial, educational, traditional, etc.)

- How have you accessed this area? (what mode of transportation? Provide example if necessary--canoe, boat, truck/car, helicopter, walking)
  If going by water, are there landmarks or other features you use that guide you?

- What other resources do you consider important that are available in the area on land, lake, intertidal, river and ocean? (below or above ground)

- Is there anything that is more available in this defined TCL (show map) that is less available elsewhere? If so, what?

- Do or did your parents, grandparents and/or other relatives go to this area? If so, for what?

Prairies	Other landmarks
Lake	Winds, currents
River	Trails
Woods	Midden sites
Coast-intertidal	Petroglyphs
Water-near and offshore	Burial areas
Islands	Ceremonial sites
Hills/peaks	

- Is there anything else you would like us to know about this area?

Makah Cultural and Research Center
Application to Use MCRC Resources

Name_____

Address_____

Phone_____ e-mail_____

Date _____

Organizational/Tribal Affiliation _____

Academic Advisor or Editor:_____

Write a brief description of your research project and describe your history of previous involvement with the MCRC:

_____

_____

_____

_____

_____

_____

I hereby attest that I have read, understood, and agree to abide by the "MCRC Research Policy."

_____
Researcher Date

Do you intend to use material gathered from the Makah Cultural and Research Center Archives in material to be published or copyrighted, now or in the future? Yes / No

If no, you may not be required to obtain the approval of the MCRC Board of Trustees to research.

Official Use Only
Approved _____ Denied _____ Date _____

c:Word\Forms 11/14

Makah Cultural and Research Center
Research Policy

Because of the nature of the relationship between the Makah Indian Tribe and the United States Government, be familiar with a number of pieces of federal legislation dealing with the rights of Federally Recognized Tribes, and be cognizant of the implications research can have in the matter of the Tribe's relationship with both the Federal Government and the State of Washington. This applies to all researchers who intend to do research in the Makah community on the Makah Reservation in Neah Bay, WA. This includes research done on the MCRC premises or any other research which has a Makah component.

Researchers and scholars should be aware of the following:

1. While the body of law and custom on which the Professional Ethics Code is based is rooted in relations with the Makah Indian Tribe, you are urged to follow it whenever living cultures and peoples are involved, and when artifacts from our past are involved.

2. The Code is based on the MCRC's insistence that the Antiquities Act of 1906; the National Historic Preservation Act of 1966; the Indian Self-Determination and Education Assistance Act of 1975; the American Indian Religious Freedom Act of 1978; The Archaeological Resources Protection Act of 1979; the Native American Graves Protection and Repatriation Act of 1990; and the Native American Languages Act of 1990, together with their respective amendments, be followed at all times. Consequently, the MCRC statement is constructed to conform with those laws that govern the relationship between Federally Recognized Tribes and the United States Government.

3. The MCRC functions as a non-profit institution supported by grant funds, admissions and memberships, and the Makah Indian Tribe. There is little in the budget to help defray the costs of paying staff to assist researchers. The MCRC charges researchers $20 an hour if the staff spends more than one hour assisting them. The MCRC requires that Elders (65 years and older) consulting on projects be reimbursed at the rate of $30.00 per hour. The MCRC also charges researchers for photocopying and other reprography services (see attached List of Charges).

4. When MCRC material is used in publication or copyrighted, such as in book, article, pamphlet, video, film or recorded form, it is required that a copy of the material must be submitted to the MCRC thirty (30) days prior to publication. If the Board finds inaccuracies in the material, the Board will ask that changes be made. If requested changes are not made prior to publication, the MCRC will not consider further requests to use its resources and will communicate directly with the head of the researcher's academic department, editors and/or publishers.

5. When conducting interviews in the Neah Bay community with resource people, the individuals interviewed will be provided with a copy of the transcript for review. The interviewee has the right to clarify, correct, omit or restrict any of the statements provided to the researcher. The researcher will encourage, though cannot require, the interviewee to agree to the deposit of both the recordings and the transcripts (hard copy and digital) in the MCRC archive. It is the researcher's responsibility to provide the material to the MCRC archive. Access to their interview can be restricted if requested. Additionally, the interviewee will be provided with the opportunity to review any draft publication that includes direct quotes from their interview.

6. Some of the resources housed in the MCRC are copies of originals owned by other archival depositories and libraries. In such cases, it is the responsibility of the user to give proper credit to the owner of the material. Some of the photographs in the archives are also copies of photos owned by other

archives and libraries. In such cases, it is the responsibility of the researcher to contact and obtain the permission of the photograph's owner to use it. The MCRC will allow the researcher to view photographs that it does not own, but will not provide the researcher with a copy of the photo or allow the researcher to make one.

7. Access to certain MCRC collections is restricted, and some resources of the MCRC are not open to the public. Nothing in this policy insinuates that researchers will have unrestricted access to MCRC resources.

Researchers are required to:

Present photo identification upon arrival.
Deposit personal belongings, including purses, cameras, phones, coats, and briefcases with the staff member on duty before entering the research area.
Complete and sign a Usage Documentation form.
Preserve the exact order and arrangement of the papers.
Handle material with extreme care, without making any marks or otherwise altering or harming material.

Researchers are not allowed to:
Bring food, beverages, or gum in the research area.
Smoke in the MCRC buildings.
Use pens or any type of indelible pencil for taking notes. Computers are permitted.
Record, transcribe or otherwise use any material besides that which you have express authorization to hear when listening to audio recordings. (Such as information on another subject or from another individual.)
Handle an artifact without specific authorization to do so.
Copy or photograph any material without authorization to do so.
Take any materials out of the research area.

The MCRC reserves the right to search belongings for MCRC materials before the researcher leaves.

Interview Agreement

I, _____ do hereby consent to the recording and preservation of an interview and further consent to the transcribing, typing, printing, and publication of said interview with _____ on _____.

It is understand that the Makah Cultural and Research Center will be keep said interview as part of its Oral History Collection in the Makah Cultural and Research Center Archives.

Property Rights: I hereby grant all copyrights to the Makah Cultural and Research Center that I possess concerning information taped on this day.

Duplications: The Makah Cultural and Research Center may duplicate additional tapes and/or transcripts in-house from the originals for such purposes at is deems appropriate.

I agree that the Makah Cultural and Research Center staff shall have full and unrestricted use of my oral history recordings, and that these recordings may be used in any manner deemed proper to promote the preservation and enhancement of the Makah culture, the major goal of the Makah Cultural and Research Center.

_____ _____
Interviewee Date

_____ _____
Interviewer Date

Beneficiary:_____

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Yurok Case Study

The Yurok Tribal Cultural Landscape Project

Case Study

Located in Del Norte County, California

Yurok Indian Reservation

Prepared by:

Robert McConnell,
Heritage Preservation Officer
HC 67 PO Box 196
Hoopa California 95546

Confidentiality Statement:

Archaeological and traditional property locations are considered confidential and public access to such information is restricted by law (Section 304 of the National Historic Preservation Act; Section 9(a) of the Archaeological Resources Protection Act; Executive Order 13007; Section 6254.10 of the California State Government Code).

Acronyms

APE	Area of Potential Effect
BLM	Bureau of Land Management
BOEM	Bureau of Ocean Energy Management
CSA	Case Study Area
NAGPRA	Native American Graves Protection and Repatriation Act
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
TCL	Tribal Cultural Landscape
TCP	Traditional Cultural Property
TEK	Traditional Ecological Knowledge
THPO	Tribal Historic Preservation Officer
USFS	United States Forest Service
YLM	Yurok Tribe Land Management

The Yurok Tribe Cultural Landscape Case Study was funded by BOEM through an agreement with NOAA. The Tribe conducted the work according to terms of a contract with the National Marine Sanctuary Foundation (NMSF).

This document is not an authoritative or exhaustive document on Yurok Culture or the Yurok relationship with the world. It is a cursory overview of published sources, oral histories, personal experiences, and archival literature as it relates to the scope of this project, and the limitations in resources (funding and time) allotted for this report under the terms of the contract with NMFS. The Yurok relationship with their world is well established by the information provided in this document, however, and in reality, the relationship between Yurok and the world is so profound it cannot be encapsulated or adequately reflected in a document of this nature.

1. Project Description

The Yurok Tribal Cultural Landscape Project was designed to define a Tribal Cultural Landscape (TCL) from the standpoint of Yurok culture beginning with an overview of traditional properties located within a set boundary. The Case Study Area (CSA) boundary was determined by the Yurok Tribal Heritage Preservation Officer (THPO) in conjunction with BOEM, with a minimum size of 2,428 hectares (6,000 acres) while incorporating coastal and marine areas that have the potential to be impacted by offshore siting of wind and or wave powered electrical generation facilities. The chosen CSA must also be large enough to adequately incorporate enough of the Yurok TCL to define it under existing National Historic Preservation Act (NHPA) regulations.

The types of cultural resource information identified include traditional cultural properties (TCPs), information related to traditional gathering, hunting, fishing and other subsistence and commerce activities, as well as those related to spiritual and ceremonial sites and activities. The project activities included archival research, field investigations and visits to select type-sites, community outreach to identify tribal elders and other tribal members who are familiar with the study area, the selection of oral history candidates, conducting the oral histories and developing draft and final reports. Tribal member input was sought to identify potential TCPs, Traditional Ecological Knowledge (TEK), cultural use sites and use activities within the CSA. Existing documents, reports and oral interviews provided a baseline of information that can be built upon for future proposed actions.

1.1 Background Research

Background research was conducted prior to field surveys in order to identify potential cultural resources within the project CSA and hypothetical area of potential effect (APE). Rationale for considering a hypothetical APE is discussed on p. 145. Previous studies, archival resources, published literature, previous interviews, and consultation were used as means in identifying potential resources in the area. A record search of the Yurok Tribal Inventory was conducted by Cultural Resource Manager Rosie Clayburn and Heritage Preservation Officer, Robert McConnell. Other activities included archival research at the Del Norte County Historical Society, Humboldt State University, and Del Norte County Library; review of a published account of Yurok ethnography and regional history; consultation with the Yurok Culture Committee, and the Yurok THPO. The information gathered is summarized below and was used to inform the setting, research design, survey methods, and the recommendations sections of this report.

1.2 Consultation

Cultural Resource Manager Rosie Clayburn initiated consultation with the Yurok Tribal Culture Committee on January 2013 in Weitchpec, CA. During this meeting, basic information was shared with the committee and the THPO regarding the project. The discussion revolved around the project, its purpose, location and the possibility of cultural resources in the vicinity. Additional consultations with the Culture Committee occurred on December 2013, July 2014, and March 2015 during regular Committee meetings. The results are in the Findings Section of this report.

1.3 Research Design

Study methods included: background research including a formal records search of the Yurok Tribal Inventory and archival research; consultation with Yurok Tribe representatives about cultural resource places and concerns; development of a research design; and a cultural resources field survey. Findings and recommendations are summarized below. The study method developed was designed to identify

historic properties within the CSA and a hypothetical APE, and to identify eligible or potentially eligible historic properties within the Case Study Area. Field survey methods were developed to identify potential resources within the CSA and hypothetical APE. A three-phase survey strategy consisting of systematic pedestrian survey of select areas of the APE, consultation with the Yurok Tribe Culture Committee, archival and literature research was developed for this study.

Cultural resources within the CSA and hypothetical APE may include Yurok traditional villages, features, trail segments, structures, buildings, objects and/or artifacts, resource gathering or processing areas, ceremonial sites, hunting and fishing sites, and prayer sites. Historic resources may include features, objects, structures, or artifacts associated with historic Klamath and logging activities. Only previously released information was used in the production of this document, a decision made to keep information new to the author from being made public. Enough public information exists to define a Yurok TCL.

2. Case Study Area

2.1 Determination of boundary

Boundary determination for the Case Study Area needed to accomplish several things: represent a cross section of Yurok culture and physical landscape, meet the minimum size put forth by BOEM, and fulfill the definition of a Yurok TCL. The minimum for size, 2,428 hectares or 6,000 acres, was not enough to adequately capture a complete Yurok TCL. Finally, it was decided to begin with a point in the ceremonial high country of Yurok, and extend westward with an ever widening boundary until reaching the mouth of the Klamath River, where the boundary then becomes constant, extending west until reaching the limits of the United States territory some 200 miles offshore (Figure 26).

This successfully encompasses a cross section of both the physical and metaphysical nature of what composes a Yurok TCL. The land area exceeded the minimum case study area by about 50%, equal to about 2% of Yurok ancestral territory on land. The ocean portion of the case study area is approximately 800 times larger than the minimum case study area, yet again only includes a small portion of the Yurok worldview, or Yurok TCL.

Tribal Cultural Landscape:
"Any place in which a relationship, past or present, exists between a spatial area, resource, and an associated group of indigenous people whose cultural practices, beliefs, or identity connects them to that place. A tribal cultural landscape is determined by and known to a culturally related group of indigenous people with relationships to that place."

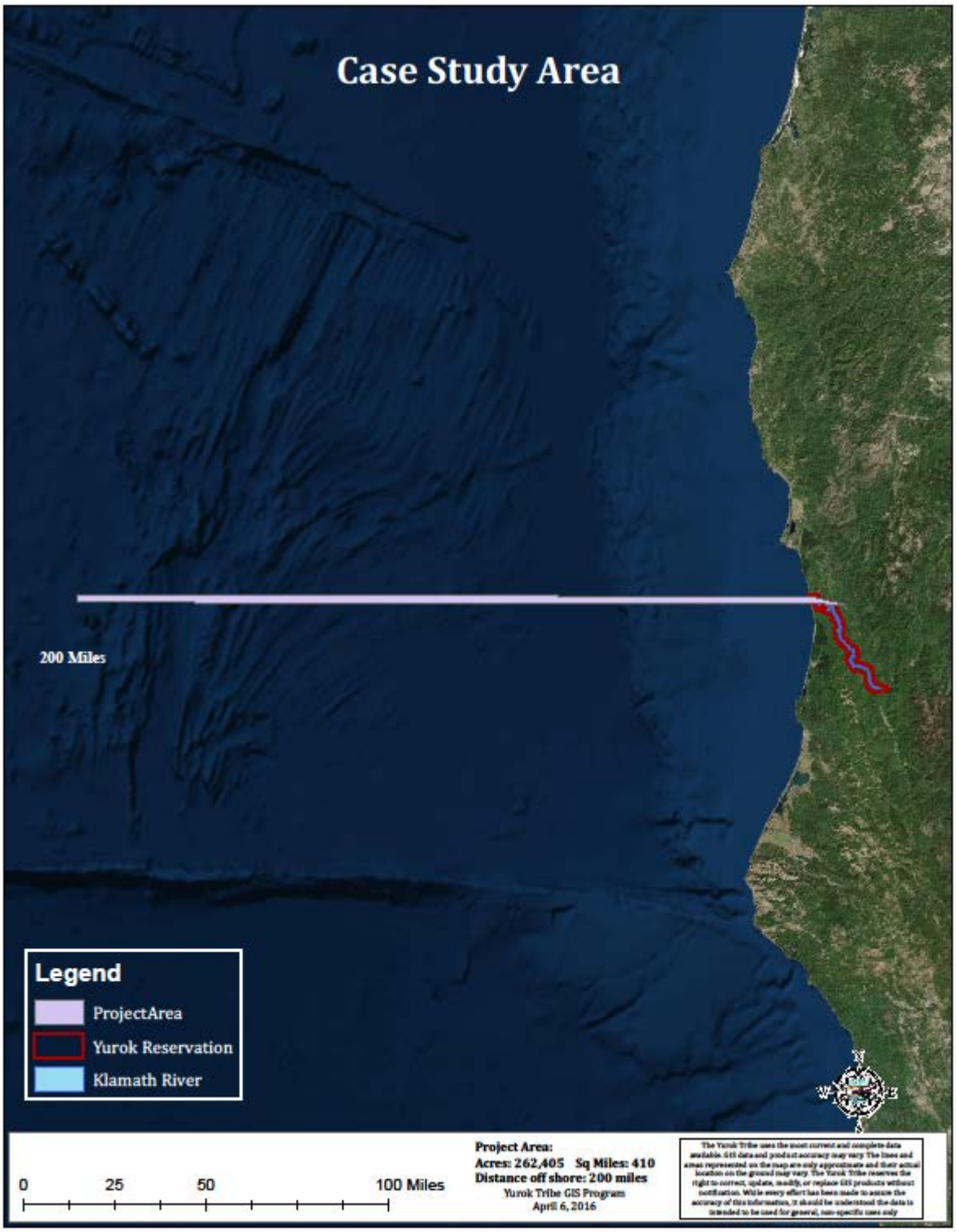


Figure 26. Yurok Case Study Area.

2.2 Area of Potential Effect

After defining the Case Study boundary, next was determining a hypothetical Area of Potential Effect (APE) for this project. The first thought was that the APE would fit within the CSA, however, the CSA is but a slice of the total Yurok TCL, and potential locations of wind or wave generation facilities would likely be sited outside of the CSA should an actual project be proposed. In addition, not all necessary details are known to fully develop a formal Section 106 report and determination of effects. Because the project is hypothetical, it is probable that many questions routinely answered by knowing the potential conduit route's origin and the method of transporting the electricity along the route to the Pacific Power and Light substation will be left unaddressed. The area from the ocean edge to the Pacific Power and Light substation covers both a land approach to the station and a river approach. The most feasible land approach route travels outside of the CSA. It is also likely that other routes could be selected from the origin of the power to the Pacific Power and Light substation. (See Potential Power Line Routes, Figure 27). The APE is primarily within the CSA, however it is likely to be determined larger than the CSA dependent on the siting of any power sources. In the map below (Figure 27), one power line route goes outside the boundaries of the CSA.

The cultural resources field survey was conducted by qualified staff Rosie Clayburn, Robert McConnell, Brandon Scott, and Carlton Gibbens. Selected sites within the project CSA and hypothetical APE were surveyed on multiple dates in May, June and July of 2015. Within the selected survey areas, efforts were made to identify cultural deposits by observing road cuts and exposed surface areas. No subsurface testing was conducted during the field survey, however boot scrapes were conducted in areas of heavy ground cover. Field notes recording soils; vegetation and general survey notes were completed and are on file in the Klamath and Weitchpec Tribal Offices.

The CSA was developed with respect to the definition of a TCL from the Yurok perspective, a map drawn by T.T. Waterman (Figure 28) and interviews with knowledgeable tribal members. The CSA includes the minimum amount of area and TCPs needed to demonstrate a Yurok TCL.

In review, the CSA appears as though it is a slice of pie, albeit a very long slender slice. Viewed as such, the CSA represents a slice of Yurok culture and worldview and provides the Yurok definition of a TCL. The Heritage Preservation Office of the Yurok Tribe has conducted numerous interviews (both video and taped) since 1996. Interviews of people with a known or potential connection to the CSA were reviewed for content and 20 interviews (totaling 29.6 hours) were transcribed. In addition, a literature search was conducted within the Yurok Tribal Archives, a review of the digitized T.T. Waterman *Yurok Geography* (1920) locations within the CSA, and a presentation before the Yurok Tribe Cultural Committee was made on December 13, 2013 seeking further information and potential persons to interview. Last, a literature search of known writings of Yurok Culture was conducted for locations within the CSA.

The CSA map was developed with respect to all of this information. It appears to be skewed, but is not, as the distance from land gives it that appearance. The United States territorial boundary was utilized because it is the extent of jurisdiction, even though the Yurok TCL likely extends beyond that boundary, and is certainly much broader than what is depicted on the CSA map.

After consultation with the Yurok Tribe Cultural Committee, individuals with knowledge of the CSA were interviewed utilizing information gleaned from the research conducted prior to the interview. From those interviews and research, a sample group of TCPs were selected for field truthing. The sample group was selected with an eye toward describing the Yurok worldview of a TCL within the Yurok CSA. The Yurok Tribe Land Management (YLM) survey crew, Tribal Archaeologist, and Heritage Preservation Officer conducted the field truthing utilizing GPS equipment with an accuracy level of sub centimeter.

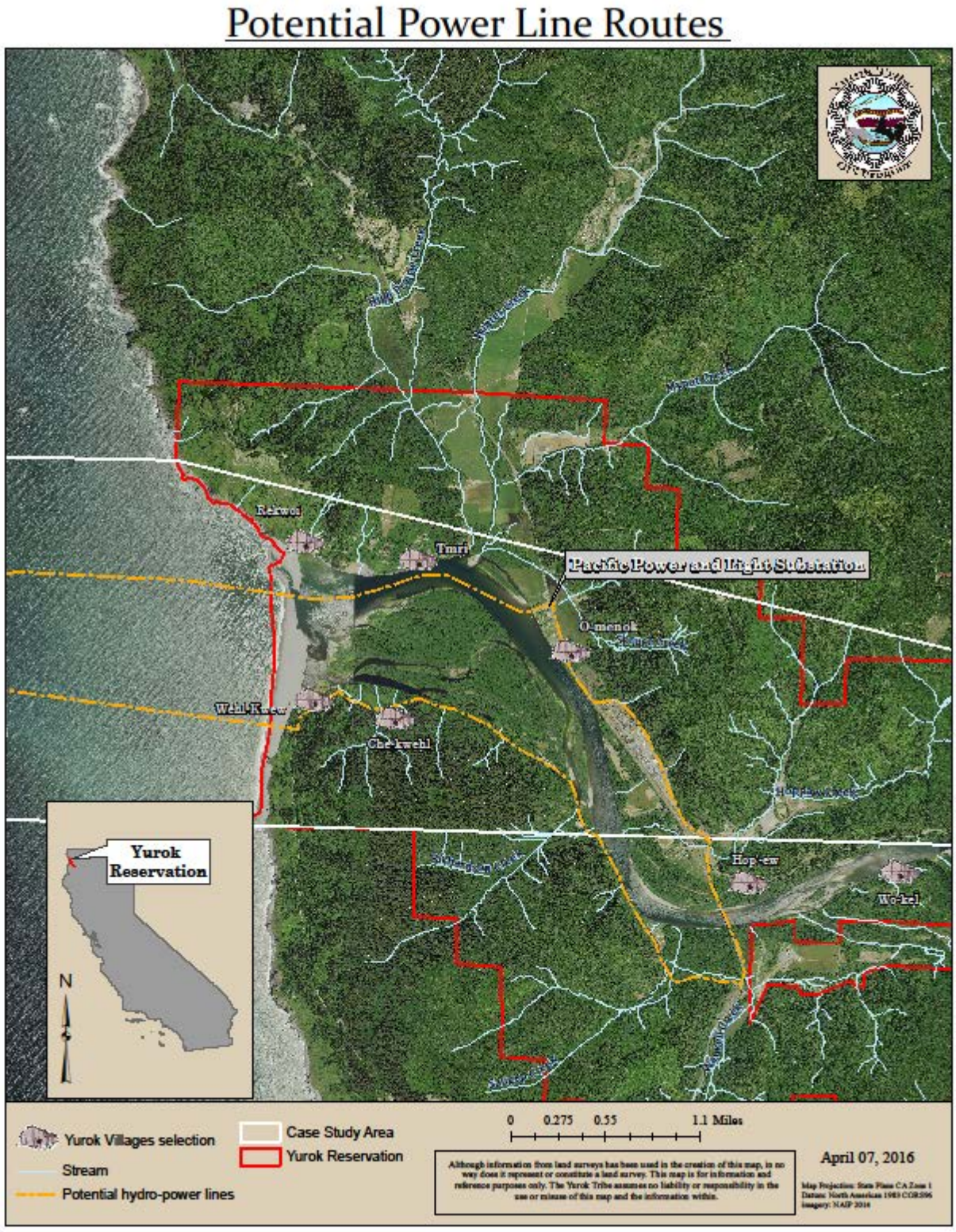


Figure 27. Development of Yurok Case Study Area.

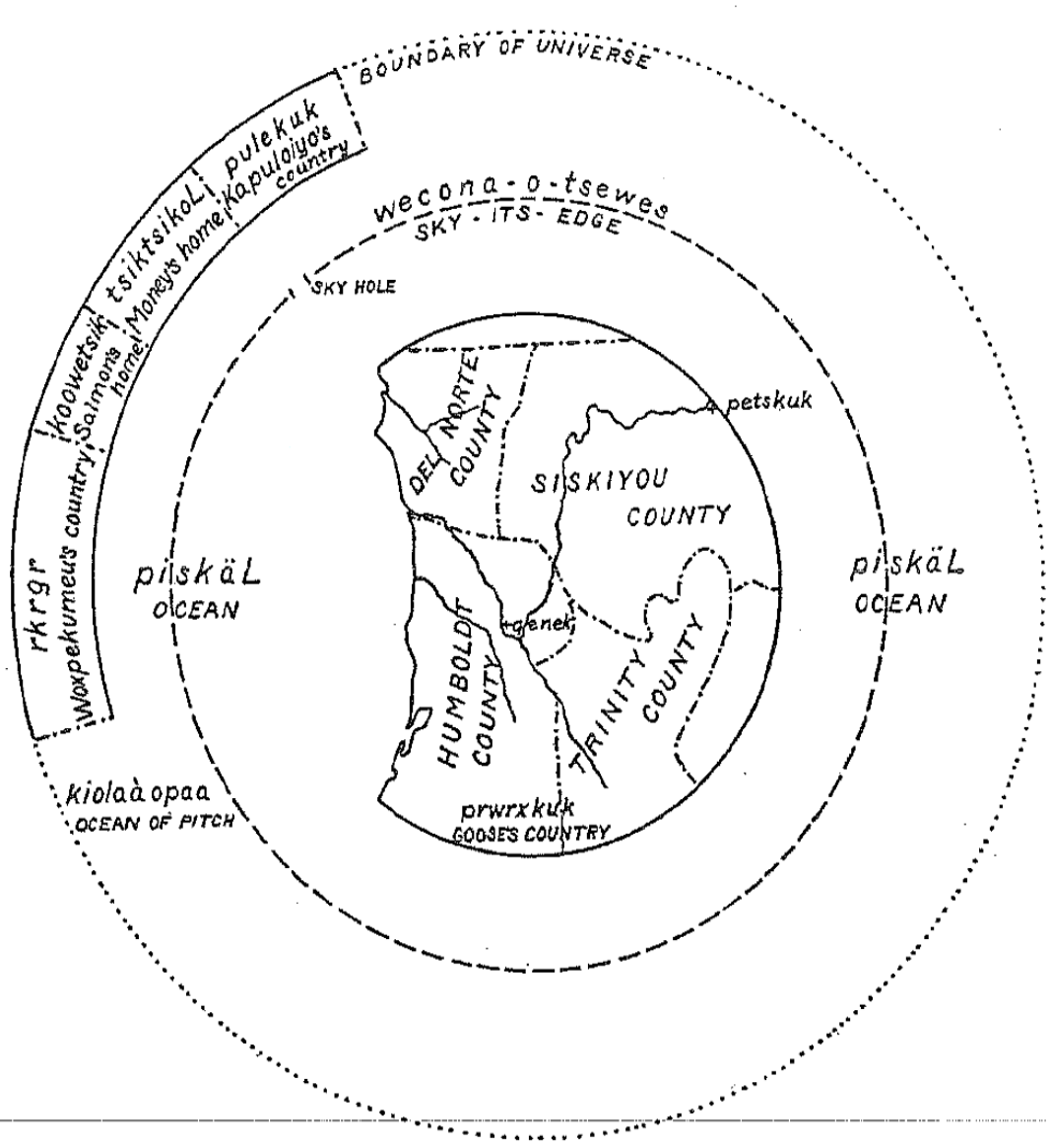


Figure 28. Diagram showing the Yurok idea of the world, from T.T. Waterman (1920).

2.3 Case Study Area Description

The Yurok TCL CSA begins at a single point in the ceremonial high country, overlooking the mouth of the Klamath River and ocean to the west. The elevation at this point is 4,265 feet, and within the western-most section of the Helkau Ceremonial District. This portion of the Helkau Ceremonial District is an area currently not utilized by Yurok practitioners, because of non-tribal facilities located here (Figure 29).

Figure 29. Portion of the Helkau Ceremonial District currently not utilized by Yurok practitioners. Photo by Robert McConnell.

This picture was taken facing northwest with the beginning of the CSA about 100 feet to the west of the California Department Forestry fire lookout in the middle center of the photo. The towers to the left of the picture are cellular repeater stations and the square tower on the right of the photo has antennas from a private timber company, California Highway Patrol, and other public safety agencies.

The United States Forest Service (USFS) owns the land containing the Helkau Ceremonial District and commissioned a study in 1979 ultimately determining it (Helkau Ceremonial District) eligible for inclusion in the National Register of Historic Places (Theodoratus 1979). Subsequent to that determination, the USFS in 1995 notified the owners and operators of the facilities (leaseholders through Special Use Permits-SUP) that they had until 2022 to find alternative locations and remove the facilities. For a full accounting of the issue, see *Red Mountain timeline* in appendices.

Removal of facilities, once completed, will allow for traditional ceremonial use of the area to resume. The Helkau Ceremonial District has been nominated to the National Register of Historic Places (NRHP), however it has not been placed on the Register (personal communication-Six Rivers National Forest Tribal Liaison Mike Turek 2014).

The need to determine boundaries of the property is likely the reason for the Helkau Ceremonial District not being placed on the NRHP. The USFS may be reluctant to attempt defining the boundary because it

may prove difficult, but also because of what it could mean to other activities conducted within the Six Rivers National Forest such as logging and recreation. In addition, because the area has been declared eligible, Tribes do not see a need to proceed further at this time.

The Helkau Ceremonial District surrounds a number of high peaks utilized by Yurok and other ceremonialists from neighboring tribes in preparation for conducting ceremonies such as the Jump and Deerskin Ceremonies and to acquire doctoring powers. The two most prominent of the peaks are Doctor Rock and Chimney Rock.

Standing within the Helkau Ceremonial District at the beginning of the CSA with the communication facilities (Figure 29, above) at your back and looking west toward the mouth of the Klamath River (Figure 30) one can see most of the land portion of the CSA, and a good deal of the ocean portion. What cannot be seen of the land portion from this vantage point is located on the west side of mountains and ridges. The ocean portion of the CSA that cannot be seen from this same point is due to the lack of ability in the human eye to see that far because of the distance from shore (200 miles) to the outer reaches of the CSA.

Contained within the land portion is almost every type of site known to Yurok, such as trails, gathering, hunting, fishing, villages, ceremonial and spiritual sites. Within the ocean portion are submerged village sites, fishing sites, and significant spiritual sites.

Figure 30. Standing within the Helkau Ceremonial District at the beginning of the CSA.
With the communication facilities in Figure 29 at your back and looking west toward the mouth of the Klamath River. Photo by Robert McConnell.

2.3.1 Natural Setting

The project CSA is located on the northwest coast of California a little less than an hour drive south from the Oregon border, and wholly within the ancestral territory of the Yurok People. The coastal portion of Yurok ancestral territory is marked by both remoteness and inaccessibility. Steep forested mountains rise from the sea, broken occasionally by lagoons, rivers, and long sand beaches. The Klamath River, the third largest river on the lower west coast of the United States, is the central feature of Yurok ancestral territory and the current Yurok Reservation. The Klamath River begins in eastern Oregon, near Crater Lake, and bisects the city of Klamath Falls. Five tributaries feed into Upper Klamath Lake, the outflow of which becomes the main stem Klamath at Klamath Falls. Some 180 miles downstream, the river reaches the Pacific Ocean at Rekwoi.

The dominant vegetation communities in the CSA are old growth redwood forest and riparian. The surrounding area is vegetated with a mix of regenerated stands of redwood with fir and alder. The under story includes dense patches of salmon berry, huckleberry, blackberry, sword fern, Oregon grape, wild parsnip, wild celery, coltsfoot, rhododendron, and a variety of plant species common to coastal redwood forests. A wide array of rainforest and wetland plants occur throughout, including many traditional Yurok foods and medicines, edible mushrooms, ferns, herbs, berries and medicinal plants, as described in the following excerpts.

“The banks of the Klamath River were used by Yurok as gathering areas for various edible plants such as berries, and grass seeds that were gathered and stored for winter foods” (Gibbs 1853:9). “Wild tobacco, *Nicotianas*, occurs naturally on sandy bars adjacent to the River but was not utilized by Yurok for smoking for fear that it had grown in association with burials” (Kroeber 1976:88). This prohibition did not mean that Yurok did not grow tobacco, when in fact the seed probably was carried downstream from plants grown upriver. The seed from the plants along the river was taken to a place known to not have a burial and grown there for three seasons. In the third season, the crop could then be utilized without fear of it coming from ground above a burial.

“The riparian zone of the River is the source of many materials used for Yurok basketry. Young willow shoots were harvested along the riverbank. Many roots were collected from the banks of the river, which allowed access to the roots without harmful digging and damage to the trees. Pine, redwood, and spruce roots, in addition to willow and grapevine are basic basketry materials used in basket weaving” (Kroeber 1976:90).

“Tree roots for basketry were gathered and prepared along the River. Near the coast, redwood and spruce roots were gathered. Upriver, primary roots collected were sugar pine, alder, will[ow], cottonwood and wild grape” (O’Neale 1995:17).“Many berry bushes grow on the banks of creeks and tributaries flowing into the Klamath River. These include salmon berry, huckleberry, gooseberry, sallal, currant, and grapes. Further upslope, filberts and acorns could be gathered, along with several species of fungus, and edible roots” (Gibbs 1853:9). “Gathering areas located near Yurok villages were not privately owned, but hunting and snaring places were. Beyond a one-mile distance from villages, most areas were not owned but were open to use by anyone. Plants that were gathered for food in areas above the River included ‘Indian potatoes’ or bulbs (*hr"Lkr and otoi"*), grass seed (*legeL*), wild sunflower (*petso"lo*), clover (*kla"po*) as well as acorns” (Beals and Hester 1974:58).

“Hazel shoots are the primary basketry material used for the warp of a Yurok basket. Traditional burning of hillsides containing hazel patches occurred annually and the new shoots would be harvested and used for basketry. Other upslope vegetation used for basketry includes bear grass, black maidenhair fern, giant fern, and woodwardia for color and designs created by twining techniques” (Kroeber 1976 and Sloan 2003:24-25).

2.3.2 Cultural Setting

"Yurok people have lived in northwestern California along the Redwood Coast and the Klamath River since Noohl Hee-Kon (time immemorial). Traditionally Yurok people living on the upper region of the Klamath River are Pe-cheek-lah (up-river Indian), lower region of the Klamath River Puelik-lah (down-river Indian), and the coast, Ner-er-ner (coastal Indian). Oohl, translates to mean Indian people, [and] describes Yurok people [al]together. The name Yurok comes from the Karuk word for 'downriver,' and is the most widely used word to describe the Tribe and people" (Clayburn 2011:11).

"From time immemorial Yurok people have lived along the Klamath River from the mouth of the river up to the Karuk boundary. Nearly every aspect of Yurok life, language, ceremonies, society, and economy, was, and continues to be, bound by the river. The river, being so basic that it has no specific Yurok word designation, is euphemistically referred to in its lower stretch as the 'Yurok highway.' At the mouth of the river, Yurok also refer to the Klamath River as *HeL kik a wroi* or 'watercourse coming from way back in the mountains.' It is not surprising that Yurok culture reflects a strong connection to the riverine environment. In contemporary times the Klamath River is referred to as 'the main vein,' emphasizing its comparison to a blood vessel that provides the main flow of sustenance" (Sloan 2003:9-10).

"The Yurok people are named and live in relation to the rivers and the sustenance that those quality flows provide. Residency, natural and cultural resource sites, ceremonial practices, oral history, transportation route, economic and sociological dependence, indeed the Yurok identity, are all intricately woven into the ecosystems of the Trinity and Klamath Rivers. Of 72 village sites in Yurok ancestral lands, the Yurok continue to live upon many of the 44 village sites that line the Klamath and Lower Trinity Rivers. These are places where Yurok have been born, lived, fished, gathered, prayed and have been buried" (Sloan 2003:9-10).

"A Yurok elder said, 'Without this river we would not know who we are, where we're from or where we're going.' Other Native Americans track directionality based on cardinal directions. In a steep riverine environment with a temperate rainforest climate, the sun's rising and setting points are not accurate ways of tracking time and direction. Instead, the flow of the river is most essential for telling time and direction. River flow rates under natural conditions indicate both seasonality and time of day" (Sloan 2003:10).

2.3.3 Yurok Ancestral Lands

Yurok ancestral territory forms the foundation of the Constitution of the Yurok Tribe. Indeed, the "Map of Yurok Ancestral Lands," on file in the Yurok Tribal Offices, is specifically referenced.

> Our people have always lived on this sacred and wondrous land along the Pacific Coast and inland on the Klamath River, since the Spirit People, *Wo"ge*" made things ready for us and the Creator, *Ko-won-no-ekc-on Ne ka-nup-ceo,* placed us here. From the beginning, we have followed all the laws of the Creator, which became the whole fabric of our tribal sovereignty. In times past and now Yurok people bless the deep river, the tall redwood trees, the rocks, the mounds, and the trails. We pray for the health of all the animals, and prudently harvest and manage the great salmon runs and herds of deer and elk. We never waste and use every bit of the salmon, deer, elk, sturgeon, eels, seaweed, mussels, candlefish, otters, sea lions, seals, whales, and other ocean and river animals. We also have practiced our stewardship of the land in the prairies and forests through controlled burns that improve wildlife habitat and enhance the health and growth of the tan oak acorns, hazelnuts, pepperwood nuts,

berries, grasses and bushes, all of which are used and provide materials for baskets, fabrics, and utensils.

For millennia our religion and sovereignty have been pervasive throughout all of our traditional villages. Our intricate way of life requires the use of the sweathouse, extensive spiritual training, and sacrifice. Until recently there was little crime, because Yurok law is firm and requires full compensation to the family whenever there is an injury or insult. If there is not agreement as to the settlement, a mediator would resolve the dispute. Our Indian doctors, *Keg-ae*, have cared for our people and treated them when they became ill. In times of difficulty village headmen gather together to resolve problems affecting the Yurok Tribe.

Our people have always carried on extensive trade and social relations throughout our territory and beyond. Our commerce includes a monetary system based on the use of dentalium shells, *Terk-n-term*, and other items as currency. The Klamath River was and remains our highway, and we from time beginning utilized the river and the ocean in dugout canoes, *Alth-wayoch*, carved from the redwood by Yurok craftsmen, masterpieces of efficiency and ingenuity and have always been sold or traded to others outside the tribe.

Our people come together from many villages to perform ceremonial construction of our fish dams, *Lohg-en*. Our traditional ceremonies -- the Deerskin Dance, Doctor Dance, Jump Dance, Brush Dance, Kick Dance, Flower Dance and others -- have always drawn hundreds, and sometimes thousands, of Yuroks and members of neighboring tribes together for renewal, healing, and prayer. We also have always traveled to the North and East to the high mountains on our traditional trails to worship the Creator at our sacred sites, -- Doctor Rock, Chimney Rock, *Thklamah* (the stepping stones for ascent into the sky world), and many others.

This whole land, this Yurok country, stayed in balance, kept that way by our good stewardship, hard work, wise laws, and constant prayers to the Creator.

Our social and ecological balance, thousands and thousands of years old, was shattered by the invasion of the non-Indians. We lost three-fourths or more of our people through unprovoked massacres by vigilantes and the intrusion of fatal European diseases. The introduction of alcohol weakened our social structure, as did the forced removal of our children to government boarding schools, where many were beaten, punished for speaking their language, and denied the right to practice their cultural heritage. After goldminers swarmed over our land we agreed to sign a “Treaty of Peace and Friendship” with representatives of the President of the United States in 1851, but the United States Senate failed to ratify the treaty. Then in 1855, the Unites States ordered us to be confined on the Klamath River Reserve, created by Executive Order (pursuant to the Act of March 3, 1853, 10 Stat. 226, 238) within our own territory.

In 1864 a small part of our Ancestral land became a part of the Hoopa Valley Indian Reservation which was set apart for Yuroks and other Indians in Northern California. This became known as the 12-mile “Square.” In 1891, a further small part of our Ancestral land was added when “The Extension” to the Hoopa Valley Indian Reservation was set aside by executive order authorized by the 1864 statute, which created the Hoopa Valley Indian Reservation. This statutory reservation extension

extended from the mouth of the Klamath River, including the old Klamath River Reserve, about 50 miles inland and encompassed the river and its bed, along with one mile of land on both sides of the river.

But even this small remnant of our ancestral land was not to last for long. In the 1890's, individual Indians received allotments from tribal land located in the Klamath River Reserve portion of the Hoopa Valley Reservation and almost all of the remainder of the Reserve was declared "surplus" and opened for homesteading by non-Indians. The forests were logged excessively and the wildlife was depleted. Even the great salmon runs went into deep decline due to over-fishing and habitat destruction. In the mid 1930's the State of California attempted illegally to terminate traditional fishing by Yurok people, the river's original --and only -- stewards from Bluff Creek to the Pacific Ocean. Our fishing rights were judicially reaffirmed in the 1970's and the 1980's after many legal and physical battles.

Throughout the first 140 years of our tribes' dealings with the United States, we never adopted a written form of government. We had not needed a formal structure and were reluctant to change. The United States had decimated the Yurok population, land base, and natural resources and our people were deeply distrustful of the federal government. Yet we, the Yurok people, know that this is the time to exercise our inherent tribal sovereignty and formally organize under this Constitution. We do this to provide for the administration and governance of the modern Yurok Tribe that has emerged, strong and proud, from the tragedies and wrongs of the years since the arrival of the non-Indians into our land. Our sacred and vibrant traditions have survived and are now growing stronger and richer each year.

The Yurok Tribe is the largest Indian tribe in California, and, while much land has been lost, the spirit of the Creator and our inherent tribal sovereignty still thrives in the hearts and minds of our people as well as in the strong currents, deep canyons, thick forests, and high mountains of our ancestral lands.

Therefore, in order to exercise the inherent sovereignty of the Yurok Tribe, we adopt this Constitution in order to:

1) Preserve forever the survival of our tribe and protect it from forces which may threaten its existence;

2) Uphold and protect our tribal sovereignty which has existed from time immemorial and which remains undiminished;

3) Reclaim the tribal land base within the Yurok Reservation and enlarge the Reservation boundaries to the maximum extent possible within the ancestral lands of our tribe and/or within any compensatory land area;

4) Preserve and promote our culture, language, and religious beliefs and practices, and pass them on to our children, our grandchildren, and to their children and grandchildren, on and on, forever;

5) Provide for the health, education, economy, and social well being of our members and future members;

> 6) Restore, enhance, and manage the tribal fishery, tribal water rights, tribal forests, and all other natural resources; and
>
> 7) Insure peace, harmony, and protection of individual human rights among our members and among others who may come within the jurisdiction of our tribal government.
>
> The Ancestral Lands of the Yurok Tribe extend unbroken along the Pacific Ocean coast (including usual and customary offshore fishing areas along with the homes of many spiritual beings in Yurok culture) from Damnation Creek, its northern boundary, to the southern boundary of the Little River drainage basin, and unbroken along the Klamath River, including both sides and its bed, from its mouth upstream to and including the Bluff Creek drainage basin.
>
> Included within these lands are the drainage basin of Wilson Creek, the drainage basins of all streams entering the Klamath River from its mouth upstream to and including the Bluff Creek and Slate Creek drainage basins, including the village site at Big Bar (except for the drainage basin upstream from the junction of Pine Creek and Snow Camp Creek), and the Canyon Creek (also known as Tank Creek) drainage basin of the Trinity River, the drainage basins of streams entering the ocean or lagoons between the Klamath River and Little River (except for the portion of the Redwood Creek drainage basin beyond the McArthur Creek drainage basin, and except for the portion of the Little River drainage basin which lies six miles up from the ocean). Our Ancestral Lands include all submerged lands, and the beds, banks and waters of all the tributaries within the territory just described. Also included within the Ancestral Lands is a shared interest with other tribes in ceremonial high country sites and trails as known by the Tribe, as well as the Tribes usual and customary hunting, fishing and gathering sites.
>
> The Ancestral Lands are depicted on the "Map of Yurok Ancestral Lands," on file in the Yurok Tribal Offices" (Yurok Tribe 1993) (Figure 31).

"There are more than70 known villages within the ancestral territory, most of which are situated along the Klamath River and along the Pacific Coast" (Waterman 1920). "Within each village, houses were constructed primarily of redwood and each house had a name. Families and descendants are associated with these specific house names" (Waterman 1920:208). "Families and/or houses within villages owned specific resource gathering areas such as fishing holes, acorn-gathering spots, trapping areas, and hunting locations. Glen Moore Sr., who was from the village of Srey-gon, explained in an interview in 1996 that, 'most Indian people had fishing spots, they have the right to fish. Sometimes its [fishing hole] is handed down through relations. You can give a fishing place to someone else'" (Moore 1996). The sweathouse is another structure found within each village. Men typically did not spend the night in a family house, instead they stayed in the sweathouse. The sweathouse was also used for ceremonial purposes such as purification before hunting or ceremonies.

"Yurok villages situated along river and coastal lines tend to be located near resource gathering areas such as good fishing access or coastal gathering sites. River villages tend to be on ancient river terraces and decrease in elevation the further down river they are, providing easy access to fishing holes along the Klamath. Coastal villages are situated along lagoons or mouths of rivers, adding additional food resources to ones provided by the ocean. The mountain areas above the water areas were mostly used for gathering and hunting" (Waterman 1920:183; Bearss 1969).

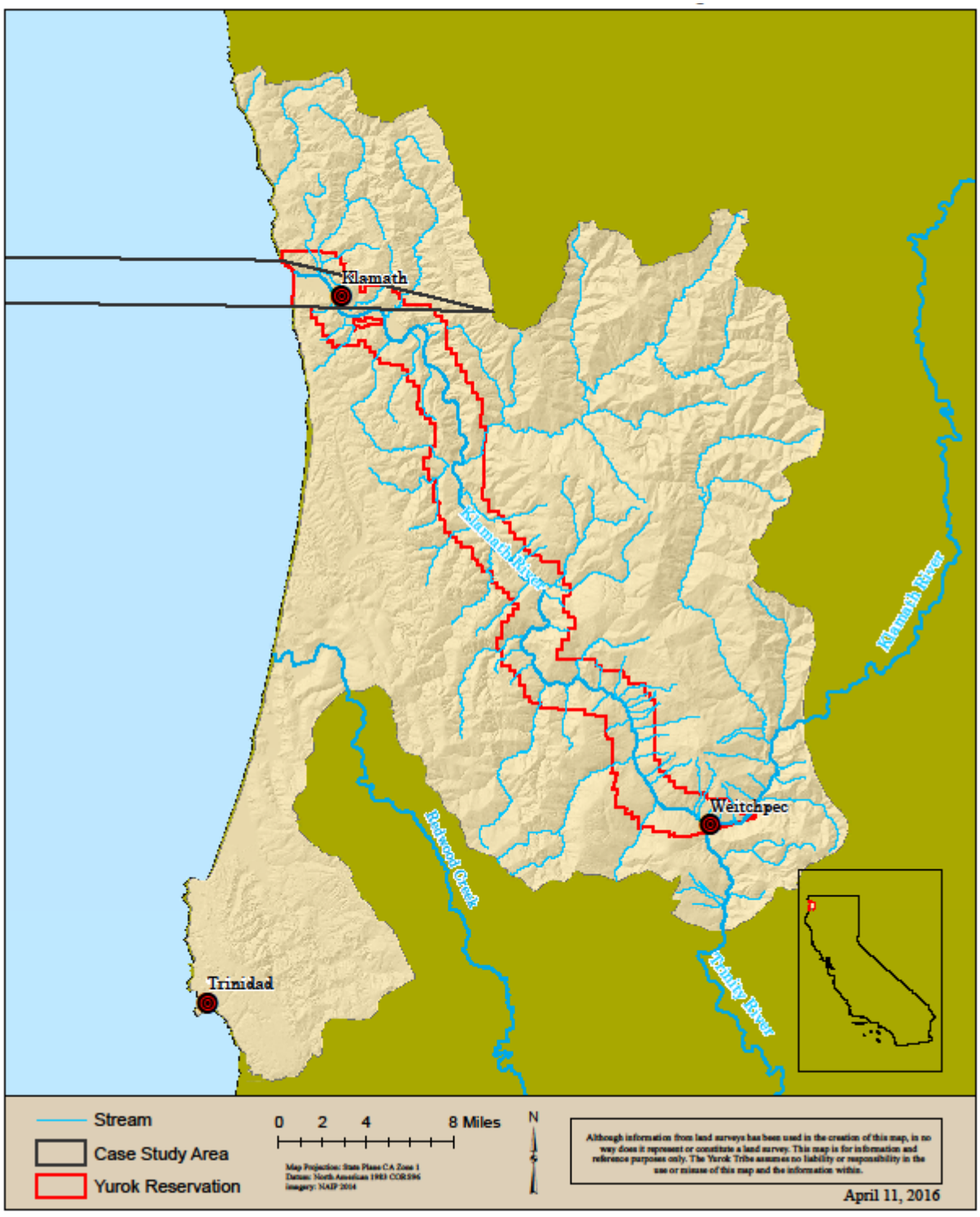


Figure 31. Map of Yurok Ancestral Lands, showing beginning of Case Study Area.

"The Yurok ancestral land is approximately 1,148 square miles with villages placed along the Klamath River and Pacific Ocean" (Pilling 1978). Despite such a large land base, the Klamath River remains the heart of Yurok ancestral land and serves as the "highway" for Yurok people. Walt McCovey Jr.

explained, in a 1996 interview, “That river is in the life of Indian people, we depend on the fish, depend on eels, sturgeon” (McCovey 1996). “Redwood dugout canoes are utilized to travel on the River and offshore in the Ocean. Canoes could be 20ft long and 5ft wide” (James 1997). “Also, an elaborate trail system exists connecting villages, prayer sites and gathering areas” (Waterman 1920). “Trails were to be treated with respect and travelers are to stay within the trail” (Waterman 1920:185; Clayburn 2011:11).

3. History of the Yurok

3.1 European Contact

“Historical documents record that the coastal Yurok had initial contact with Europeans as a result of Spanish expeditions spanning the mid 1500s to the late 1700s” (McBeth 1950:2; Bearss 1969). “Various Spanish-led expeditions and ships came up to northern California along the coast, followed later by American vessels as early as 1803 and 1805” (McBeth 1950:2; Bearss 1969). “By 1828, the Klamath River had been documented and visited by ships from Britain, Spain, Russia and America” (McBeth 1950:3; Bearss 1969).

“First contact between Europeans and Yurok people on the upper Klamath River was documented to have occurred in 1827 when traders for the Hudson’s Bay Company traveled downriver in search of furs and trade” (Bearss 1969). First contact within the project vicinity occurred in February 1827, when men from Peter Skene Odgen’s party encountered Yurok in the Martins Ferry area. “While these are the first documented encounters by non-Indians within the upriver areas of Yurok territory, the Hudson’s Bay Company party documented the presence of European trade goods being used and sought by Yurok people, indicating prior interaction through trade or travel by Yurok people” (Bearss 1969; Pilling 1978:140).

“In 1828, Jedediah Smith led an American party of beaver trapping men down the Trinity River, to the Klamath and the up the Pacific Coast” (Goddard 1904; Bearss 1969; Eidsness and McConnell 2001:7). “As a result of the discovery of gold in the Trinity River, gold prospectors inundated the region by 1848” (Eidsness and McConnell 2001). “Upriver Yurok settlements were severely impacted by the incursion of gold prospectors in the 1850s, resulting in displacement and relocation away from some Yurok traditional villages along the Klamath River” (Bearss 1969; Pilling 1978:140).

“In 1851 a ‘Treaty of Peace and Friendship’ was signed between the United States Government and the Klamath River Indians under the direction of U.S. Indian Agent Col. Reddick McKee. The United States Congress did not ratify this treaty. Non-Indian incursions and resultant conflict continued and an Indian Agency and military fort were established on the River to mediate the conflict. The Agency was located on the south bank of the Klamath River, in the area known as *Waukel* (also spelled *Wo"kel* and Waukell) across the River from the military fort, Fort Terwer. In spite of the creation of these government posts, gold prospectors, miners, farmers, and settlers continued to encroach on Indian lands, often resulting in conflicts and violence. On November 16, 1855, the Klamath River Reserve (also known as the Klamath Indian Reservation) was created by Executive Order (pursuant to the Act of March 3, 1853, 10 Stat 226,238). This Order designated the reservation lands from the mouth of the Klamath River, one mile on each side extending approximately 20 miles upriver to Tectah Creek. The Klamath Reserve was established for several tribes because the treaty of 1851 was not ratified and the military was increasingly called to intervene between miners, settlers and Indians. It was the U.S.’ intent to move the Tolowa and Yurok onto it, but the Tolowa left soon after they were relocated” (Bearss 1969).

“In 1855, a letter was written to the Commissioner of Indian Affairs by Special Agent Whipple, the first Indian Agent on the Klamath River Reserve. This letter is important because it clearly describes several

aspects of Yurok land use and their relationship to the River. In recommending the reservation boundaries extend five miles away from the River, Whipple recognized the Yurok use of the entire watershed associated with the River. He describes the salmon as 'the staff of life' for the Yurok Indians. He also describes the Lower Klamath as the best salmon fishing grounds in northern California. Whipple describes large alluvial terraces along the floodplain of the River that were used to gather a wide variety of plants, roots, and berries for food and supplies" (Whipple 1855).

"Both Fort Terwer and the Indian Agency at Waukel were destroyed in the floods of 1861 and 1862. As a result of the flood damage the U.S. government abandoned these facilities. The Smith River Reservation, occupied primarily by Tolowa, was created in 1862 to supplement the loss of agricultural lands as a result of the floods. In 1865 the Hoopa Valley Indian Reservation was established with the intent of relocating all northwestern California Indians to this reservation" (Bearss 1969; Eidsness 1988:29).

"Escalating conflict between Indians and non-Indians over encroachment onto the Klamath Indian Reserve resulted in the gradual displacement of Lower Klamath Indians further upriver during the 1860s and 1870s" (Eidsness 1988: 29; Bearss 1969; McBeth 1950:44).

"In spite of the area being within the boundaries of the Klamath River Reserve, the area was occupied by non-Indians in defiance of the 1855 Executive Order and an 1877 order by the Department of the Interior, that explicitly ordered non-Indian settlers off the reservation" (McBeth 1950:46; Bearss 1969). "Squatters resisted government attempts to remove them from the reservation and even when evicted by United States soldiers under orders in 1879, they quickly returned to the homes and farms they had established on Indian lands" (McBeth 1950:53; Bearss 1969).

"In 1891, President Harrison issued an order to expand the existing Hoopa Valley Indian Reservation to include lands one mile on either side of the Klamath River from the Pacific Ocean to the Hoopa Valley, thereby including the Klamath Indian Reserve" (Bearss 1969; Eidsness 1988:29). "In order to do this, he created the 'extension,' extending the Klamath River Reserve upriver until it reached the Hoopa Square. The 'extension' was established in relation to the Dawes Act as a ploy to open up much of the land that was not claimed as allotments by resident Indians. Thus began the history of checkerboard ownerships of the Yurok portions of the Klamath Reservation and Extension. The result of Harrison's order was essentially the creation of a new reservation by combining two existing ones. The new reservation consisted of the old Klamath River Reserve, the 'extension,' and the Hoopa Square and was referred to in its entirety as the Hoopa Valley Indian Reservation. On June 25, 1892, President Harrison signed a bill passed by Congress to open the reservation for non-Indian settlement. The bill declared all surplus lands open to settlers, 'reserving to the Indians only such land as they require for village purposes'" (McBeth 1950:48; Bearss 1969). "The process of assigning Indian allotments within the reservation took two years. After decades of conflict, the Klamath Indian Reservation was legally opened up for non-Indian settlement on May 21, 1894 for homesteading" (McBeth 1950:48; Bearss 1969). As a result, many Yurok people were displaced from their traditional villages along the Klamath River.

"After decades of struggle to regain their traditional homelands, the Yurok Tribe was re-organized and granted its own reservation in 1988. As a result of the 1988 Hoopa-Yurok Settlement Act (PL-100-580), the Yurok Indian Reservation was established, comprised of the old Klamath Reserve of 1855 and the 'extension' of 1891. The current reservation is comprised of trust land, tribal allotments, fee land, and privately owned land" (Sloan 2003:11-13).

"Under re-organization the Yurok Tribe has emerged as the largest tribe in California, with over 4,500 enrolled tribal members, and over 200 tribal government employees. The Yurok Tribe has a growing tribal population and is actively pursuing economic development and resource management both on the

reservation and Yurok ancestral lands. The Yurok Tribe has a Natural Resources Department with the largest governmental fisheries program in the state of California" (Sloan 2003:11-13).

3.2 Historic Klamath

"The town of Klamath historically was a vibrant town due to the commercial fishing and logging industry. The first non-Indian to come to the Klamath area was 'Big John' Turner from the Jedediah Smith exploration party. Smith came to the Klamath in 1828 and reported that there were no Indians to be seen. However, information gathered by Ruth Roberts led her to believe that the villagers from Rek-woi had watched him while he was on the hill" (Roberts 1934:7).

"The next arrival came by boat in 1850. The small vessel *Laura Virginia* anchored outside the mouth of the Klamath River. *Laura Virginia* was looking for a passage to the Trinity River in order to head to the prospective gold. They first looked in Trinidad, expecting to find the passage to the Trinity, and when they failed the vessel headed north and came across the Klamath River. After 1850, the mouth of the Klamath River became a passage for prospective gold miners up the Klamath and Trinity River" (Bearss 1969).

"The City of Klamath was planned near the mouth of the Klamath River by a party looking for gold in 1850. The city was abandoned before it was even a year old due to the dangerous river bar" (McBeth 1950:20). "Klamath County was also established in the 1850s. The County included all of present day Del Norte and locations which are now in Humboldt and Siskiyou. In 1856 a town was formed called Requa near the mouth of the river" (McBeth 1950:20).

"Requa thrived with a fish cannery, the Pioneer Hotel, Brizzard's general store, Paul's general store, two saloons, a livery stable, and a dance hall. The town of Requa burned in 1914 with a fire starting in the Pioneer Hotel. The entire town was destroyed. A new town was built, with the Klamath Inn being built on the site of the Pioneer Hotel. The Klamath Inn (now the Requa Inn) is still in operation today" (Del Norte Historical 2005:88, 91).

"In 1887, the Del Norte County Board of Supervisors directed the District Attorney to secure a right of way for a wagon road from Crescent City to Klamath, due to the increase of settlers in the Klamath area. The road was said to follow an old trail, and in 1889 the segment from Wilson Creek to Requa was open. In the fall of 1889 the wagon road was in poor conditions and the Board of Supervisors was under pressure from the settlements in Requa to get a passable route for supplies and people. During that time there was (sic) efforts going on to establish a road from Redwood Creek to Klamath in order to open up all possibility of trading. The wagon road was completed in the summer of 1894." (Bearss 1969)

"With the increase of automobiles, there came a need to improve the passage from Eureka to Crescent city. In 1909, the Redwood Highway was created as a State Highway. In 1917, Del Norte County took action to create a more passable route. Sections of the road were constructed between Wilson Creek and Crushing Creek. The section between Hunter Creek to the head of Richardson Creek was constructed by prison workers who had a camp at the Del Ponte Ranch. In 1923, the construction of the Douglas Memorial Bridge began. It was to connect Hwy 101 across the Klamath River. Before the construction of the bridge, the Klamath River was only passable by ferries" (Clausen and Spritzner 1996).

"When the Douglas Memorial Bridge was built in 1926, the town of Requa was no longer the transportation center. A new Brizard's store was opened in the Klamath Town" (Del Norte Historical Society 2005:94). "In the early 1930's, sections of the Redwood Highway were realigned due to costly slides. The road remained in good conditions and use until the 1964 flood" (Bears 1969).

"Tourism in the area significantly increased and the small townsite of Klamath grew drastically. By the 1950's, Klamath became a resort town for anglers and travelers along Highway 101. The town consisted of motels, stores, restaurants, boat shops, a bakery and gas stations" (Del Norte Historical Society 2005:95).

"The area of Klamath was prone to flooding due to its close proximity to the river. A flood in 1955 caused considerable damage to the town. The flooding event called a freshet, or 100-year flood, did not cause the town of Klamath to close down. Local people recovered from the damage, only to have the 1964 flood wipe out the entire town" (Del Norte Historical Society 2005:98).

"December of 1964 was devastating for the town of Klamath. Another 100-year flood was caused by several storms, and warm weather melting snow on the mountains which raised the river to considerable heights. This flood was 10 ft higher than the one in 1955. The Douglas Memorial Bridge was destroyed due to severe water pressure against the pillars caused by debris floating down the river building up behind them. After the 1964 flood the town of Klamath did not recover" (Bearss 1969).

"The Redwood Highway was impassable after the flood. A new bridge was quickly constructed and opened in 1965. Two sections of Highway 101 were relocated in order to meet the new bridge. On the south end of the river, the road was realigned to ascend Waukell Creek valley. On the north end of the river, one-half mile of the road was relocated to meet the new bridge" (Bearss 1969).

"The symbol of Klamath remains the Golden Bear. The Story of how the Bears are gold is a local tale. The Bears are cement, however a group of men living in Klamath during the late 1950's early 60's decided that Klamath needed a little sprucing up so they went out and painted the cement bears gold. The county would go back and clean them and the men would go back and paint them gold. After the '64 flood, the town of Klamath adopted the Golden Bear and it became a well-known symbol. The new Douglas Memorial Bridge also has Golden Bears as well as two of the remaining historic bears from the Old Bridge were relocated to the Klamath Townsite" (Clausen and Spitzner 1996:199; Clayburn 2011:15-16).

3.3 Prehistoric Case Study Area

Nine traditional Yurok Villages located along the Klamath River are in close proximity to the hypothetical project area or within the specific Case Study Area. (Figure 32). The villages are Rekwoi, Tmri, O'menok, Hop'-ew, and Saath on the north side of the river and Welkwau, Tsekwel, Wo-kel, and Turup on the south side. Descriptions of those villages are in Findings, below (p. 173).

Houses within each village are constructed of planks split from redwood. Redwood was the wood of choice because it was both resistant to fire and rot (when placed in contact with the ground). Most redwood was easy to split. Wedges were fashioned from elkhorn to split the wood and were pounded by a hammer made from granite cobbles.

Houses were constructed by making an approximate 12 foot by 12 foot square, by 3 foot deep excavations into the ground with vertically placed split planks lining the exterior of the excavation. The planks were held in place by posts and horizontal braces. This pit was then built around with more vertical planks making a wall, upon which a 3 tiered roof was placed. An approximate four foot shelf surrounded the excavated pit and was enclosed by the house wall.

The resultant house tapped into the passive solar heat found in the earth, so only had to be heated from the ambient ground temperate in the winter, while that same temperature cooled the house during the hot

summers. The 3 tiered roof also allowed for the efficient removal of smoke from the house, while the radiated heat kept the interior cozy.

The number of houses in each village varied from 3 to 25, with populations from 18 to over 250. T.T. Waterman estimated each house was occupied by an average of 6.5 people (1920).

Using population estimates methodology prepared by T.T. Waterman, those villages would have had an approximate population of 1100, or about 35- 40% of the total that Waterman estimated for all of Yurok Territory. Rekwoi was by far the largest of the villages with 25 house pits and 14 sweathouses, or a population of about 255 people.

People living in this era enjoyed an abundant supply of fish and ocean resources, along with terrestrial resources ranging from waterfowl to rabbits, small game, deer and elk. The river connected the villages, and ceremonies conducted at one village attracted people from other villages.

Figure 32. Traditional Yurok Villages located along the Klamath River.
Nine are within the Case Study Area (white boundary) or in close proximity.

3.4 Fishing Holes

Within the Case Study Area, there are hundreds, if not over a thousand fishing sites. Site types vary with the season and species sought. Winter flows determine the viability of a particular site as much as summer, fall and spring flows. Salmon, sturgeon, eels, steelhead, trout, candlefish, and smelt are harvested using different types of equipment at certain periods of time.

Salmon gear ranges from gill nets, drift nets, trigger nets, dip nets to spear fishing. A gill net can be used most anywhere in the river provided the water flow is not overly swift. The best areas for a gill net are eddies, a place where a rock or turn in the river causes (pushes) the main current flow to one side of the river, making the area below the rock or turn have a flow that goes back up river. A gill net can range in size from 15 feet to 100 feet in length by 15 to 30 feet in depth and is anchored at one or both ends, depending on site type. A drift net is used in areas where the current is strong and the salmon are concentrated in specific areas. As the name implies, the net is drifting in the current. The range of drift net size is similar to a gill net, in fact one can be substituted for the other, dependent on site type. Trigger nets are site specific to a particular eddy. The net is mounted on fir poles tied in the shape of an 'A' with the bottom of the 'A' closed by a pole. The net is tied to the bottom and sides of the 'A' and the poles separated by the bottom pole. This allows for an opening into which the fish swims. A dip net is similar, but is smaller, has a curved end, and is used in areas where the salmon are visible and swimming next to shore. Spear fishing is also site-specific to an area where the salmon are visible and next to shore.

Sturgeon, steelhead and trout are sometimes incidental catch when fishing for salmon, but when they are the target species, they are collected with trigger nets in the same site type as when pursuing salmon with a trigger net. The trigger net used for sturgeon is larger in size and demands a heavier mesh and mesh size. Steelhead trout can be caught with the same trigger net used for salmon.

Eels are caught with a dip net when they are close to shore and visible. An eel 'hook' (a specially curved stick with a 'hook' at the business end) is used at the same site type. Eels are also caught with a trigger net in the same site type as other species, but eddies good for salmon, sturgeon or steelhead trout may not be good for eels. A trigger net used for eels has much smaller mesh than that of other trigger nets. A woven eel 'basket' – a specially constructed trap – is used in strong downstream current and takes advantage of the eel not being an efficient swimmer. Placed in the strong current with the opening facing downstream, the eel basket makes a small eddy, which the eel uses to swim upstream. Unwittingly, the eel swims with the upstream flow caused by the eel basket and into the opening of the basket where it is trapped.

Eulachon, or candlefish, is a smelt which migrates upstream in the spring, swimming close to shore. A dip net is the only method for catching eulachon. Dip nets used for eels are the same nets used for Eulachon.

Some species have 'disappeared' from the river and are no longer a viable source of sustenance for tribal members. Eulachon and winter salmon are virtually non-existent. The eulachon stopped their annual migration in the early 1980's, with a few being caught in the past 3 seasons. No one knows the cause of their decline, and while seeing some being caught is a hopeful sign, an increase of a million fold in current numbers (for eulachon) would still fall short of the historic numbers. Winter salmon are caught sporadically, with their decline is thought to be the result of a lack of access to spawning grounds. Creeks are their natural spawning areas, but lack of water in the river, particularly in the winter, keeps the river from washing away gravel deposits at the mouths of creeks (Figure 33).

Figure 33. Typical build-up of gravel at a creek mouth.
Photo by Tom King.

> The river is lined with numerous fishing and gathering sites. The river is also lined with numerous gathering areas associated with plants adapted to flow levels of the river. Various plants are used as food and material to make ceremonial regalia, baskets, cloths, houses, boats, nets, and other everyday household utensils. For example it is well known that a specific type of willow root is best gathered in long narrow stretches of the river where the rivers scouring effect exposes the material sought. There are also places along the river where weavers traditionally meet to avoid the hot summer sun and weave together.
>
> A fishing place can be a place where there is good river access, a deep hole, or good back eddy allows for fish to rest on the way upriver. Fishing places are designated fishing areas on the river, a pool, a rock, and eddy. Often large projecting river rocks both provide such a place for fish and a place where Yurok fishermen can build scaffolds that allow for the establishment of fish netting areas. Fishing places are a form of real property in Yurok culture. Fishing places can be owned; by individuals, families, or a group of individuals. Fishing places are borrowed, leased, inherited and bought and sold. If shared, each owner has a right to fish there. Some ownership rights at fishing places depend on species of fish caught, salmon, eels, or sturgeon. Others depend on the water level, with individuals owning the right to fish at that place if the river is below or above a certain level.
>
> Ownership of a fishing place is not necessarily linked to ownership of adjacent property, as individuals who live away from the river can have ownership in a fishing place. Siltation and changes in the River have always affected the quality and use of fishing places. Some fishing places are abandoned during times when the productivity of a particular place was poor (Waterman 1920:219).

"Yurok people still recognize this traditional form of resource management and use on the river. Families and individuals continue to use and own rights to fishing places on the river. An entire system of

traditional etiquette and jurisprudence has been developed to regulate the orderly taking of fish" (Sloan 2003:17-18).

> Traditional Yurok Fishing Law is as follows:
>
> 1. Know your family relations. Know where you are related along the river. Know the River and its locations, particularly the village name that your family is from.
>
> 2. Not every Yurok family had/has a fishing place right.
>
> 3. Every Yurok has a fishing place right through permission.
>
> 4. Permission is gained by asking and being granted the right, with terms and conditions.
>
> 5. Permission given once is not permission given forever.
>
> 6. One standard condition is to offer some fish caught at the place where permission was granted.
>
> 7. Some fishing places are "open" and anyone can fish there. They are open on a first-come, first-serve basis. If someone is fishing in an open place then the later comer informs the first party that they want to fish, and then they politely wait a day unless they have already caught enough fish, then they should make ready to leave. It is polite for the first party to provide some fish to those waiting.
>
> 8. No fighting on the river, particularly no fighting over fishing places. The river is a place to show respect.
>
> 9. Do not waste fish; do not take more than what is needed. It is not what the river will do for you, it is what you will do for the river.
>
> 10. Drift netting can occur anywhere as long as it doesn't disturb anyone else's fishing place or net set"(Yurok Tribe Culture Committee 2003).

3.5 The River

"The river is vital part of Yurok life providing food resources such as salmon, sturgeon, eel and other fish. Gill nets, dip nets, weirs, basket traps, and hooks are used to obtain fish from the river. On the coast, many species are harvested for consumption, including mussels, clams, seaweed, and many other resources. The primary game (animals) for hunting is deer and elk, but other smaller animals are also eaten. The other primary food source for the Yurok is acorns. Acorn gathering grounds and camps are found throughout the mountains in Yurok territory. Acorns are processed into a mush, which is cooked in large baskets with hot stones" (Clayburn 2011:12).

Yurok elder Glenn Moore, in a personal communication (no date) stated that the Yurok word for a cooking rock was "per mer yer" and translates as "a greasy looking rock." They are a black river-worn cobble, usually two to three inches around, and do look greasy.

John Salter, an archaeologist working for the Karuk Tribe during the early part of the 21st century, imparted that the rocks were composed of nearly pure zinc, which is what gave them the ability to be heated and cooled without breaking.

> How Fish Came to be in the River (as told by Florence Shaughnessy, Yurok)
>
> In the beginning, there was an Indian goddess. They sent her with the first Indians to be settled here. They told her to stock the world with whatever she thought our people were going to need. So they got all kinds of animals -- deer, elk, bear, and all the others. Then she took her people down to the beach, and she talked to the god there.
>
> "I have brought the children here because that is going to be their home. This is where they shall live."
> "Now" she said, "I will need help, because along the shore here there is food."
>
> And he said, "Yes, there is food, but there shall be proper help at the proper time. The food that is in the ocean is so delicate that it cannot be exposed for hours like the food that goes on land. They are different. You shall have a helper."
>
> And she said, "Who will my helper be?"
>
> "The moon, the moon shall control the tides."
>
> And so it was settled who should control the tides. They put the fish down at the mouth, the sturgeon and every known fish. And she said, "The sturgeon shall go far, far up the River until he is trapped, but he shall be a strong swimmer. And the salmon, there shall be four kinds of salmon coming in over the year.
> There shall be different species that survive the winter rains. And steelhead. And there shall be smaller fish that are seasonal, like the candlefish and surf fish. And the lamprey eels, they are for variety of the diet."
>
> Then the sea foods were promised. So we got seaweed, seaboots, crabs, mussels, China slippers, clams of all sizes, and others. And so it was that all the fish were named and sent as far as they could go up the river to feed the people all along the way. And the people were to follow and have their own fishing rocks. They were to look for a place with an eddy and claim that rock. Then they would build homes nearby because their food rock would be there, and then they can take care of their families (Perry 1988:15) (Sloan 2003:45).

3.6 Ceremonies in Case Study Area

Ceremonies during the pre-contact period included the First Salmon Ceremony, Brush Dances, and a Jump Dance. Some debate exists over the existence of the White Deerskin Ceremony. At least two elders have indicated to the author an area where it was performed.

"The ceremonial calendar of the Yurok was tied to the River. The First Salmon ceremony occurred at Welkwau and the Fish Weir at Kepel. The ceremonial calendar for Yurok began with the first salmon run in April and concluded in late September near the end of the fall salmon run. The ceremonial cycle of the

Yurok was for the purposes of world renewal or purification to ensure good health, prosperity, and abundant food for the people" (Kroeber 1976:53).

"In each of the world renewal ceremonies, the Brush, the Deerskin, and the Jump ceremonies, the River served an important function, either for transportation, or purification. The River played an important role in Yurok funeral rites and purification rituals associated with death and the dead. Certain rock features in the river were associated with the proper handling of a corpse and require strict adherence. At some localities, mourners purified themselves after burial, a custom that is still practiced today" (Kroeber 1976:68-69, 89).

Kroeber is mistaken in stating that the Brush Dance is a world renewal ceremony. It remains the most common of ceremonies and is practiced each summer at multiple locations. It is performed to heal a child or sometimes and adult. It is held on the river and in a 'brush dance pit'. In the old days, the brush dance pit was a living house with the walls and most of the roof removed. Kroeber is correct in the role of the river in ceremony.

The river plays a role in both the Deerskin Ceremony held in the fall at Weitchpec and the Jump Dance at Pekwan. Each conducts a 'Boat Dance' as a part of the overall ceremony. Neither of these ceremonies is located within the Case Study Area.

"Yurok settlements along the River fell into three ceremonial clusters. From Bluff Creek down to Tule Creek (Atsepar to Kenek), the confluence of the Trinity and Klamath Rivers at Weitspus was considered the central location for ceremonial matters. Similarly, from Merip to Erner, Kepel was the central ceremonial location. Rekwoi was the ceremonial center for villages from Turip to the Pacific Ocean" (Curtis 1924:40, 90).

The above division of three ceremonial clusters remains accurate, although a fourth grouping is found along the coast at Sumeg (Brush Ceremony), near Trinidad and Tsah pek (Jump Ceremony), near Orick.

Ceremonies in the CSA are found in annual Brush Ceremonies at WeL kwau on the south side of the river at the ocean edge. Two separate ceremonies are held there each summer, usually in August. This ceremony can be held in any village within Ancestral Territory, and discussion is occasionally heard of the ceremony being held at other sites.

4. Contemporary Conditions of Yurok

At the present time, the Yurok Tribe has over 6,000 Tribal members, with most living off reservation. This is a function of both the isolation of the reservation and the lack of job opportunities. As an organization, the Tribe has been in existence since adopting a constitution on November 24th, 1993. The constitution established seven voting districts, four of them along the Klamath River and on the reservation, (established in 1861) and three districts off the Klamath, off reservation. This was to allow for the less populated reservation to retain power and not let the more populous off reservation membership control the reservation.

From that early beginning of a nine member Council, (Chair, Vice Chair and seven district representatives), and twenty five employees, the Tribe has grown to an organization with new offices located on the reservation at Weitchpec and Klamath and two of the largest cities on the north coast with over 300 employees. The Tribe has a police force, as well as Planning, Environmental, Education, Head Start, Fisheries, Forestry, Social Services, Public Works, Self-Governance, Commodities, Watershed Restoration, Heritage Preservation Office, and Natural Resources Departments. The efforts of the Tribe

have been focused on all the issues the above departments work on, but also include land acquisition, land restoration, and water rights.

The water issues placed the Yurok Tribe at the forefront of a mostly unified north coast effort to remove four aging hydroelectric dams on the upper Klamath River. Since 2001, the Tribe has been actively participating in the Federal Energy Regulatory Commission process advocating for the Klamath River and salmon.

Due to the Tribe pushing for removal of hydroelectric dams leading to the loss of 'clean energy', the feeling among some of the membership is a need exists to find another source of clean energy. Wind and wave power are two such sources.

While it can be argued that these dams produce clean energy needed in these times of climate change, the Tribe, along with neighboring tribes, counties, and ocean commercial fishermen feel their removal is of a greater benefit than keeping them in place and watching the remaining salmon stocks dwindle to extinction.

Land acquisition efforts have led the Tribe to buy back over 47,500 acres of land from a private timber company, as well as negotiate with local agencies and tribes to expand the reservation within the ancestral territory of the Yurok.

The main Tribal Office is located near the mouth of the Klamath River in Klamath with a satellite office some 40 miles upriver at Weitchpec, and other off-reservation offices in Eureka and Crescent City.

The Yurok Tribe is now the catalyst behind the Klamath Salmon Festival, an annual celebration held each August. The first salmon festival was held in 1962, long before the Tribe was organized, although many Tribal members participated. It is now in its 54th year and attended by thousands. Vendors travel from all over the west to sell their crafts, watch demonstrations of brush dances and stick games, and eat a traditional salmon dinner cooked on redwood sticks around an open fire. The proceeds provide funds to the Yurok Tribe scholarship program.

4.1 Planning Department

One of the original departments established when the Tribe formally organized, the Planning Department now employs eleven people and is highly successful in obtaining grants, bringing in over $20 million a year since 2000. Their efforts have led to construction of tribal offices in Weitchpec and Klamath, firehouses in Weitchpec and Wautec, a fish processing plant in Klamath, and a gymnasium at Morek Won, to name a few. In addition, grants have been used to bring electricity and phones to the upriver reservation and either upgrade or install five new water systems for communities.

4.2 Fisheries Department

By far the largest of tribal departments, the Fisheries Department has over 80 full time employees, and during the peak of salmon season, can have 120 people on the payroll. Fishery studies and restoration projects are being conducted in all reaches of the reservation and the entire watershed of the Klamath and Trinity Rivers. Fisheries, in conjunction with Tribal Watershed Restoration crews are restoring habitat throughout the Klamath watershed. Partnerships have been formed with upriver neighbors, the Karuk and Hoopa Tribes, to enhance spawning grounds, off-channel refugia, and reduce sediment deposition into the rivers.

Studies are being conducted on green sturgeon and lamprey eels. Fishery crews catch the target species and surgically implant a small transponder in the stomach of the fish. The transponder then downloads information (water temperature and timing of migration) to select stations along the river. As an example of the success of the tagging program, one green sturgeon tagged in the Klamath River was later found by a fisheries crew in the Frasier River (pers. comm. Barry McCovey 2014).

A highly important function of Fisheries is to monitor disease in migrating fish, a huge concern since the 2002 fish kill of over 68,000 adult salmon. Each fall, fishery crews monitor salmon for outbreaks of the fatal pathogen *Ichthyothphtirus multifilius* (ICH) and negotiate with the Bureau of Reclamation so that higher flows of water can be released from dams on the Trinity River to reduce the chance of the spread of the deadly disease.

The Yurok Tribe Fishing Rights Ordinance is updated yearly by the Tribal Council and has in-season adjustments as needed to protect different fish stocks.

The Yurok Tribe Fisheries Department also oversees the harvest of fish each year. Fishers are asked to allow Fishery technicians to inspect their catch and count them. Any disease is noted and a percentage of fish with a clipped adipose fin have their nose cut off to retrieve a small coded wire tag. The tag is inserted prior to the fish leaving the hatchery when the adipose is clipped. Wild fish have their adipose fin intact, and they are not subject to the same treatment. Not all hatchery fish are clipped, but enough are done so a fair sample size can be studied as to origin, growth and age at the time of catch. Scale samples are taken and matched to the coded wire tag. Fishery crews then spend countless hours looking through a microscope to determine growth rates.

4.3 Environmental Program

Water temperature and flow levels are monitored by the Yurok Tribe Environmental Programs at creek mouths and select places along the river. Real time flows and temperatures can be viewed at http://exchange.yuroktribe.nsn.us/lrgsclient/stations/stations.html. An additional task of the Environmental Program is monitoring summer outbreaks of microcystin in the Klamath River. Microcystin is caused by the algae blooms coming from the warm water released from the dams on the upper Klamath.

The algae blooms are harmful to fish, humans and dogs. Children and dogs exposed to the toxins found in the algae can die if overexposed, and adults can develop skin irritations. Fortunately, no human deaths have occurred, although claims of dogs dying from exposure have been made. Following an algae bloom, the algae dies off, which in turn causes depletion in dissolved oxygen in the water. The dead algae consume oxygen when decomposing, using up the dissolved oxygen available to fish and plants, thereby lowering their ability to survive. Weekly alerts are posted by the Environmental Program regarding mycrocystin levels. When levels approach a harmful stage, warnings are posted at boat ramps and community bulletin boards.

4.4 Watershed Restoration Program

The Watershed Restoration Program is a very successful component of the Yurok Tribe efforts to regain stewardship of their ancestral lands. Watershed has partnered with Green Diamond Resource Company to remove roads and logging landings for the last 15 years. In more recent times, their partnerships have led to large scale restoration in the upper Trinity River and Klamath River.

4.5 Cultural Program THPO/Cultural Resources

Shortly after formal organization of the Tribe in 1993, a redwood tree, sacred to the former Fish Dam Ceremony at Ke'pel was cut down by a timber company. The response from the Tribe was to form an Elders Advisory Committee to ensure this type of incident was not repeated. As the committee grew in importance, they were positioned as an advisory committee to the Tribal Council. In 1996, the Cultural Program submitted an application to the National Park Service for a Tribal Historic Preservation Office. In August of that year, the Yurok Tribe became the first THPO Tribe in the state of California and the fourteenth in the nation. The THPO facilitates what is now known as the Culture Committee, (former Elders Committee), holding monthly meetings that rotate between the Klamath and Weitchpec Tribal offices. The Committee is the formal Section 106 Consultation body of the Tribe. The California Department of Transportation, National Park Service, California State Parks, Humboldt and Del Norte Counties, the Bureau of Land Management (BLM), California Office of Emergency Services, and all the Tribal departments consult with the Cultural Committee on matters of cultural importance.

The first THPO, Thomas Gates, was successful in writing grants to establish a Native American Graves Protection and Repatriation Act program, a Yurok language program, and procure GIS equipment to train staff in how to use it.

The language program is now a part of the Yurok Tribe Education Program. At one point only fourteen speakers of the Yurok language remained. They have all passed, but their legacy remains, as Yurok language is taught in nine high schools and is accepted as credit toward graduation. In addition, individuals proficient in Yurok language have been accepted as having a teaching credential by the State of California.

The Yurok Land Management Program (YLM) is another off-shoot of the Cultural Program, currently employing four people who work for all Tribal departments on land issues. YLM conducts surveys for landowners and produces maps utilizing the latest high tech surveying equipment.

The Native American Graves Protection and Repatriation Act (NAGPRA) program works with the THPO on various projects involving potential ground disturbance of sensitive sites and consulting with affected families. In addition, the NAGPRA program has been highly successful in repatriating objects of cultural patrimony from many museums. The most successful effort has recovered over 400 items from the Smithsonian in three separate events. NAGPRA staff have also overseen the procurement of over 2,200 items from a single private collection and donations of several small collections. All are securely housed at Tribal Offices.

The Heritage Preservation Office has set up a Tribal Inventory containing the records of every survey conducted within the Yurok Reservation for timber harvest plans, archaeological surveys, and since 1996, site records compiled by Yurok cultural resource technicians.

4.6 Public Safety

Public Safety now has five full time officers who provide service to reservation residents, a difficult task given the isolated nature of the majority of the reservation. They patrol both the river and roads of the entire reservation. A need has been identified to double the number of officers because of the remoteness of the reservation. All the officers are cross deputized with local county officers, a qualification allowing them to aid Humboldt and Del Norte County deputy sheriff officers.

4.7 Forestry Program

The Forestry Program employs twelve full time positions and seasonally has over thirty people with a Wildland Fire Crew qualified to respond to wildfire on and off reservation. In addition, Forestry is in charge of harvesting Tribal timber on a sustained yield basis. Forestry is allowed to harvest approximately 2.2 million board feet of timber each year.

While the formal Tribal government is relatively new, Yurok spirituality remains, surviving a period of history limiting the practice to only a few members. However, much like the newly formed government, Yurok spirituality began a renaissance about 40 years ago in the early 1970's with the reestablishment of first, more traditional Brush Dance ceremonies (without alcohol) at multiple locations, followed by the Jump Dance ceremony at Pecwan (1982), White Deerskin ceremony at Weitspus (2000) and most recently, the Jump Dance ceremony at Tsah pek (2012). This rebirth of ceremony is far from complete as Tribal members from various villages are talking about bringing ceremony to their villages.

A direct outgrowth of the above efforts is that many Tribal members are directing their energy towards revitalizing Yurok language, basket weaving, canoe building, plank house construction, and land management techniques utilizing traditional use of fire.

5. Findings

5.1 Yurok Tribal Inventory

A formal record search for previous surveys, reports and site records of the Case Study Area in order to identify the potential impacts to cultural resources was conducted with the Yurok Tribal Inventory during July 2014 in Weitchpec, California. A total of 38 reports were found within the Case Study Area, a summation of which are found in the appendices. Of note is that this record search was limited to the boundaries of the Case Study Area because of the high number of sites. A normal record search would include all surveys and reports within the study area and those within a ½ mile radius of the study area.

5.2 Archival and Research Findings

Additional archival resources were reviewed in order to determine if previously recorded resources occurred in the Case Study Area. These included the Historic Property Directory, the NRHP, Determinations of Eligibility for the NRHP, Historic Spots in California, California Historical Landmarks, California Points of Historical Interest, California Register of Historical Places, the California Inventory of Historic Resources, and BLM General Land Office (GLO) Land plats. The archival information is summarized in the pre-historic and historical contexts of Klamath in the previous section. A summation of the National Register Nomination for the traditional Yurok village of Rekwoi is included in the appendices (Ethnographic Riverscape: Regulatory Analysis).

5.2.1 Cultural Properties

The following cultural properties – their Yurok names and descriptions – are excerpted from anthropologist T.T. Waterman's *Yurok Geography* (1920).

> For the purpose of showing the distribution of place names I have divided Yurok territory into arbitrary rectangles. The limits of these rectangles are indicated on the accompanying key map (map 4 [Figure 34]). Indian towns and certain other localities are shown drawn to a much larger scale on sketch maps. The rectangles are based on

what are called the "township plats" of the region, which are on file in the United States Land Office. These township plats have been corrected, where possible, by the maps of the United States Coast and Geodetic Survey. The United States Geological Survey with its topographic sheets has not yet been pushed into this region. The Land Office makes no claim to accuracy for the township plats on which the present rectangles are based, for the work was in many cases done a generation ago, by contract. In some cases I have gone so far as to correct these plats from my own observations (Waterman 1920:226-227).

5.2.1.1 Rectangle A, on north side of river (from Waterman 1920:231)

38. *su"u*. A fishing place, good only in midsummer. I have written this name also as *o-tse'gep*.

43. *oregos*. A large pointed crag of granite at the edge of the lagoon. In this rock lives a supernatural being who is one of ten personages addressed in a "medicine" for purification after funerals. When death was being introduced into the world, these beings tried to prevent it. Unsuccessful, they still live in various rocks along the Klamath, beginning far up in Karok territory. In addition to being prayed to, ceremonial regard is paid them. A corpse must not be taken in front of them, for example. If a body is being transported in a canoe, it must be landed in the vicinity of one of these rocks, and carried overland.

51. *re'kwoi*, translated 'creek mouth'. A large town. The term occurs in rectangle K as a place name near Trinidad.

The largest of the towns about the mouth of the river is *re'kwoi*, which has given its name to the white settlement of Requa. A salmon cannery is situated here (Requa), and it is a shipping point for freight, and coastwise schooners occasionally touch here. The Indian town of *re'kwoi* contained originally twenty five houses or more. The town occupies a most inappropriate location, on a steeply sloping hillside, drawing water from a spring which drains down a small watercourse. Most of the Indians now live in European houses, but some of the old structures still stand. *Re'kwoi* was important ceremonially, as one of the places where the jumping dance was held. Informants say this ceremony was quite different in details than jumping dances held at *weitspus* and *pekwan*. The observances during the final two and a half days were held under some trees on a flat at the town of *welkwa* (see no. 72 below page 175). In connection with this dance, there was a 'sacred' house opuy'weg (where they dance). When I was there this old house, which had been in a state of collapse, had been built over with planks from the sawmill.

54. *tmri*. Said to have been a village site. Captain Jack (*hu-mis*) belonged here, but I have no further information. The American town of Requa (51, above) is situated squarely on this old site.

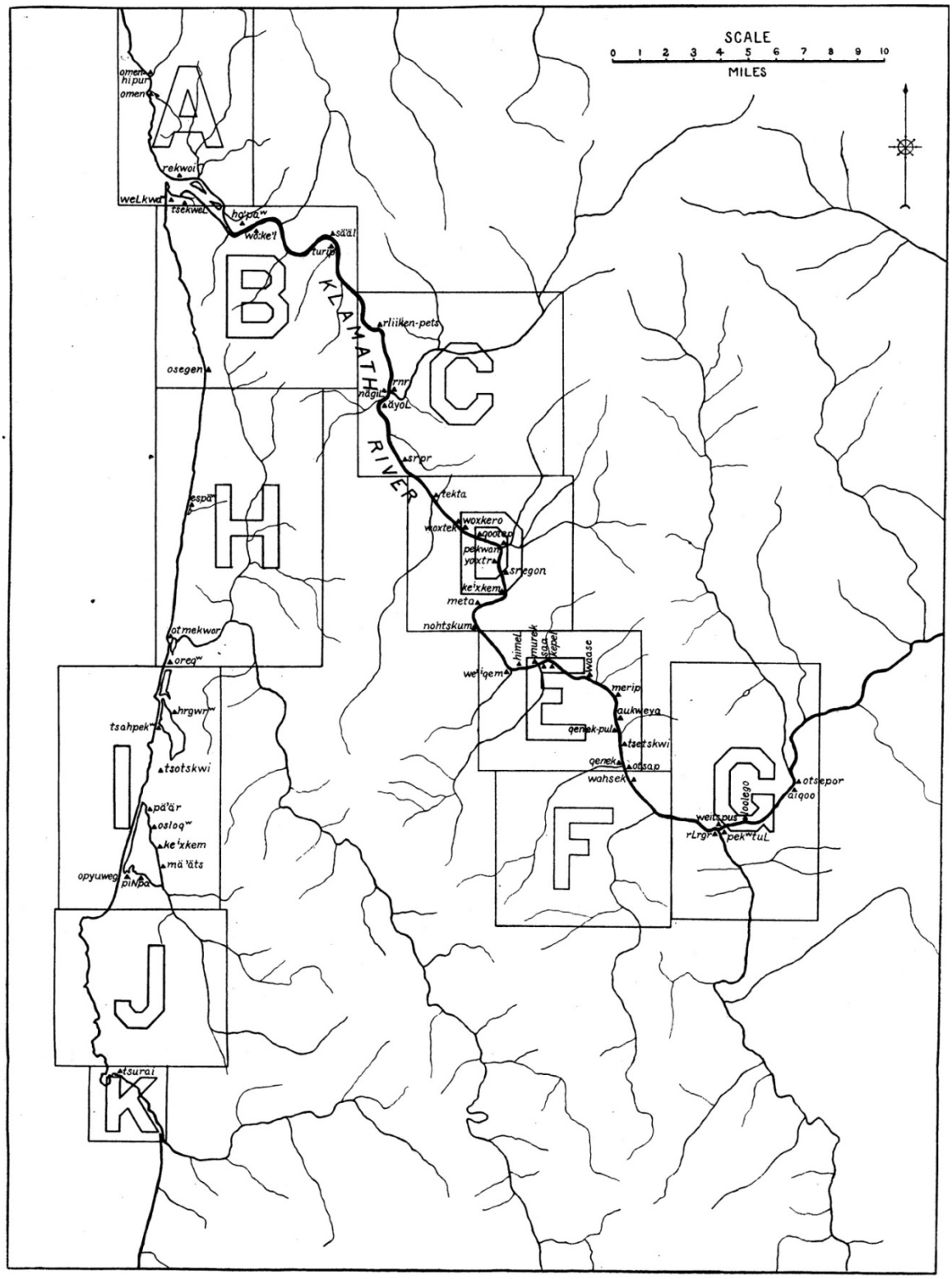


Figure 34. Map of Yurok territory from T.T. Waterman's *Yurok Geography* (1920).
Divided into arbitrary rectangles for the purpose of showing the distribution of place names.

5.2.1.2 Rectangle A, on south side of river (from Waterman 1920:232)

63. *trkr'wrmr*. A large rock in the beach near the foot of the bluff. In former days when the sand bar ran out from the opposite shore this rock was good fishing place for the dip-net.

72. *we'Lkwaw*. A town. A number of barns and outbuildings now occupy this site, the frames of a few Indian structures still standing here and there. Practical difficulties prevented me from getting the names of the various villages in this vicinity and house in them. The principal Indian here is "Welko Johnny," nephew of the old Indian who "owned" a salmon medicine. Johnny himself inherited the priestly position and the formulae on the death of his relative, along with a pipe and possibly some other paraphernalia. He is very secretive, and has a good deal of feeling about the things of yore. His uncle used to earn a considerable amount of money at the salmon-ceremony, as he exacted a substantial fee every time he repeated the sacred formulae.

I found Johnny unwilling to tell much, while the other Indians were unwilling to trespass on his "bailiwick", by giving information. I was able to ascertain merely about this pipe that it was too sacred to be viewed, and the priest in "making" the ceremony took the pipe from where he had buried it, with face averted, and that he smoked it without looking at it. A death-purification formula was also "owned" by someone in this town, according to some informants.

79. *tskwel*, translated "flat place in front of a bluff'. This place was mentioned as a town site, but I was able to get no satisfactory data. The name is frequently used as a house name.

5.2.1.3 Rectangle B, on north side of river (from Waterman 1920:234-235)

37. *ho'paw*. A town. This place was small, but the people were wealthy and quite influential. The small-pox raged here in the early days and practically broke up the village. One old woman of a wealthy family asked, when she was dying, to be cremated along with her house, instead of being buried. This was done, although it was not the custom.

48. *tr'wr*. A camp site. The site lies on the down-stream flank of a long, wide point of land. At one time very old house pits were visible here, dating from a time before memory of the present Indians. These pits have all been washed away. In the knowledge of my informants, the place has been used only for camping. The river here is broad and shallow, and the people camp in numbers to spear fish. In pursuit of the fish they waded out in the current armed with long two-pronged spears. Acorns also were gathered in the neighborhood. And the people had a number of shacks, or shelters, made of poles, in which they slept. There were two sweat-houses where the men stayed at night. The place was later the site of a White blockhouse, called Fort Terwa.

50. *sa" aL*, translated "spirit people". This was quite an important town of seven or eight houses, containing one or two very wealthy families. The spirit people, known as *sa"aL* who are ordinarily spoken of with some fear, seem to have shared this town with the human beings on rather intimate terms. In one of the houses the *sa"aL* were

> so numerous that, according to the Indians, one did not dare to turn his back on the fire; that is, if he looked into the dark part of the house, he might see one of the spirits, and get sick or otherwise suffer misfortune.
>
> 55. The "Trail of the Dead" is the path taken by disembodied souls on their way to the underworld. The place where they "go down' is differently located by different informants, but the entire tribe agrees that the dead go up the hillside at this place. The trail is a geological formation leading up a steep hillside, which a living person could not follow. I have never been able to get a map of the complete route followed by the dead. The ideas do not seem to be sufficiently crystallized to enable the Indians to give a clear account. The entrance to the underworld is in rectangle 1, location uncertain. See *so"o-o-gur*, on page 267, according to some informants. Others place it opposite *tu'rip*, in rectangle B.
>
> 63. *o"so*, translated "red". A big hill. Near the top is a slide of reddish color, which gives the hill its name.

5.2.1.4 Rectangle B, on south side of river (from Waterman 1920:234-235)

> 39. *wo"ke'l*. A town. This was a small place, situated on a large flat. The river has eaten a quarter of a mile into this flat, during flood waters, and the whole village site has gone down the river. It was not of much importance. My informants remembered only two houses.
>
> 52. *turip*. A town. This is one of two sites on a fine redwood flat. I only heard of the second one after I left the region. I was able to get no direct information about tu'rip on account of the hostility of the Indians toward my efforts at investigation (see above p. 202). The town is said to have contained eight houses and three sweat-houses. According to one informant the first tribal fish weir was "going to be" erected here by the immortals. They changed, however, and finally decided on *ke'pel*.

5.2.2 Field Survey Results of Cultural Properties

Field survey was conducted of the cultural properties listed above, with the following results.

5.2.2.1 Rectangle A, on north Side of River

38. *su"u*. Reported by Waterman to be 'good only in midsummer' this site is offshore, in the ocean. No longer in use by Yurok of today, although the site remains viable.

43. *o'regos*. This large rock still stands at the north side of the mouth of the river (Figure 35). Today, it has more meanings to the Yurok than what was imparted to Waterman. While he gathered as much information as he could, his undertaking was an enormous one, which could not have been accomplished on his own. The rock is not composed of granite, as granite is not naturally found here – it washes downstream from the headwaters of the Trinity and Salmon Rivers.

Some say this rock resembles a woman carrying either a burden basket or baby basket on her back. Another story depicts the rock as a spirit being that calls the annual salmon runs up the river. Still another story has this rock as the 'sister' rock to *trkr'mrwr*.

Figure 35. *Oregos* at sunset.
Photo by Arnold Nova.

51. *re'kwoi*. Only one house pit remains of the 23 reported by Waterman. Currently three modern houses stand on this site, which has been nominated to and placed on the NRHP (See below for a summation of nomination and acceptance to NRHP). The site is mostly overgrown with brush and ivy, so a survey of the site is limited to the few cleared areas (Figure 36). A Yurok family still living there is going to reconstruct the plank house once redwood has been obtained. The same family is one of two families to conduct a brush dance ceremony each summer across the river at *we'Lkwa*.

Figure 36. View of Re'kwoi and estuary.
Photo by Robert McConnell, 2015.

This photo was taken on the hillside above *WeLkwau* looking north across the sand spit separating the estuary of the Klamath from the ocean. *Oregos* is at the bottom center of the photo. The four structures to the right of *Oregos* frame the location of *Rekwoi*. Note the direction of the flow of the river is northwest at the time of this photo.

54. *tmri*. Located about one-half mile upstream from *re'kwoi* above, this site had an active brush dance ceremony on into the 1960's, the pit of which, although largely overgrown with bramble, is still extant. As stated by Waterman, this village site is now known as Requa, and four modern living houses and the historic Requa Inn are located there. The fish canneries of the early 20th century were located here, but have no visible remains. Today, the Yurok Tribe has constructed a modern dock immediately downstream of the site and conducts a commercial salmon fishery when fish are abundant.

5.2.2.2 Not listed in Waterman (1920)

Omenok, a traditional village located upstream midway between *tmri* (above) and *ho'paw* (below) on the north side of the river, little is known about this place. From surveys conducted at this location, the village was at least of medium size and had access to the river and resources. Today the Yurok Tribe is undergoing negotiations with the California Department of Transportation (Cal Trans) to transfer the property to the Tribe. Cal Trans constructed a maintenance building square in the middle of this site, which still stands although abandoned by Cal Trans.

5.2.2.3 Rectangle A, on south side of river

63. *trkr'wrmr*. This large rock is adjacent to *we'Lkwa* and until 1997 was surrounded by Dad's Camp, a privately owned fishing camp that was world famous, having fishermen come from all over the world to stay and fish during the annual salmon runs (Figure 37). In 1997, a flood washed Dad's Camp and several others out to sea. As noted above, this rock is a 'sister' rock to *o'regos*, and many stories exist about them.

One story about the sister rocks describes them sleeping. As they sleep, they toss and turn, their legs extending straight out, or sometimes with knees bent. When they do this, the river will move accordingly from north to south, and vice versa, sometimes flowing straight out, and at other times bending and flowing southwest or north west. This rock also calls to the annual salmon runs, guiding them into the river.

Figure 37. Dad's Camp and South side of estuary.
Photographer unknown.

The above photo is of Dad's Camp before being washed away in the winter of 1997. Oregos is at top center, *trkr'mrwr* is on the ocean side of the road traversing the sand spit, and Dad's Camp surrounds trkr'mrwr. WeLkwau is not visible, but is located just below the campground at the center right of photo. The photo point of the Rekwoi picture (Figure 36 above) is the white triangle at the convergence of the two roads at the bottom right of photo. Comparing the two photos shows the sand spit in this picture to be located further to the west and the river flowing southwest into the ocean.

72. *we'Lkwaw*. What remains of the traditional village site is on the hillside, above the river terrace, but like other sites is overgrown with vegetation. Although within the Yurok Reservation this parcel is owned by Redwood National and State Parks, and is the site of a reconstructed village where two separate brush dance ceremonies are held each summer by two families. The reconstructed village is located on the river terrace below the hillside and has one sweat-house, a brush dance pit and three dressing houses, one for each of the Hoopa, Karuk and Yurok Tribes. Currently no other ceremonies are conducted here, although Tribal members are talking about bringing back the Jump Dance ceremony.

79. *tskwel*. This site is thought by Redwood National and State Parks to have been washed away, but was located during the survey for this project. It has three house-pits still extant, is largely overgrown with vegetation and long abandoned.

5.2.2.4 Rectangle B, on north side of river

37. *ho'paw*. Currently, there is much debate over the location of this site, although no one will question its existence. Because of the large area (of the debate) and the number of land owners, this site was not looked for during the survey.

48. *tr'wr*. This site was not looked for as it has been washed over by every major flood for the last two centuries. It remains as described in Waterman, but like other sites, is overgrown with vegetation. Before the 1964 flood, this river bar was the site of multiple fishing cabins.

50. *sa" aL*. Little remains of this site, as a crumbling shack and cemetery are all that remain above ground. Not looked at for this report.

55. The "Trail of the Dead". The description by Waterman seems to be a bit oxymoronic, but past surveys by the author located the trail, which does climb up a steep ridgeline from *sa"aL*. Of note is the fact that the trail cannot be found further up slope, as it disappears into the hillside in an area with no previous logging or construction activity. Although Waterman places the trail further upstream, descendants of *turip* state that it is the one located by the author.

The place where the trail "goes down" was pointed out to the author by an elder who located it across the river from *tu'rip*, slightly upstream of *sa" aL*, and underwater. He described it as a cave which connects to the underworld. Not looked at for this report.

63. *o'so*. Today this is called Red Mountain, and has multiple communication towers and a fire lookout located at the highest point (Figure 38). It was the subject of an intense consultation with the California Office of Emergency Services (Cal OES) during 2013. The US Forest Service had determined in 1990 that the facilities would need to be removed by 2022 and notified all the concerned parties at that time. In 2013, Cal OES made one last attempt to sway the Tribe and the North Coast community of the need for the facilities to remain. Cal OES was unsuccessful, as the North Coast community held that the actions taken by the USFS were proper. The USFS action was based on Red Mountain being located within the Helkau Ceremonial District, an area determined eligible for the NRHP.

Figure 38 shows the relationship of Oregos (center left), *trkr'mrwr* (on sand spit-center right), and *o'so* (Red Mountain) the prominent peak at the top center of photo. This photo is essentially the land portion of the Case Study Area looking east, opposite the direction of Figure 30 (p. 139). The Yurok team surveyed the area surrounding the communication facilities on Red Mountain, finding segments of a traditional/historic trail leading up to the facilities. Other culturally sensitive sites were located, but are confidential in nature.

Figure 38. Estuary, Red Mountain.
Photo by Robert McConnell, 2013.

5.2.2.5 Rectangle B, on south side of river

39. *wo"ke'l*. Several families are descendants of this village, and while thought by Waterman to have washed out, the families still bury their deceased here and camp at this site during the annual salmon runs. This fishing site near the village is ranked at or near the top of fishing sites on the Klamath in its productivity.

52. *turip*. This site has been washed over many times and is now utilized by a family of descendants for camping and fishing. Almost directly across river from *sa"aL*, an excellent fishing place is utilized by the family.

5.2.3 Traditional Cultural Properties (TCPs)

Each of the cultural properties listed above is in fact, a traditional cultural property (TCP), as defined in National Register Bulletin 38, *Identification and Documentation of Traditional Cultural Properties.* "A traditional cultural property is any place - a site, a structure, a district made up of multiple sites or structures, - to which a living community ascribes cultural significance that is rooted in the group's traditions and history." Taken together they constitute a district.

> In looking for something which will serve to characterize Yurok life, dependence on water is at once suggested….They preferred canoeing to other forms of travel, and their principal highway was the river. Their country is intersected with a large

> number of trails, many of them very ancient; but these trails were not nearly so important in commerce and social intercourse as the river…
>
> Their canoe is a heavy dugout, capable of carrying a cargo of several thousand pounds. Though of somewhat clumsy appearance, it is really very well designed and quite light to handle. It is rather easily upset, and the Yurok went out to sea only with some misgivings. They paddled all along the cliffs near harbors, and all around the nearer sea rocks to gather mussels and hunt sea lions. In calm weather, they frequently voyaged out to Redding Rock, which lies six miles offshore…
>
> Interesting religious ideas have become associated with all the means of travel. Trails, for example, are "like people," that is, they are sentient, and must be treated with urbanity. If you step out of a trail and in again, and fail to preserve decorum, the trail becomes resentful. Along each trail there are "resting places"…
>
> The resting places are invariably very pleasant spots. In this custom the Indians show the knowledge of experts. Five minutes rest with a pack off in the shade is, of course, worth more in preventing fatigue than an hour of loitering along the trail.
>
> One Indian, now deceased, is said to have known songs which he sang before starting on a day's journey. After that, load and all, he felt 'light," and could walk far without fatigue…
>
> The boat came in for a large share of religious regard…Canoes were spoken to, especially in dangerous places, and urged to hold up and do their best. After a boat had been appealed to in this way and roused up, it fairly leaped ("look like he jump, "the Indians say). When out on the ocean frequent use was made of songs and formulas to keep from capsizing. Such songs had the effect of keeping the water smooth. (Waterman 1920:184-186)

5.2.4 Direction Terms

"The Yurok direction and position terms enter into the place names to some extent, and the ideas involved differ sufficiently to warrant explaining in some detail. The Yurok's conceptions of directions are quite different from our own. It is quite certain that they have no idea of our cardinal points north, east, south, and west. Instead, their world is bisected by the river; and the fundamental concepts are *pets*, 'up-river,' and *pul*, 'down-river.' The river is rather crooked, and hence pets may stand for almost anything in our terminology. The river enters the ocean after following a northwesterly course, and for this or for some other reason 'down-stream' (*pul*) is applied to the direction north along the coast" (Waterman 1920:193).

Authors note: The river current, after entering the ocean, also travels north, and could be a reason for north being down-river, or *pul*. It can also be stated that Yurok directional terms are tied to where you are, or where you are talking about at any given time. As a Yurok, I find it much easier to know where someone is speaking about if I ask them up river or down river from where we stand or where we are talking about. This is far more reliable than asking them north or south, as many individuals will only be guessing those directions.

5.2.5 Geographical Concepts

> The Yurok imagines himself to be living on a flat extent of landscape, which is roughly circular and surrounded by ocean. By going far enough up the river, it is

believed that "you come to salt water again." In other words, the Klamath River is considered, in a sense, to bisect the world. This whole earth mass, with its forests and mountains, its rivers and sea cliffs, is regarded as slowly rising falling, with a gigantic but imperceptible rhythm, on the heaving primeval flood. The vast size of the "earth" causes you not to notice this quiet heaving and settling. This earth, therefore, to their minds is not merely surrounded by the ocean but floats upon it...

A character called *we'sona-me'gatoL*, "world-maker," fashioned the empyrean vault after the manner and pattern of a fish net…The story tells in detail how he took a rope and laid it down in an enormous circle, leaving one end loose at a certain place among the hills. Traveling off in a gigantic circuit and coming around from the south to the same spot again, he joined the two ends to the rope together. Then for days he journeyed back and forth over the hills, filling in and knotting the strands across each other. The song he sang to accomplish his labors is still sung by people who work on fish-nets or netted carrying-bags. When the sky-net was complete, the hero took hold of it in two places and "threw it up." As it sailed aloft it became solid, and now stretches over us as the great blue sky…

In their theory this sky just described was constructed so as to come down into the ocean, all the way around. It lies far out, away from land…It continually rises and plunges down again into the sea; hence the rollers which wash up on the world's shores. If you paddle far out where the sky comes down to the water, it is perfectly possible, by counting off the lifting and lowering, to slip through underneath. This is the way to get to the regions beyond the sky. The geese have a special exit of their own, a "sky hole," a round opening where they enter and leave this world…(Waterman 1920:190)

The structure, if I may so call it, consisting of the sky dome and the flat expanse of landscape and waters which it incloses (sic), is known to the Yurok as *ki-we'-sona* (literally "that which exists")…This sky, then, together with its flooring and landscape, constitutes "our world"…

The Yurok believe that passing under the sky edge and voyaging still outward you come again to solid land. This is not our world, and mortals ordinarily do not go there; but it is good, solid land. What are breakers over here are just little ripples over there. Yonder lie several regions. To the north (in our sense) lies *pu'lekuk*, downstream at the north end of creation. A supernatural being called *qa-pu'loiyo* (a gambling device) seems to be the presiding genius there. "In the beginning" there lived in his company a supernatural being called *pu'leku-kwe'rek*, "At-the-north-end-of-creation-sharp-one." He came to "our" world and cleared it of all monsters and evil beings. "South" of *pu'lekuk* lies *tsi'k-tsik-ol*, "money lives," where the dentalium-shell, medium of exchange, has its mythical abode.

Again, to the south there is a place *kowe'tsik*, the mythical home of the salmon, where also all have a "house." About due west of the mouth of the Klamath lies *rkrgr'* where lives the culture-hero *wo'xpa-ku-ma*, "across-the-ocean-widower"…

Every night "over there" in *rkrgr'* "they" have a deerskin dance. The frogs on summer evenings can be heard going down the Klamath in a canoe from far up-river, talking and laughing. The canoe is invisible, but you can hear it pass along with its

> cheerful crew. They go down the river and across the ocean and under the sky-edge to see the deerskin dance in *rkrgr'*; and they come home again early every morning.
>
> Still to the south of *rkrgr'* there lies a broad sea, *kiolaapaopa'a* which is half pitch… (Waterman 1920:189-191).

This diagram (Figure 39) was drawn by T.T. Waterman after talking with many Yurok informants, and is his interpretation of their comments. As such, it does represent a basic understanding of the Yurok worldview, and serves as the starting point for defining the Yurok Tribal Cultural Landscape. The diagram depicts places found in the short stories on the following pages. Spellings of the locations differ from story to story, but overall, are not so markedly different that one cannot follow. The differences occur because the authors all have their own understandings of the Yurok language, and none were linguists.

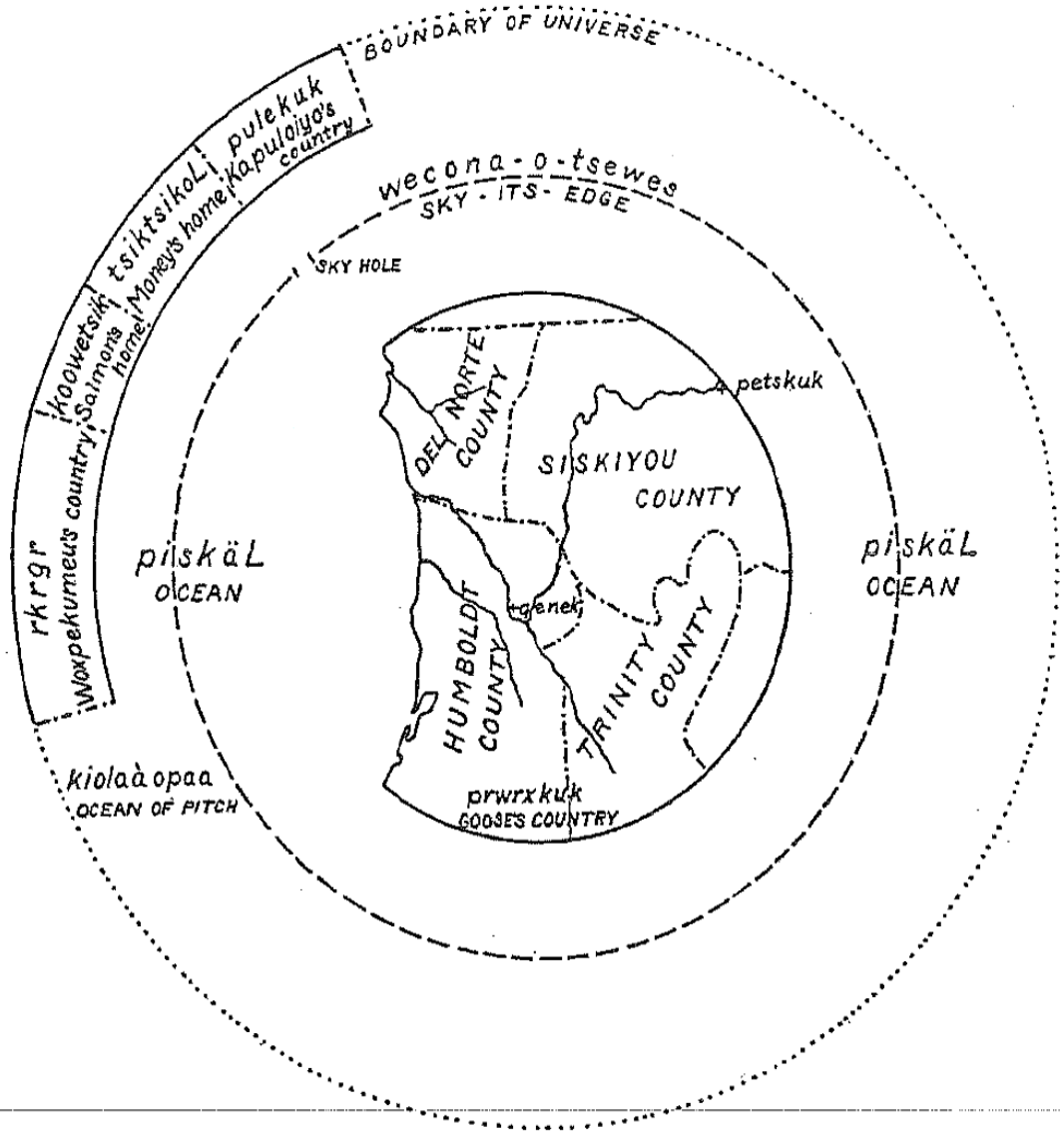


Figure 39. T.T. Waterman (1920) cover page of Yurok Geography.
Diagram of Yurok worldview, based on his interpretation of informant interviews.

Figure 39 will be interpreted in the following pages, however, to guide the reader, a brief explanation is given here. The land area depicted includes four counties in Northern California, and is much larger than Yurok Ancestral Territory (Figure 28, p. 136). Because the Waterman diagram is black and white, the Klamath and Trinity Rivers do not stand out as they could. Redwood Creek, another important stream in Yurok Country also is not clearly defined.

In the diagram, the Klamath River begins at *petskuk* on the upper right of the ¾ moon crescent in the middle of the diagram. It flows southwest before turning northwest and continuing on to the Pacific Ocean. The Trinity River joins the Klamath at the bend where the Klamath changes direction from southwest to northwest. Redwood Creek parallels the Trinity and Klamath Rivers to their west on its northwest journey to the Pacific.

Other features of the diagram are called out in Yurok and English, and are somewhat self-explanatory. The reader will find one feature, 'Sky its Edge' in many of the following stories and excerpts. It is called *wecona-o-tswes* in the diagram.

We begin in the *wo'ge* time, when the world here did not have Yurok, but was being made ready for Yurok by the *wo'ge.*

"Yurok stories include tales about how the world came to be as it is. One such character in these stories is *Wohpekumeu*, 'widower across the ocean' who is said to have been the one to make things as they are. He was born at *Kenek*, where he lived until he left to join the other *wo'ge* who departed from this world. At *Amaikiara*, in Karuk territory, he tricked the woman who kept all the fish and liberated them for the future use of mankind. From the sky, he stole acorns for the people to eat. He pursued women everywhere, and as a result of his activities either created or ruined good fishing places. He also recovered the dentalia, or shell money, hoarded by his son and released it back to the world" (Kroeber 1967:73).

The story above states *Wohpekumeu* was born at Kenek, a traditional Yurok village site located between the two upstream population centers of Pekwon and Weitchpus. *Kenek* is known as the 'center of the world' to Yurok of today.

In *Wohpekemeu's* Origin, below, he was born in *Wohpiiu*, or *rgrgr* (*Wohpekemeu's* home) in the Waterman diagram. In either case, travel would have had *Wohpekemeu* going through the Case Study Area.

The stories name *Wohpekumeu*, "widower across the ocean" (*Wohpekemeu's* country -- *rkrgr* in the diagram, same as *Wohpiiu*, below), *Kowetsek* (the home of the salmon) and (*Koowetsik* -- Salmon's home in the diagram).

> "When the creator, *Wohpekumeu*, first came to the Klamath and Trinity Rivers, he saw that there was no food for the people. There were only two women who had salmon. *Wohpekumeu* took the salmon from the women and let them go into the River. *Wohpekumeu* said the people would never catch the Great Salmon. When the Great Salmon comes up, he will swim in the middle of the river so he isn't caught with the nets. The Immortals (*Woge*) only wanted salmon to go up on one side of the river to make sure they knew where they could get salmon. But they never caught anything so they made it so the salmon would come up both sides. A man from the village of *Welkwau* wanted to learn how to fish at the mouth of the River so he went to *Kowetsek* (the home of the salmon) and asked the headman to show him how to harpoon fish. The headman agreed to show the man from *Welkwau*. When *Nepwo"* (the Great Fish) came through the mouth of the river, the headman acted as if he was going to spear it. He would make thrusting

motions with his spear but not actually spearing it, at the same time, he was praying for more salmon to come up the river. More salmon came up the river. The headman speared some salmon and the man from *Welkwau* saw that he handled the fish in a particular way. The headman explained that if salmon was caught at the mouth, a man was not to use a wooden club to kill it; he was to use a stone to hit it in the head. But upstream from the mouth everyone else would use wooden clubs. If a salmon is caught at the mouth it must be buried with only its tail sticking out. People who use a spear to catch fish at the mouth must practice certain medicine before catching salmon. The lamprey eel was also made at *Kowetsek* and there are certain rules one must follow when catching them at the Mouth. This story tells of how the reverence for fish and creator provided the Yurok not only with abundance of salmon, a place for salmon and people to inhabit (the River), that explains the proper etiquette and moral responsibilities of salmon and people" (Kroeber 1987).

5.2.5.1 Wohpekumeu's Origin

Wohpekumeu grew in *Wohpiiu*. He must have been born there because his name refers to it and to his having been widowed. Then he walked across the ocean coming toward this world, but there was no land as yet. So he thought he wanted land to be and there was a little. Then he wished it bigger and it became so. Then he saw water spurting up in a spray beside him: it seemed to him like human feet. He looked at it again and saw that it was a woman to the middle. Next time he looked, it was a complete person, a woman, and there was no more water. It was at *Kenek*, the middle of the world, that this happened.

Then *Kapiiloyo* (*K'epiiloyo*) arrived, also having walked over the ocean. So *Wohpekumeu* said the woman would be his (*Kapiiloyo's*) wife. He held out his hand and said, "Give me dentalia." Then *Kapilloyo* handed him dentalia, but *Wohpekumeu* had caused them to be in his hand. Having received them from him, *Wopekumeu* put the money from one hand into the other. This was like paying for the woman as wife.

The son of *Kapilloyo* and this woman was *K'ewomer*. This means "*Womer*," and *Womer*, I think, refers to "above." *Kapilloyo (K'e)* means "He from the north or down-river." I have not heard the name of the woman whom *Kapilloyo* married.

If wind threatens to blow down a house, or it thunders, a man may look north and hold out his hand to the north, saying, "*Kapiiloyo*, I am your son, Help me." Then, holding his palms up and looking toward the sky say, "*K'ewomer*, I am your brother. Help me." But they rarely pray to *Wohpekumeu*.

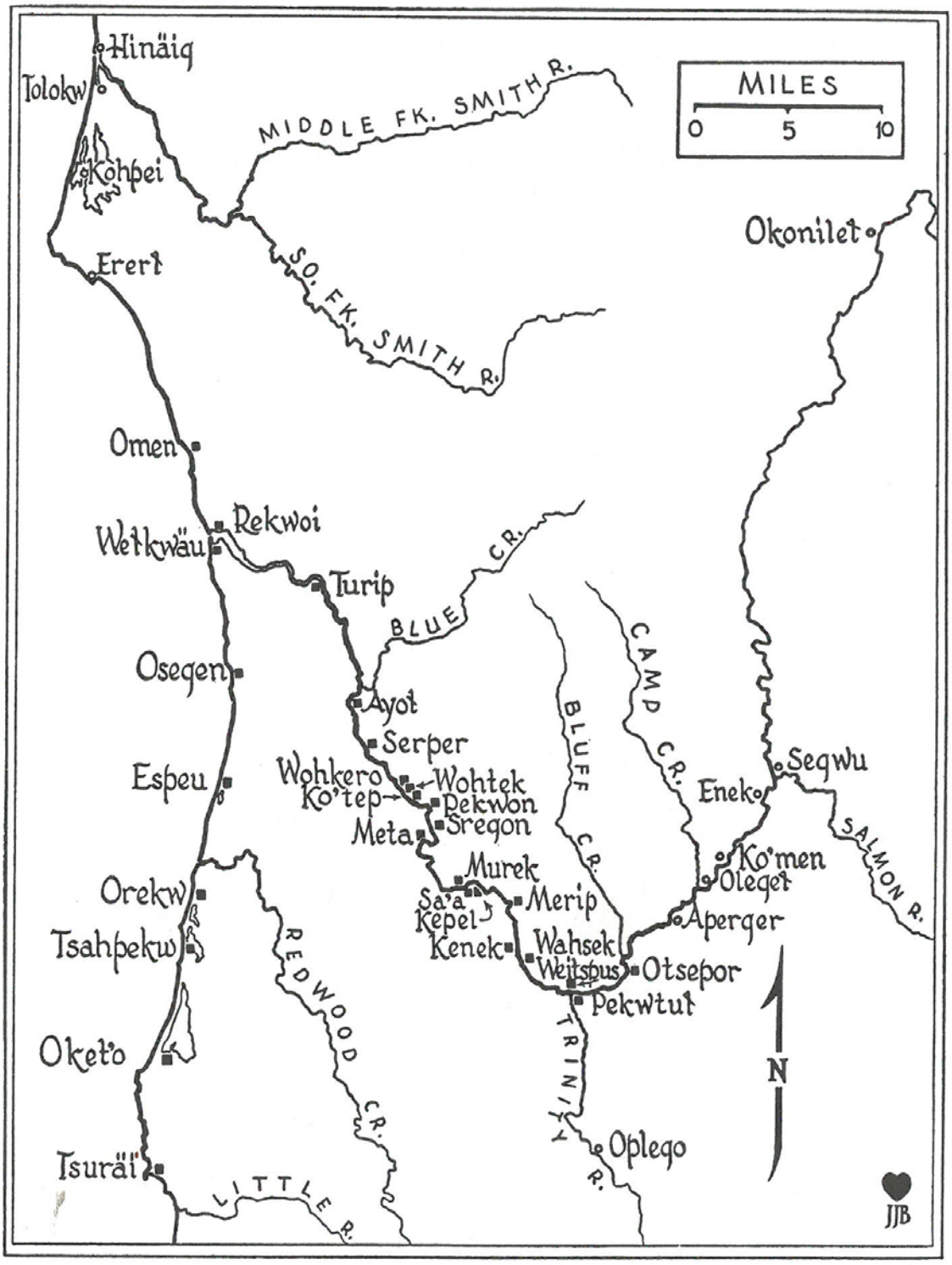
5.2.5.2 The Shells' Boat Dance Into the Ocean

In *woge* times, every kind of shell went into the ocean from inland. That is why the upriver people and the inlanders use dentalia, clamshells, and other kinds: because formerly these all lived upriver. When they were about to undergo the change, they said they wanted to live in the ocean hereafter, but that they did want to come back inland sometimes; "that is why they will use my shells there." They started downriver, going in a long double file of two boats abreast, like a railroad train. At every village more of them joined in. They did not paddle, but stood up in the boats, each holding the shoulders of the one next in front, singing and making the boat go by their dancing. This is called *welegwoleya*, like the boat dance of the Indians. In

> front went dentalia (*tsik*). Next were the small dentalia (*tseihkeni tsik*); then the dentalium beads (*terkutem*). Behind these were the haliotis (*yer'erner*), and then the little clamshells (*sekse*) which are sewn on women's dresses. Behind them were the *kererts wino'os*, the thimble-like shells which suck fast on the rocks, and then the little dark-colored snails, both of which hang on women's dresses. After them came the olivellas (*turukr*); then the smoothed mussel shells such as are used for spoons, which we call *roptei*, or, as the people farther up the river say, *hegwon*. Last of all were the plain mussel shells (*pi'i uwerser*).
>
> When they came out on the ocean the dentalia went farthest north, to *Tsiktsikol* (dentalium-home). There they tipped their boats over. The small clamshells also went north, but did not reach so far. That is why they are found as far south as Pebble Beach, near Crescent City. For some kinds the boats separated, one going north and the other south; for the haliotis both boats went south. The hind ones, like the mussels, knew before they got to the mouth of the river that they would not reach far. Their boats separated, some to the north and some to the south, and tipped them into the ocean before they had gone any distance.
> These are the songs which some of the kinds sang as they traveled.
>
> Dentalium sang: "Dentalium, dancing in a boat, I go far, to the north, to capsize (*Tisktsik welewoleya tspanik-kisotok sa-pulekuk tso-notky'ekwolena*)."
>
> Small dentalium sang: "I small dentalium, dancing in a boat, north I go with them, also from the north I will go, to the south (*Nekwil-tseihkeni-tsik wele-woleya pulekuk-kisomegolok not-pulekuk-komewomitsok soh-perwerkuk*)."
>
> Haliotis sang: "Haliotis,dancing in a boat, south I go, to capsize (*Yer'erner welewoleya not-perwerkuk tso-not-ky'erkwolena*)."
>
> The little and poor ones sang: "I told you, in the middle of the ocean, to capsize me there (*Tamola-higolek hiwohpi tso-not-ok'yewolena*)." But they capsized near shore and near the mouth of the river.

The shells' boat dance into the ocean speaks about *Tsiktsikol* (dentalium-home), and how dentalium traveled from upriver to their new home in the ocean.

Further, the stories talk about *Welkwau*, a traditional village site at the mouth of the Klamath River, and *Kenek*, the "center of the Yurok world." The map in Figure 40, from *Yurok Narratives* (Spott and Kroeber 1997) provides context for the stories, showing most of the principle villages mentioned, although it does not have all the Yurok villages known today.



Principal Yurok towns, indicated by black squares, along the Klamath River and the coast. Settlements of the adjoining Tolowa, Hupa, and Karok tribes are indicated by circles; their names are the Yurok ones.

Figure 40. Map from *Yurok Narratives.*
Provides context for the Creation stories, and shows the principle villages mentioned (Spott and Kroeber 1997).

For example, the story of Umai begins far above Yurok Ancestral Territory and outside of the Yurok CSA at a place called Upriver Ocean. This is the same as *petskuk* (Figure 39, p. 172). Umai is curious about what she sees at each sunset and begins a journey to discover what that might be. Because she is a *wo'ge*, Umai can travel far distances in a short time. In this case, Umai travels the breadth of the Yurok world and back in single day.

Umai travels from her home at a place called Upriver Ocean, at one end of the Yurok world to the other, traveling the river to the mouth, and out over the breakers to Laksis' home. A prescription for safe travel in a canoe is given. In doing so, she travels through the Yurok CSA and across the ocean to Laksis' home.

The diagram in figure 41 is similar to the Waterman diagram (Figure 39, p. 172), and is a drawing by Theodora Kroeber, wife of Alfred Kroeber. The two diagrams have the same concepts, but with different names. It is provided here to give reference points for locations in the following text.

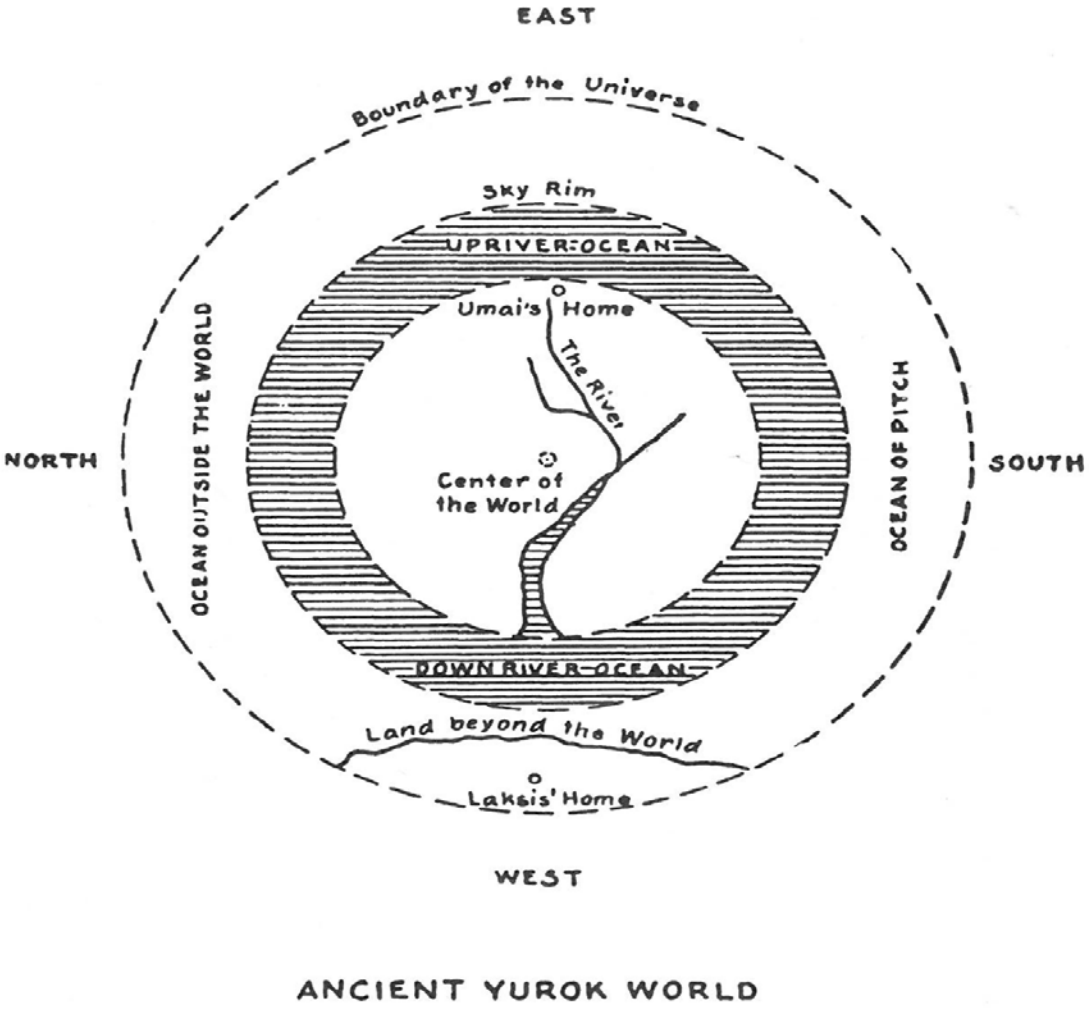


Figure 41. Diagram of Ancient Yurok World from Kroeber (1987).
Although similar to the Waterman diagram, this diagram must be rotated clockwise 90 degrees to be comparable. It also has some elements of the Waterman diagram.

Presented here are two of the nine stories from *The Inland Whale* (Kroeber 1987).

5.2.5.3 Umai

The first people were the Woge. The world was the same in Woge times as it is today; it has always been the same. And Umai, who was one of the Woge, was much as our girls are now, that is to say, she was young and beautiful. But she was lonely and restless, too. Umai's home was on the far edge of the earth by Upriver Ocean where the river begins. She liked to stand on the river bank and look out across the world. She could see down the full length of the river, from one side of the world to the other, and across Downriver Ocean to where the sun sets. She liked to wait on clear evenings for the little silver flash that follows the setting of the sun, making a brief crescent of light no thicker than the crescent of a fingernail along the horizon line. When darkness settled over the earth, Umai turned away from the river and went inside her house. She thought about the crescent of light, wondering what it was, and she thought she would like to go all the way down the river if only she could find some way to do it.

She searched here and there in her house until she found an old toy dugout canoe, no longer than her foot, no wider than her hand. She took it to the river and dipped it into the water. Then she patted its sides lightly and put a hand in and stretched the little canoe until it was two hands wide. She patted it front and back and put her foot into it and stretched it until it was long enough for both of her feet, one ahead of the other. She continued to pat the canoe and to sing to it and to stretch it a little at a time, until at last it was large enough for her to sit in. At first dawn, Umai settled herself in her canoe and pushed off from the bank. Only then did she remember about a paddle. Having none, she held onto the sides of the canoe and swayed gently back and forth, and after a moment the canoe started down the river. In smooth water, she repeated the swaying, rocking motion. When she came to rough water or to riffles or rapids or falls, she sat still, and the canoe went safely over or around them without help from her.

She passed the Center of the World. Here, the big tributaries join the river, and the water becomes much deeper and swifter. Umai went faster and faster so that soon she was all the way downstream and at the river's mouth where it empties into Downriver Ocean.

The surf, rough and forbidding, was breaking over the rocks along the shore. But Umai looked past the breakers, out across the blue ocean and she saw where the rim of the sky meets the water. And she thought she would like to ride on the ocean, too. So she sat and counted eleven waves. As the twelfth -- always the smallest wave -- rolled in to shore, Umai patted the sides of her canoe and sang a song to it and swayed forward and back.

The canoe rode the twelfth wave out, carrying her safely onto the open ocean. During the rest of the day she went on and on across it and farther and farther away from the earth. The sun was low in the sky when Umai came at last to the very edge of the world. She sat in her canoe alongside the world's edge, watching quietly. She saw that the sky does not rest solidly on the ocean, but that it lifts and dips and lifts and dips in an even rhythm, except that the twelfth is a slower, gentler rise and fall. And she saw that it is this dipping sky that causes the waves in Downriver Ocean which

forever beat against the shores of the earth. The sun went down behind the edge of the world and was followed by the familiar silver flash. But from so much closer up, Umai saw that it was not at all a narrow crescent but a waving, moving something with a center of living brightness.

Umai thought: her boat had taken her easily past the pounding surf and across the great ocean -- might it not carry her out beyond the world as far as this brightness? She patted her canoe and sang to it again while she counted eleven liftings and dippings of the sky. At the beginning of the twelfth and slower rise, Umai held tightly to the sides of the boat with both hands and rocked forward. The canoe went, straight and swift through the gap. When the rim of the sky dipped .again to the water, she was already some distance away in the Ocean-Outside-the-World.

Far away in the ocean which encircles the world, water gives way to pitch, and beyond the ocean of pitch, there is nothing at all. But where Umai went under the sky, she had only to cross a narrow stretch of water to find herself coming near the shore of the Land-Beyond the-World.

On the shore of this land, a young girl stood waving to her -- Laksis, Shining One, she was. And Umai saw that the silver brightness that follows the setting sun is Laksis, waving from this far shore. She waved till Umai's canoe scraped bottom; then she helped her beach her canoe and welcomed her to her home and to the Land-Beyond-the World.

Laksis was young like Umai and she too was lonely. Neither of them had had a friend before they found each other. They walked together over the barren and empty land and talked together as young girls talk. Umai told Laksis how from her home on Upriver Ocean she watched each night at sundown for the silver crescent behind the dipping sky. And Laksis told Umai how she came to the shore of her land each night at sundown to wave to the distant earth.

When it was time for Umai to go home, they said goodbye as friends do who will see each other again before the day is done. Together they counted eleven liftings of the sky. At the beginning of the twelfth, Laksis launched the canoe with a strong push which sent Umai back into the world under the lifted rim.

The trip home seemed very short to Umai because she was busy and happy with her thoughts. She saw that from the far side of the ocean, the earth itself looks no wider than the shore of Laksis' home. She came close to her own shore and recognized its rocks and the wide mouth of the river. It was good to see these familiar things again. Without trouble, swaying gently and singing a little, she rode a low wave through the surf and went on up the river, past its falls and rapids and riffles and into its quiet water; on to its source and her own home.

Umai belongs up where the river begins; she is known as Upriver Ocean Girl. She made no more trips in her canoe, and it shrank until it was a toy again, and Umai stored it carefully in her house. But each evening at sundown, she goes to the riverbank and she and Laksis face each other across the width of the world, and Laksis, Shining One, signals to her friend from behind the moving sky. You may see her for yourself after the sun has set -- a silver streak where the sky meets the ocean, seeming no wider than the crescent of one of your fingernails. When you are going

> out on the river or the ocean, it is well to sing to Umai, up there by Upriver Ocean. Put your hands on the sides of your canoe and pat it as you sing:
>
> Umai!
> You rode the rapids.
> You crossed the Ocean.
> Lend me your canoe.
> This is your canoe!
> Now I too
> Shall have no trouble
> From the River.
> No trouble
> From the Ocean.
> Thank you, Umai!
>
> You will then go safely anywhere: on the river or through the surf or out on the ocean; to the edge of the world if you want to. It will take you longer than it took Umai: many days instead of one. And you will need a paddle, for these are not the ancient Woge times and you are not a Woge.
>
> But you will go safely and you will come home safely: if you have followed the customs and the rules; and if your heart is pure. (Kroeber 1987)

The counting of the twelfth wave is an important piece of traditional ecological knowledge shared by contemporary Yurok. However, you do not randomly begin counting waves and believe the twelfth wave will be the smaller wave. You must first sit and observe the water and waves to find the smallest (and most gentle) wave before starting the count. You do this more than once before gaining the confidence that you are counting correctly.

5.2.5.4 About-the-House Girl

About-the-House Girl begins at the mouth of the Klamath River at the Yurok village of Welkwau. Travel by canoe is across the river estuary to Rekwoi, upriver to Merip, and across the ocean. The Land Beyond the World and the Life Renewing Dance held there is explained. Patapir, a young man in search of love, follows several Yurok prescriptions for a good life to find his true love. His journey is not just physical, it is a life journey.

> Patapir lived with his father and mother in a comfortable house near the mouth of the river. He liked to sit on a flat rock by the river and play his flute. The music he made carried across to the village of Rekwoi on the other side, and it drifted upstream, sometimes shrill and sharp with the trills and runs of songbirds, sometimes bright with the ripples of running water, sometimes low and sad with the soughing of the wind through the trees. He was a man grown, strong and tall, his hair reaching to his hips, but Patapir had never know[n] any woman. He hunted and fished, he cut down trees and adzed and split the wood for sweat house or other building, he carved and burned out his own canoe and made the long storage boxes to hold his accumulating treasure, he cut and carried ceremonial wood for sweat house fires, and he sweated himself and prayed. Between working and hunting and praying, he played his flute, and songs of love and lonesomeness and longing came from his flute.

Ifapi lived far upriver with her father in the village of Merip. Her mother died when she was a little girl. Theirs was a good family and the father could have married well again had he wished to. Instead he took care of Ifapi, and the two of them lived in their home together until she was grown -- quiet, loving, and gentle. Ifapi was a shy girl who hid herself when young men came to the house. Instead of fixing on one of them as a husband for her, the father sent Ifapi to stay for some moons with an old aunt, his elder sister, who lived in Rekwoi. As far as the aunt's neighbors knew, Ifapi stayed indoors all day. She was never seen about the village, and when people asked for her the old woman said only that she was not well.

One day while Patapir played his flute, he kept looking across to the village of Rekwoi and up to its topmost house, far up the hill where the sun shone on it all day and where the terrace overlooked the mouth of the river, the sand bar, and the ocean beyond. This was the house of Ifapi's aunt. His mother spoke often of the aunt and sometimes of the niece who was staying with her now. Patapir had questioned his mother about the young girl but she had said that she knew nothing of her, that the old woman appeared to keep her away from men altogether, even from Patapir, although his was an aristocratic family and one long acquainted with Ifapi's people. His mother also told him that the gossip in the village was that the girl was not strong.

Patapir continued to think about her, wondering what she was like, wishing he might have a glimpse of her. But today there was no sign of a girl or even of an old woman and Patapir saw instead, on the terrace of a house farther downhill, two strange young women. He put his flute on the rock beside him and looked more closely. They were certainly pretty, he decided, and they looked friendly sitting there sunning themselves on the terrace, their feet tucked under, their bark skirts spread wide. He did what he had never done before -- untied his boat and crossed the river deliberately to get acquainted with them.

The two young women had seen Patapir, even as he had seen them. They watched while he got into his boat and rowed across to Rekwoi. When he came up to their terrace they were sitting as he had seen them, their feet tucked under and their skirts spread out, and he thought they were prettier close up than from a distance. He spoke shyly to them, and they motioned him to sit down on a redwood stool between them, pleased to have attracted the handsome flute player.

He was silent except for answering their questions briefly, for he did not know how to talk to them. This made them giggle, and they chattered and flirted with him and teased him. The three of them stayed for some time in this way, when a smell of seaweed filled the air, not of the broken plants washed ashore, and rotting on the beach but of the deep ocean seaweed, whole and fresh.

Patapir looked around to find where it came from. Uphill, he saw the house of Ifapi's aunt, and the old women herself out on her roof spreading fresh seaweed over the boards to dry. Patapir could almost taste the acrid ocean flavor, and he wanted more than anything else to have some of it to eat. He got up absent-mindedly from the stool on which he had been sitting, murmured something about seaweed and about being back soon, and left them, walking quickly to the house at the top of the hill.

As for his new friends, they shrugged their shoulders when he left them and laughed at him. “He is a strange one, the Flute Player,” said one of them. “Yes, but he will be back, you’ll see,” said the other.

Patapir meanwhile was greeting the old aunt whom he had known since childhood, and telling her how the smell of seaweed had drawn him up the hill to her house. She broke off a leaf, newly dried, and gave it to him, inviting him to come indoors with her. There she dipped up a small basket of acorn mush from the large one by the fire and gave it to him to eat with the seaweed. And there for the first time, he saw Ifapi.

Ifapi lay close to the fire, a deerskin blanket covering her. She did not get up while Patapir was there. Pale and quiet, looking smaller under the heavy blanket than in fact she was, she took little part in the conversation. Nonetheless Patapir thought of her all while he was inside the house.

He did not stay long. When he had finished the mush, he returned the basket and the spoon to the old woman, thanking her and saying goodbye to Ifapi. Then he went down the hill to the two young women. As soon as they saw him one of them asked him, “Where did you go?” And the other one asked him, “What is so interesting up the hill there?” I was talking to the old woman in the upper house, said Patapir. “She gave me some mush and seaweed.” The girls shrugged their shoulder and looked at each other and laughed. Patapir stopped for only a few minutes with them before crossing back to his side of the river. During the rest of the day he cut and carried loads of wood for the sweat house fire, and at the end of the day he played long on his flute.

While he played he made plans for the next day, and in the morning he crossed the river as soon as he saw his new friends out on the terrace. He said to them “I want to sleep with you. May I come to your house tonight?”

The young women laughed when he asked this, and one of them said, "Don't try to fool us -- you are only pretending you want us." And the other one said, "You really want that girl up the hill. You just come here to be near her" But after more teasing, they agreed that he might come. "Come tonight. But wait till it is dark" they told him.

Patapir fished during most of the day. Then he sweated himself again. As the sun neared the rim of the sky he was restless, already seated in his canoe waiting to paddle across as soon as the sun was set. Thus it happened he was outside the young women's house before they were expecting him.

They were dressing, calling back and forth to each other while they dressed. Patapir stayed at a little distance from the house, but even so their voices reached him plainly: "How shall we dress tonight?" "We could wear our good skirts." "Or our new aprons." "No one can see what we wear in the dark. Why not the same as last night?" "But we must be sure to take capes. It is cold on the water." This was the way they talked. Patapir waited, and the young women came out onto the terrace dressed for the out-of-doors and carrying canoe paddles. They stopped when they saw that Patapir was there, but before he could say anything they began to laugh, and then they ran as fast as they could away from him, downhill. He ran after them but it was already dark. He heard men's voices calling softly to them from the river, and as he came out onto the bank the girls were already seated with several men in a canoe

which was headed downstream, one of a long line of canoes filled with men and an occasional woman or two, and being paddled toward the mouth of the river. Last of all there came a small canoe with only two men in it.

They called to Patapir as he stood, uncertain what it all meant, and what he should do.
"Come. Come with us," they said.
"We have plenty of room."
"But where do you go?"
"To the dancing across the ocean! Come!"

Patapir got into the canoe. He saw that there were blankets for keeping warm, pipes for smoking when they should wish to rest from paddling, and baskets for gathering fresh seaweed.

The canoes, ten in all, cleared the bar and the offshore breakers and set out to sea. They stopped once at a large sea stack to rest and fill their baskets with seaweed and to have a smoke. Patapir noticed that where they knocked out their pipes the grass and flowers growing in the crannies of the rock were charred, showing that pipes had been knocked out there many times before.

Beyond the sea stack, they paddled steadily on, ten boats one after another to the edge of the world where sky and ocean meet. Patapir watched, breathless, as the boats lined up side by side. Truly it was as his grandfather had told him, the sky moves up and down, up and down; when it drops it strikes the ocean with a force so strong it starts the waves which beat unendingly against the shores of the distant earth. Patapir counted, and as his grandfather had told him, every twelfth lifting of the sky was slower than the in-between ones, leaving a gap for a long enough time that a canoe, set and ready, could pass under the sky, out beyond the edge of the world and into the outer ocean.

This the ten boats lined up at the edge succeeded in doing, counting the waves, and going under as one with the slower wave. Patapir looked back. He saw that the sky was again down against the water, and that he and his companions were outside the world, paddling through the waters of the outer ocean. They went as far as the Land-Beyond-the-World, where they beached their canoes on the flat and sandy shore.

There was a fire up the beach a short distance and a circle of people around it watching a Life Renewing Dance. Patapir and the others from the ten boats went to the fire and stood quietly where they could see the dancing

As he watched, Patapir wondered why this that was so new and strange seemed somehow familiar. Then he recalled that it was the dancing the old ones in the sweat house at home told him of when they were in a mood to talk to him of their own youth.

He had thought their tales of dancing across the ocean to be no more than old men's imaginings about bygone days. They told him that such night voyages down the river and over the sea were only for the young and the strong, and they hinted that sometimes a man persuaded his sweetheart to go along.

They spoke of this adventuring as something in the past -- their past, when they were young and carefree, hunting and fishing by day, and paddling across the ocean and outside the world, dancing and making love by night -- a time when sleep was something for the old.

Patapir was wide awake and aware and alive as never before -- what had been the old one's dream was become his own reality. Never had he imagined such dancing and such singing. The singing rose from a low wail to the strident shrillness of the highest notes of songbirds. The rhythm of the dancing feet was strong and pure and steady on the earth. There was beauty and authority in the voice and gestures of the Leader as he offered incense and tobacco to fire and to Spirits, and recited the prayers for each.

Patapir and his two companions in the canoe were seeing this for the first time. So interested were they, they pressed forward, nearer to the fire, nearer to the dancers. By now, the men from the other canoes had joined the line of dancers.

Patapir saw that the old ones spoke truly -- the dancers were all in their young manhood, strong and tall. Some of them could leap in the dancing, high, and with the long-legged grace of the crane; and some could sing, sending their voices higher than the flickers' call. Little by little, Patapir forgot the dancers and singers as his attention gathered more and more about the person of the Leader's assistant. This was scarcely surprising; the young men beside him had eyes for nothing else, nor did Patapir, once he really looked at her.

Women never dance in the Life Renewing Dance, but the Leader is served by one woman who makes and tends the fire for him, hands him angelica root and tobacco and his pipe, removing them when he has taken what he wants of the incense or finished the pipe ritual. It is a position of honor for a woman, and since she must not have borne a child and must submit to training, to prescribed diet, and to purification, it follows that the Leader will select her with care. She is sure to be young and good looking, with proud bearing, gracious and graceful.

The assistant Patapir was gazing at was young, the delicate oval of her face shadowed by shyly lowered lids, the young breasts shadowed by long hair braided and tied with mink and by the cloak she wore over her shoulders, a cloak made of hundreds of closely sewn crests of the red-headed woodpecker, seeming itself a sheet of flame from the fire as she moved. Her skirt and front apron were heavy fringes of shells strung close together, each string tufted with a red woodpecker crest. She was barefoot, and as she bent to the fire or lifted a basket of incense to the Leader, the play and motion of thigh and leg showed through the fringe of shells which answered her every movement with a low rustle as of a receding surf playing shell against shell on the beach.

She brought a piece of driftwood and put it on the fire, facing Patapir as she did so. The fire blazed high, lighting her shadowed face, and Patapir saw that she was Ifapi -- Ifapi, the little pale girl whom he had seen lying in the old woman's house at home.

She did not raise her eyes or look at him, but for the rest of that night's dancing he watched her, and during the early morning hours of paddling home, back under the sky rim and all the way across the ocean, he thought of her.

He went far into the hills that same day, cutting the topmost branches of tall fir trees according to old ceremonial rule, bringing them home in bundles. With these he made a sweat house fire, and sweated and prayed until almost sundown. Then he swam and washed himself in the river, and when the sun was quite gone, he crossed to the other side in his canoe. The aroma of drying seaweed wafted down to him, pungent and sea-filled, and he went uphill toward the old aunt's house.

Patapir had quite forgotten the two young women who had seemed so pretty to him the day before, but they were waiting for him on their terrace. He spoke to them and they knew from his manner that he was not meaning to come in with them this time.

One of them said, "I don't believe you have come to see us at all. You don't even want to stop and talk!" And the other one said, "You only want to see the girl who is sick all the time up there with the old woman!"

Patapir, whose thoughts were far away, answered them, "Yes. She is the one I want to see," and he went on without more talk. They laughed, shrugging their shoulders and turning their backs to him.

When Patapir got to her house the old woman was on the roof gathering in the dried seaweed. She gave him a leaf and invited him inside to have some of her acorn mush. He followed her through the round door and there, just as before, he saw Ifapi covered with the heavy blanket, looking pale and ill. Her aunt climbed down the ladder into the pit to see if the mush was done, and Patapir jumped lightly after her, going to Ifapi, and patting her shoulder to draw her attention. Ifapi turned toward him; but before she could speak, her aunt saw what he was doing and spoke up sharply. "Do not touch her," she said. "She is very sick. You mustn't ever do that again!" She could not think what was in Patapir's mind, and she was frightened, unable for the moment to move, a wooden stirrer still in her hand, watching him and repeating over and over, "You mustn't ... she's sick ... she's always sick... you can't..."

Patapir paid no attention to her. He slid his arms carefully under the blanket on which Ifapi lay, lifted her, deerskin blanket and all, and carried her up the ladder. Only then did he speak to the aunt, saying, "I know that she is not sick. I saw her at the Dancing across the ocean last night."

This brought the old woman back to herself. She threw aside the stirrer and followed Patapir up the ladder. Taking his arm, she said imploringly to him, "Then go -- go outside .... Leave her." Patapir shook his head, but she held him still. "Leave her I say! I must speak with her only for a breath -- I will call you back. ... Please to do what I say -- this is the right thing, I tell you!"

Patapir had had every intention of carrying Ifapi off without talk or delay, but something in the old woman's tone made him listen to her; and when he turned to Ifapi, she nodded her head and, in a voice so low he scarcely caught her words, said to him, "Do what she says."

"Call me then," he said, leaving Ifapi and stepping outside. And before his impatience drove him back, the aunt called him in.

Stooping to go through the low door, he looked first for Ifapi. She was there, but the shadowed face was no longer pale and indifferent, but awake as at the dancing. She was dressed in the shell fringe skirt and apron, and the red-crested feather cloak was around her shoulders. Patapir went to her and took her arm, but the old aunt's voice interrupted, "Flute Player of Rekwoi, what are you doing?"

"I am taking this little one with me, aunty."
"Wait I Let the shadows grow longer while I tell you..."
"Tell quickly, aunty, for I would be away from here..."
"Flute Player, this child is not an old woman's nobody. She has a father, my brother, upriver. I must answer to him for her, and you must answer to him for her."
"This I know, aunty. My father knows the brother of whom you speak."
"There is another thing that I must tell you so you do not misjudge me. It was she and not I who wished to make this look of sickness. I helped her to it only because she begged me to."

"I believe you, old woman, and I believe that, just now, she laid aside her sickness of her own wish. Isn't that true?
"It is true, Flute Player. But what do you do with her?"
"Do you not worry, aunty. I am taking her with me and I am marrying her -- tonight. But tomorrow, as soon as it is light, we shall go upriver, she and I, and her bride price goes with us to her father. You've known me all my life, aunty, and you know my father and my mother. You and her father and the Leader across the ocean will say she was proudly bought."

The old woman had to content herself with this promise. She was wise as well as old, and she knew that she could do very little, for what Patapir wished, Ifapi wished also. She looked on without interfering when Patapir went to Ifapi and again took her arm, saying, "Come!"

Ifapi said, "Goodbye, aunty. Thank you for helping me. I shall tell my father that you were very good to me."

Ifapi followed Patapir through the low round door. On the terrace, he lifted her gently into his arms, the feather cloak flowing about them like a flame as he carried her into the darkness, down the hill to the river, to his canoe.

They crossed to his side of the river, and there in a hollow under a redwood tree he made a soft sweet bed of ferns laid over with deerskin rugs, and there he and Ifapi spent their wedding night.

In the early dawn, Rekwoi was a village asleep. No one stirred or wakened as Patapir stowed his long boxes of treasure in the canoe or as he and Ifapi took their places at either end and headed upstream. He pulled against the current, and the strong smell of seaweed again filled his senses as in a remembered dream, while far up the hill an old woman spread fresh seaweed over her roof and watched the sun rise above the canyon wall and a canoe move out of her sight upriver, disappearing behind the same canyon wall.

Paddling steadily, stopping for short rests, Patapir and Ifapi came to her old home. Ifapi ran ahead to greet her father. He was surprised to see her, and he questioned her, saying, "All is well?"

"All is well, my father."
"What brings you home?"
"That you may know my husband."
Her father Sighed, speaking half to himself, half to Ifapi, "Ahhh -- that old woman, my sister, she was not careless with you?"
"No, no, my father. She was good to me and cared for me and helped me."
"But then whom could you have married? I have heard nothing of any man looking at you -- only that you were serving the Leader across the ocean ..."
"So I have served him -- I alone." Ifapi said this with quiet pride.

"Tell me then – -who is this man, your husband -- you must know, my child, that when I let you go away from me, it was with the foolish thought that you might continue to keep yourself from men, and that the Flute Player of Rekwoi might one day come to know of your being chosen by the Leader and wish to marry you. I know his family, and perhaps you have not forgotten how we used to listen together to his songs as they floated up the river -- before you were grown and went away from me.

"It was as you say, my father. I hid from men, going only to the dancing, and I, too, thought always of the Flute Player. At last, he saw the dancing -- and wished to marry me."

Patapir then came up to Ifapi's father to greet him and to offer the boxes of treasure, his bride payment for Ifapi. As he had promised the old aunt, he brought a proud man's payment for a beloved daughter.

The father was satisfied. He said, "It is good, my son-in-law, my daughter."

The young people stayed with Ifapi's father until it was time to dance the Life Renewing Dances again. The father was much beyond the age of those who usually make the long voyage, but his heart was set on hearing his son-in-law sing there. He had heard Patapir singing alone in the hills, practicing against the calls and whistles of the birds, and he knew that it was a good voice for the sacred songs.

So they were three in Patapir's canoe. Other canoes joined them farther downstream until there were ten of them in all. As on Patapir's first trip, they cleared the bar and went the way of the setting sun, stopping for a rest and a smoke at the lonely rock, and then going on, one boat after the other -- across the ocean, under the sky rim and across the outer ocean to the Land-Beyond-the World.

There was such dancing and singing that night as those who stood in the circle never forgot. For Ifapi, it was the last time she might make and tend the fire, the last time she might offer incense and tobacco and pipe to the Leader and receive these back from his hands, the last time she might move in and out of the line of dancers, the one woman in the sacred ceremony.

Before another season of the Life Renewing Dances she would no longer be eligible to serve at them. But Ifapi was without regrets or sadness. The eyes of all the men

followed her this night as never before, for the oval face was unshadowed. Whenever she raised her arms to the Leader to give him a basket or to take his pipe, she raised her eyes, too, to look down the line of dancers to the new one there, the one with the voice so strangely low and high like a flute, Patapir, her husband.

The two young women of Rekwoi were at the dancing that night, and this is how it went with them. They watched and saw how beautiful Ifapi was, and they listened and heard the new voice among the singers. They crowded nearer and nearer, and looking in the direction Ifapi looked, they saw Patapir. They stared a long time at him. At last, one of them said, "That new Singer there -- he looks like the young man across the river from us." And the other one said, "Yes. Of course. He is the one we tease all the time." Then the first one said, "I didn't know he could sing. All he ever does around home is to play his old flute and go see that sick girl up the hill." Her companion answered, "He'll go and see her again -- the sick one -- you just see if he doesn't!"

One of the men standing in the circle interrupted their talk. "Yes, that is the Flute Player of Rekwoi. Everyone knows him because of his playing."

A second man said, "But don't you Rekwoi people know? She," motioning toward Ifapi, "she is the little sick girl: The Flute Player married her, and took the bride price to her father in Merip -- my village. No one in our time has given treasure to equal it. The father is well satisfied."

"She is the sick girl ... He is married ... " The young women could only repeat this over and over. They looked at one another, but they did not shrug their shoulders this time.

When the men said, "We must start home, we have far to go before daybreak," the young women did not answer them. They felt such fools they had slipped away and were never seen in Rekwoi or at the dancing again. Only their little round basket hats were left lying on the ground, marking the place where the girls were last seen.

The long night of singing and dancing came to an end at last. Patapir and Ifapi and her father went off somewhere, and for half a moon's time no one saw them or knew anything of them. Then one morning Patapir's parents sighted their canoe far out at sea, seeming to skim the water like a bird, and soon it was over the bar and they were home once more. Patapir put into the canoe the long boxes which held his dance outfits and treasure, his ten precious sacks of sacred tobacco and his flute. When they were ready to leave again, Patapir's parents asked him where they meant to go, and he answered, "Far across the ocean in the wake of the fresh seaweed! Do not worry. You will have word of us and know that all is well."

His father and mother cried when the canoe with its three passengers and its load of treasure went out over the bar, on and on like a sea bird, out of their sight and knowledge.

Patapir spoke truly when he said they would have word of him, for he was the great singer in the sacred ceremonies in the Land-Beyond-the-World for many, many moons. News of him and his family came over the bar to Rekwoi and on upriver as

> far as the music of his flute used to carry -- all the way to Merip -- as often as the ten canoes returned from the dancing.
>
> We know that Patapir and Ifapi lived out their lives in that far land beyond the sky rim, and that Ifapi and her children and her father, as long as he lived, came with Patapir to the dancing. And we know the pet name Patapir gave to Ifapi. Because he never forgot the first time he saw her, he named her "About-the-House Girl." (Kroeber 1987)

Both stories speak of travel to a land across the ocean, in *Umai*, it is Laksis' Home, in *About-the-House Girl*, it is the Land-Beyond-the-World. The travel is by canoe, with a prescription of counting the waves to allow passage under the sky dome from this world to the next.

5.2.6 Walking in Beauty

Walking in Beauty (2011) is a collection of short stories and poems written by Harry Roberts about his childhood growing up amongst the Yurok people, beginning around 1915. Harry was about 11 around the time of his first visit to Requa, where his father was in management of a large salmon cannery that employed Yurok and other Indian fishers and cannery workers.

Irish American, Harry was befriended by Robert Spott, Yurok and adoptive son of Captain Spott. Robert Spott, a highly respected spiritual and political leader, became medicine teacher to Harry, his 'Uncle'.

The two stories that follow are from *Walking in Beauty*. Both of the stories are of young Harry recounting his experiences while interacting with Yurok.

5.2.6.1 Jump Dance Song

> One time Hi-pur and his brother and sisters and I were playing rock tag on the ocean beach. This tag was to run through the sand and stand on a rock to be safe or, where the beach was mostly rocks, to run over the rocks to a spot of sand.
>
> After we got tired of playing tag we sat on the rocks just above the waves and ate seaweed and Hi-pur talked to the sea lions and they swam up to talk to us. After a while the girls got tired of this and gathered some wood and went home. We boys stayed and had a barking contest with the sea lions.
>
> After a while there were a few candle fish washed up on the beach and we caught them. There were only a few so we went up to the house for some fire and told Grandmother for them not to worry; we would eat on the beach.
>
> We made our fire and watched the sunset and ate candlefish and seaweed and acorn bread and sweet grass. We thought to keep the fire burning so the people would know where we were and not worry about us, and we could run up and down the beach kicking the wet sand to see the sparks the phosphorous made. When we got tired we went back to our fire and cooked some more candlefish and sat by the fire listening to what the ocean was saying. But the ocean got very quiet and didn't talk to us. Finally I got a feeling that I should go to one side away from the fire and sit and look at Oregos. So I told Hi-pur what I was going to do and for him to keep the fire going.

I went to where I felt it was to be the place to stop and I sat there very quietly wondering why I should feel that I should do this. After a while I heard a noise among the rocks at the base of Oregos, and finally I heard it clear that some people sang the Jump Dance song there. I walked up closer to the rocks, but then the singing stopped. Then I went back to where I had been, and they sang again, clear and loud. I made a sign for my friend to come over, but when he got to me they stopped their song again.

We didn't know what it meant, so we went home very fast. We were not frightened -- we were simply very cautious -- and it seemed appropriate that we leave at once as it was getting late and the people might worry about us.

It took us several days to get up courage enough to see Elder Uncle about what I had heard. Uncle was a very great man; he was more than a man; he was one who could "walk in beauty" and speak with the spirits. This thing I had heard was not to be taken lightly -- it could be very dangerous or very good for me, I didn't know. Neither of us had ever been told of such a thing happening.

We decided that since I was the one who had heard the song, I should go to Uncle alone, since whatever it was was obviously for me alone, as it stopped when Hi-pur came near. I asked Uncle if anyone *ever* heard singing at night among those rocks and he said yes. It was the Little People who were making a jump dance because the people had been talking about having a jump dance at Rekwoi but hadn't gotten around to making that dance. And the Little People who owned the jump dance got tired of waiting and were putting on their own dance. It comes about in this way:

In the days before the flood when the people were bad, some of the people were good. These people made themselves *very* little (about *twelve* to eighteen inches high) and rode out the flood on bundles of sticks and bulrushes. Creation saw these people do this and asked them why they were trying to stay. The Little People said that it was so they could teach the new people how to make the world-renewing prayer and songs of the jumping dance. So Creation rained on them and washed all of their color out so they could not be seen. That is how we can't see them but only hear them. When there is a jump dance they always come and guard their songs and if there is an impure dancer they make him *very* sick so he can't dance. If the people don't make the world renewing prayer then the Little People make the dance themselves, and if some person hears their songs then it is a good dance and the world is renewed in peace.

But if no one hears it, their song, then it is bad times are for the world. The jump dance is for prayers that then people should keep the Law and *have* good thoughts and be pure.

I asked Uncle what it meant that I heard this singing. Then he told me that it was that I could hear the spirits and it would be good for me to make my medicine in the high mountains. He said that when a boy heard this, this is what it meant for him to do. When a grown person hears the songs it just means that they are good and pure, and that they should make a prayer and cast tobacco on their fire. The Little People will know and watch over them and they will be lucky.

So that is how I knew that I was to make my medicine in the high places and to become a Man and to learn the Law. (Roberts 2011)

Harry's Commentary:

About these world-renewing dances: When a dance was put up everyone was happy and excited over going to the dance, for they would see old friends and sing old songs and sing new songs and meet new friends. The young men combed their hair until it shined bright as polished ebony and they wrapped their braids in their best sea otter bands. The young women gathered Sweet Herb and packed it in their hair so that their *lovers* would smell the perfume as they whispered, one to the other, during the breaks in the dances.

This was the time when we expressed our appreciation to the Spirit of Creation for having made the universe, when the old men sang the songs in the high language that speaks only in emotions, not in words. This was when we showed our best things, feathers, dentalia, medicine baskets or great obsidian blades and the sacred deerskins, the deep blue ones and the pure white ones. These things were held forth in the dance as we thanked Creation for all of everything and showed that we were proud, and not selfish in the face of Creation. (Roberts 2011)

5.2.6.2 Ocean Girl

Ta-alth and I were nestled into a pocket of ferns and salal at the base of the land-slip where it comes to the beach. We were protected from the sea wind and the warm afternoon sun had
broken through the fog and warmed us. We were eating salal berries with a few late strawberries and blackberries while our lily bulbs were roasting in the hot sand under our beach fire.

We often came to the land-slip because the lily bulbs were easy to dig in the loose earth there. Next to the sweet bay nuts, we liked the roasted bulbs of the brodiaea best.

We were waiting for the tide to go out so we could get the large goose-necked barnacles that grew on the offshore rocks there. Grandmother had been feeling lonely for the old times and was hungry for barnacles to eat, like when she was young and walked the trails behind her husband. He had been a great hunter and Grandmother told us of how beautiful it was to look upon his broad shoulders and strong back with his long braided hair tied with sea otter fur, swinging nearly to his hips as he walked before her. He was such a man as one could follow so safely that one could pick the skin and sand from the barnacles and eat them like nuts while following him. So we had come here today to get barnacles for her that she might make her memory more beautiful with the smell and taste and feel of them.

Ta-alth was humming a soft sweet song to herself. It was a song I had never heard before. It sounded like pure white sea foam floating before a south wind on a gentle ocean. I asked her what her song was for, and she told me it was for the beautiful ocean maid not to come and take me from her.

In the olden times before the flood and before the bad times, when all of the people and animals and trees and rocks talked the old language and could speak together, this is the way it was: *Pa-a* was the eldest son of the headman of *Saal*. He was tall and slim and so beautiful that all of the flowers turned their heads toward him when he passed. His step was so light that it did not shake the dew from the spider webs in the path as he stepped along it. One could only tell that he was passing by hearing the pure sweet song that his spirit was always singing.

This day he was to come to the ocean to make his prayer for the setting sun and to see if the sun would give him a sign that he should speak with the spirits. If your spirit was pure and open and you walked in beauty then just as the sun disappeared you would see, for an instant, a beautiful clear blue green sparkling light where the sun had set. This was the most beautiful thing that you could know. Some thought that it was the pure light shining from the spirit of Creation.

Pa-a had come and made his prayer and seen his light, and he was standing at the edge of the surf. Before him in the surf there swam up a beautiful white fish, and it looked at him for a bit. Then slowly it turned into a white-skinned woman and she stood before *Pa-a* clothed in her beauty.

She spoke to him and said, "You have for many times come here to make your prayer. Always I have seen you receive the sign of purity and beauty. You do not know what you prayed for, for many men have made this prayer but none have been as pure as you. So now you see what it was you have made this prayer for."

She then walked out of the water and took his hand and they went up the beach and made their place for staying and they joined their spirits and were man and wife. In the morning they went to his father's house and *Pa-a* and his wife told the father what had happened and how he would have to go to the other land across the ocean to live, as his wife was a spirit person and their children would be spirit children and their beauty would be too bright for ordinary people to stand.

The father and mother of *Pa-a* were so happy and proud that they cried all day and washed their son and their daughter in their tears. That evening as the sun set they all went to the beach and the wife of *Pa-a* turned back into a fish and carried him into the sunset. And when they went through all of the sky was filled with the beauty of the light of Creation.

This is why it is that now sometimes a person who is pure in spirit can see this light, because it is *Pa-a* sending his greetings to his parents.

Ta-alth said that she was afraid that the daughter of *Pa-a* would take me from her before I should make my medicine and earn my tobacco baskets and then for what had she been working so hard to learn to make beautiful baskets if she couldn't make mine when I became a man?

And I pointed to the beach asters and said that these flowers were not as she was because they were not looking at me as she was, so she must be foolish to think I was so beautiful. And I wondered why she told me that I was just stuck up and she got tears in her eyes and ran home and left me to get the grandmother's barnacles alone. But when I got to the house with the barnacles the grandmother gave me some

> cookies made of pine nuts and brodaiea bulbs and sugar pine syrup that she said Ta-alth had just made for me, but Ta-alth was hiding in the brush and I could not find her to thank her. And the next day when I saw her she was mad at me because she said if I had really tried I could *have* found her, and that I was *never* to see her again.
>
> So I felt sad because I did not like to walk the trails without her, and I asked Uncle what was the matter with her. He laughed at me and said I should go talk to grandmother, and it might be a good idea if I got one of those rings at the store that were set with a beautiful piece of abalone shell, and just maybe Ta-alth would wear it and go after clams with me on the next low tide. And that is what she did, but she wouldn't talk about the ocean maiden again.
>
> And so I told Uncle that girls were *very* strange and I did not understand them. And he laughed at me again and said that men were always having the same kind of trouble with women. And that was the way of women.
>
> It was then that I knew that though Uncle was among the wisest there were some things that even he didn't understand. (Roberts 2011)

6. Determination of Eligibility as a Traditional Cultural Property

6.1 Step One: Ensure that the entity under consideration is a property (Parker and King 1990)

"For example, the NRHP defines a 'site' as 'the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure.' Thus a property may be defined as a 'site' as long as it was the location of a significant event or activity, regardless of whether the event or activity left any evidence of its occurrence. A culturally significant natural landscape may be classified as a site, as may the specific location where significant traditional events, activities, or cultural observances have taken place.

A natural object such as a tree or a rock outcrop may be an eligible object if it is associated with a significant tradition or use. A concentration, linkage, or continuity of such sites or objects, or of structures comprising a culturally significant entity, may be classified as a district" (Parker and King 1990:11).

The Yurok TCL Case Study Area is a place, a piece of real property. The TCL Case Study Area has within its boundaries multiple villages, fishing places, ceremonial sites, structures, trails, spiritual places and rock outcrops of cultural significance.

6.2 Step Two: Consider the property's integrity

"In order to be eligible for inclusion in the Register, a property must have 'integrity of location, design, setting, materials, workmanship, feeling, and association' (36 CFR Part 60). In the case of a traditional cultural property, there are two fundamental questions to ask about integrity. First, does the property have an integral relationship to traditional cultural practices or beliefs; and second, is the condition of the property such that the relevant relationships survive?" (Parker and King 1990:11).

"If the property is known or likely to be regarded by a traditional cultural group as important in the retention or transmittal of a belief, or to the performance of a practice, the property can be taken to have an integral relationship with the belief or practice, and vice-versa" (Parker and King 1990:11).

Relationship that Yurok has to the Case Study Area is found in the traditional cultural practices of the Tribal membership of living Yurok. The Brush Ceremonies held at Welkwau each summer are attended by 200 to 300 people and draw participants from the Karuk and Hupa Tribes. Ceremonial items repatriated from the Smithsonian in Washington, DC by the Tribe in 2012 are now dancing in the two separate ceremonies.

The estuary, as noted previously, contains hundreds of fishing places, utilized seasonally depending on the species sought, but with the exception of the November moon phase, somewhere within the river, you can find a Yurok fishing or hunting.

Individuals continue to practice observance of traditions regarding the 'two sister' rocks, *trkr'mrwr* and *oregos*.

The ocean still washes ashore in a never ending rhythm that if studied, yields information of a singular wave being much milder than those preceding and those to follow. Counting the waves reveals the twelfth wave is the milder wave.

On one occasion, the author experienced singing at the mouth of the river much the same as Harry Roberts reported in *Walking in Beauty*.

Integrity of both condition and relationship within the Case Study Area remain intact for Yurok, and has been so since time immemorial.

6.3 Step Three: Evaluate the property with reference to the National Register Criteria

Criterion (A): Association with events that have made a significant contribution to the broad patterns of our history.

The river, mountains, trees, vegetation, villages, trails, ocean, and rocks are all contributing elements to the Yurok Tribal Cultural Landscape and have made significant contributions to the broad pattern of Yurok history. Taking the activity of fishing into account, Yurok fishers have practiced and continue to practice traditional fishing harvest and processing. Salmon are caught in gill nets, smoked or cooked on redwood sticks around an open fire -- all traditional methods. Basket weavers gather roots at river's edge, pick willow and hazel sticks to make traditional baskets used in everyday life and ceremony. Certainly, the Yurok Tribal Cultural Landscape is eligible under criterion A.

Criterion (B): Association with the lives of persons significant in our past.

From before time immemorial, the *wo'ge* lived within the Yurok TCL. The *wo'ge* remain, as guardians in the form of rock outcrops. Their lives contributed to the well-being of contemporary Yurok by preparing the world for Yurok and giving instructions to Yurok on how to live, conduct ceremony, and manage the land, vegetation and animals. More recently, Robert Spott interacted with Alfred Kroeber and Harry Roberts to pass on a good deal of those stories and instructions.

"In the very beginning of time, the ocean, the river, the salmon, the original people of this land, and the True Creator, all agreed to something. The ocean, the river, the salmon, and the True Creator all agreed the salmon should come up the river and feed the people. Human beings agreed to do our part, with our First Salmon Ceremony. The void we create in the world when we take these salmon from the river to feed the people, we fill with our respect. This salmon, lying here, is proof that Nature is still abiding by that original agreement. It is up to you to decide if you will carry out your part. You can never say you don't have proof of Nature's commitment to do Its part. We will build a fire and cook this fish. It will become a part of you" (Sloan 2003:1-2). The Yurok TCL may be considered eligible under Criterion B.

Criterion (C)(1): Embodiment of the distinctive characteristics of a type, period, or method of construction.

It can be argued that Criterion (C)(1) applies because of the distinctive characteristics of a type for plank house construction, canoe building, basket weaving, net construction, or even the sinew backed bow of Yurok. The house has a three-tiered roof, the canoe because of it being carved from a single redwood log, and the sinew backed bow because of it utilizing yew wood. Each has distinctive characteristics of type, period, and method of construction and can potentially be considered as eligible under Criterion (C)(1).

Criterion (C)(2): Representative of the work of a master.

A strong case can be made that to construct any of the cultural items in Criterion (C)(1) above, you need to have great knowledge and skill to accomplish any one of the tasks. Competent canoe builders or basket weavers are known as masters; some Yurok, particularly women basket weavers, produced work that absolutely can be called the work of a master. Criterion (C)(2) definitely applies.

Criterion (C)(3): Possession of high artistic values.

If Criterion (C)(2) is applicable, then (C)(3) would seem to be applicable without question. One only needs to look at the marvelous designs on a ceremonial cap, or a sinew backed bow to appreciate the high artistic value they each hold. Criterion (C)(3) is applicable.

Criterion (C)(4): Representative of a significant and distinguishable entity whose components may lack individual distinction.

Some of the contributing elements of the Yurok TCL may lack individual distinction, however Criterion (C)(4) is not the sole criteria being utilized to qualify the Yurok TCL for consideration, and therefore no need exists to make a case for use of Criterion (C)(4).

Criterion (D): History of yielding, or potential to yield, information important in prehistory or history. Under Criterion (D), the history of yielding information important to history is limited to a few uninvited individuals and not documented. Yurok has not, and will not in the foreseeable future, condone scientific research within any village. However, many of the villages within the CSA remain intact, and scientific information is contained within those villages, and even those sites heavily impacted by historic activities. The Yurok TCL is eligible under Criterion (D) for its potential to yield scientific knowledge important to prehistory or history.

6.4 Step 4: Determine whether any of the National Register Criteria Considerations (36 CFR 60.4) make the property ineligible.

Consideration A: Ownership by a religious institution or use for religious purposes.

The ownership consideration does not apply to the Yurok Tribal Cultural Landscape although the Tribe does own a fair percentage of the property within the Case Study Area. The contributing elements of the landscape are mostly located on properties owned by federal and state agencies such as the USFS (Helkau Ceremonial District), Redwood National and State Parks (*weL kwau*), California Department of Transportation (*o'menok*) or individual tribal members (*re'kwoi*). The river is an important contributing element to the Yurok TCL with the State of California claiming ownership -- which the Tribe disputes. The Tribe does not consider itself as a religious institution, although prayer is conducted before the start of Council and Culture Committee meetings. The Brush Ceremonies conducted at *weL kwau* are religious in nature, however the Yurok TCL is not being considered as eligible solely on the grounds of its religious significance, although religion is a contributing element of it being considered a traditional property and a TCL.

Consideration B: Relocated properties.

The traditional village of *weL kwau* has been reconstructed on a slightly different footprint than the original village, but argument can be made the reconstruction occurred within the boundaries of the original village. Regardless, the reconstructed village has and is being utilized by practitioners of the Brush Ceremony without any distinguishable loss of setting, character or feeling. There are no relocated properties under consideration as contributing elements to the Yurok TCL.

Consideration C: Birthplaces and graves.

A considerable number of Yurok elders alive today and many of those already passed, were born at home before hospitals were available to modern Yurok within the Case Study Area. Many of the Yurok to have already passed are buried in cemeteries located in the Case Study Area. One of the deceased, Robert Spott, can be said to be important in the history of Yurok people and historic interaction with society. The birthplace of *Wohpekemeu* is not certain, as two such places are given in Yurok stories. One is in the Yurok TCL, however the association of his birth to *rkrgr* or *wohpiiu*, contributes to the Yurok TCL being eligible.

Consideration D: Cemeteries.

It is important to note here that cemetery is a modern term, and that although Yurok have been interring their deceased since time immemorial, those burials are not considered cemeteries by contemporary Yurok. There are historic cemeteries within the Yurok TCL, and one, the Spott Cemetery has as its first burial, Robert Spott, an individual considered important to Yurok history. His burial also exceeds the 50 year threshold for eligibility consideration. The burials found within Yurok villages certainly have consideration under Criterion D, above for the potential to yield scientific value. None of the preceding should keep the Yurok TCL from being considered eligible.

Consideration E: Reconstruction.

As mentioned previously, *weL kwau* is a reconstructed village, however the reconstruction itself follows Yurok traditional methods, and is located within the traditional boundary of the village. Two other reconstructed 'villages' are located either within or near the case study area, but neither are within a

traditional village or utilized as a site to conduct the traditional Brush ceremony. *WeL kwau* village is considered a TCP and the reconstructed buildings are contributing elements of the village. The other two reconstructed villages, although representations of traditional Yurok construction technique, does not make the Yurok TCL ineligible for consideration.

Consideration F: Commemoration.

There are no properties within the Yurok TCL constructed solely or partially for commemoration purposes. Consideration F does not apply.

Consideration G: Significance achieved within the past 50 years.

The Yurok TCL has been in existence since time immemorial as stated in the Yurok Tribe constitution, a length of time that is debatable. What is not debatable is that time immemorial is a length of time that exceeds 50 years. The Yurok TCL cannot be excluded from eligibility because of consideration G. No properties that are contributing elements to the Yurok TCL have achieved their significance in the last 50 years.

6.5 Summary

The Yurok TCL is a TCP per the definition in National Register Bulletin 38. It is a place that possesses historic, cultural, and archaeological value. It was and continues to be the location of significant events and activities. The Yurok TCL is a culturally significant natural landscape where significant traditional events, activities, or cultural observances have and continue to take place.

The Yurok TCL retains integrity through the unbroken traditional practices of Yurok people.

The Yurok TCL is larger than the CSA for the TCL project, the boundary of which need not be defined for the purposes of this project. The CSA begins in the ceremonial high country of the Yurok, a place called the Helkau Ceremonial District, a property determined eligible for listing on the National Register, although not formally listed.

The CSA for the Yurok TCL contains traditional Yurok villages, including *re'kwoi*, still inhabited by contemporary Yurok. *Re'kwoi* has been nominated and listed on the National Register. The other villages can be considered as eligible for at least their potential to yield information important in prehistory or history (Criterion D).

The Klamath Riverscape is the central feature of the CSA, and has been found to be eligible for listing on the National Register as a 'riverscape,' a type of landscape (King 2003:36).

The National Register listed village of *re'kwoi* and the National Register eligible properties of the Klamath Riverscape and Helkau Ceremonial District are all contributing elements to the Yurok Tribal Cultural Landscape.

There are no contributing elements that could make the Yurok TCL ineligible, therefore, the Yurok Tribal Cultural Landscape can be considered as eligible for listing on the National Register of Historic Places under Criterion A, B, C(1), C(2), and C(3), along with Criterion D.

7. Recommendations

The hypothetical APE needs to be determined in consultation with the Heritage Preservation Office and Yurok Tribe while strong consideration is given to having no effect for the view shed of the setting sun, or any adverse effect to the cultural values of the Yurok people.

Power line routes need to be determined before a determination of effect can be issued.

Further research is needed to determine the presence of cultural resources potentially located underwater in the ocean portion of the CSA. The minimum threshold for any project to proceed is a no adverse effect, with conditions.

Research on the effect to fisheries is another concern not addressed here as it is beyond the scope of this project.

Potential harm to bird species also needs research, particularly those birds important to ceremonial practices of Yurok, such as bald eagle and condor, the condor being a species the Tribe is working to reintroduce to the TCL.

The Yurok Tribe may recommend that the Yurok Tribe Cultural Landscape be treated as eligible for listing on the National Register of Historic Places per the information compiled in this report and be treated as such during any proposed action.

About the Author

At the time of the writing of the Yurok TCL, the author was nearing the completion of working in the Yurok Cultural Program for 20 years. A Yurok, born and still living on the Hoopa Indian Reservation, Robert (Bob) has grown up knowing native people of Yurok, Hoopa and Karuk descent. Bob is descended from all three Tribes, and learned from all three while living as a traditional Yurok.

A graduate of Hoopa High School, Bob attended Humboldt and Chico State Colleges, earning a 2.01 GPA and 65 semester units. He has worked as a mill laborer, logger, bus driver, truck driver and reforestation contractor before being hired as a cultural resource field technician by the Yurok Tribe in 1996. Since then he has worked his way through the Yurok Tribe Cultural Program, holding the titles of Lead Field Archaeologist and Cultural Resource Coordinator while co-authoring multiple Phase I and II Archaeological and Ethnographic studies.

During his time with the Tribe, he has conducted 50 video recorded interviews and 30 taped audio interviews with Yurok Tribe Elders in addition to having hundreds of informal conversations regarding Yurok Culture with cultural practitioners.

Bob has recorded several hundred Yurok cultural resources, including fishing sites, hunting camps, gathering areas, trails, villages, and ceremonial sites during his work before assuming the duties of Tribal Heritage Preservation Officer (THPO). Additionally, since 2004 he has held the position of Designated Tribal Representative to the United States Forest Service during fire events, working 52 days on the Blue Two Fire in 2008, is also the Chair of the Coalition to Protect Yurok Cultural Legacies at O'pyuweg, formed in 2009, works with Humboldt County, the Big Lagoon Park Company, Big Lagoon Rancheria, California State Parks and descendants of the traditional Yurok Village of O'pyuweg. Also included in THPO duties is consultation with Humboldt County, Del Norte County, the California Department of Transportation, California Department of Fish and Wildlife, Redwood National Park, the United States Forest Service, the Bureau of Land Management, Bureau of Reclamation, National Oceanic and Atmospheric Administration, Bureau of Ocean Energy Management, the United States Navy, and the City of Trinidad CA.

Lastly, he facilitates the monthly meetings of the Yurok Tribe Cultural Committee, an advisory committee to both the Heritage Preservation Office and the Yurok Tribal Council.
Bob has been the Yurok Tribe Heritage Preservation Officer since October of 2008.

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ETHNOGRAPHIC RIVERSCAPE: REGULATORY ANALYSIS

(Contract #P13342 – FERC Project No. 2082)

Prepared By: Yurok Tribe Heritage Preservation Office For: PacifiCorp

Dr. Thomas Gates
Yurok Tribal Heritage Preservation Officer

November 2003

FINAL DRAFT

ETHNOGRAPHIC RIVERSCAPE: REGULATORY ANALYSIS

Abstract/Executive Summary[1]

The Regulatory Analysis is a document that reviews culture landscape literature in general, reviews specific ethnographic landscape nominations, cultural landscape reports, cultural landscape eligibility determination documents, historic preservation treatment documents, and miscellaneous human ecology/landscape journal articles for general ideas, models, and methodology, addresses how a "riverscape" approach to ethnographic landscapes may be applied to the Klamath River by identifying contributing landscape elements, exploring how riverscape boundaries can be defined, and outlining how cultural resources, as defined through the "Ethnographic Riverscape" concept, overlap with natural resource assessments.
This Analysis concludes with thoughts on how the Ethnographic Riverscape Concept bridges the gap between NHPA historic preservation, NEPA natural resources assessment while meeting the charge of Executive Order 12898 "Environmental Justice." A comprehensive bibliography is attached and a literature summary, and riverscape thematic outline are appended.

[1] This document was prepared by the Yurok Tribe under PacifiCorp contract # P13342, FERC Project No. 2082. The Yurok Tribe is an occupant of the lower Klamath River and a stakeholder with representation at the PacifiCorp Hydroelectric Facility Re-licensing Plenary Committee and the Culture Resource Working Group.

Table of Contents

1. Introduction

FERC Re-licensing 7 PacifiCorp Hydroelectric Facilities Along Klamath River
PacifiCorp operates 7 dams and associated hydroelectric facilities along the upper Klamath River in Northeastern California and Southern Oregon per a license issued by the Federal Energy Regulatory Commission (FERC). That license will expire in 2005. PacifiCorp has initiated the re-licensing process by preparing a pre-application. The issuance of a re-licensing permit constitutes an action requiring an Environmental Impact Statement per the National Environmental Protection Act (NEPA). In considering the re- issuance of an operating license for the primary purpose of power generation, FERC must balance the need for electrical power generation against other environmental considerations such as improvement of the waterway, energy conservation, the protection, mitigation or damage to, and enhancement of fish and wildlife, (including habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality including historic properties (FERC 2000). FERC is required to consider a range of alternatives including power generation, accumulative effects, and decommissioning particularly if the following are present:

1) listed threatened or endangered species
2) economic viability of a project, including costs of resource protective measures
3) river targeted for fish recovery
4) feasibility of fish passage
5) consistency with comprehensive plans
6) protected river status (e.g. scenic river, wilderness)
7) effectiveness of past mitigation measures and availability of future measures
8) support by applicant or other party for decommissioning
9) Tribal lands, resources, or interests
10) water quality issues, including presence of toxic sediments
11) potential opportunities for recreation
12) physical condition of the project
13) presence of existing project dependent development
14) other non-power project related benefits, e.g. municipal water supply, flood control, irrigation)
15) project dependent resource values (e.g. recreation, wetlands, wildlife, habitat)
16) need for power and ancillary services
17) **historic properties**

The current project contains most if not all of the above listed elements.

FERC has the responsibility to assure adequate and meaningful consultation with affected Tribes, and analyze the environmental effects of each alternative on Indian Tribes and tribal lands, resources and interests. The analysis shall include a discussion of how effects to specific resources (e.g. water, fisheries, and cultural resources) will affect Tribes.

FERC has developed guidelines for balancing dollar versus non-dollar values when making decisions across the range of alternatives (FERC 1991). In addition, FERC is subject to the United States‟ fiduciary responsibility towards Indian Tribes, which, in essence, requires FERC to act in the interests of the Tribes particularly when difficult decisions are weighing in the balance. (U.S. 9th Circuit Court of Appeals: Skokomish Indians vs. FCC No. 9570884).

NEPA requires that the National Historic Preservation Act (NHPA) section 106 process be conducted to assess the undertaking‟s effects on historic properties. FERC has delegated lead agency responsibilities for some aspects of the NHPA Section 106 process to PacifiCorp (FERC 2002).

Bureau of Reclamation Flow Study

The Bureau of Reclamation (BOR) is responsible for preparing flow studies that, in part, inform PacifiCorp on the timing and amounts of water that are to be released through hydroelectric facilities insuring that hydroelectric generation and cropland irrigation needs are balanced with environmental protection needs (including cultural resources protection). The BOR is preparing a ten-year flow study for the Klamath River. The ten- year flow study will take into consideration activities as proposed in the PacifiCorp application for FERC re-licensing. The Flow Study will also be subject to NEPA and NHPA Section 106 processes. The BOR is participating in various work groups currently convened to assist PacifiCorp in developing a re-licensing application. The BOR‟s collaborative efforts with PacifiCorp, however will not be combined into one regulatory process. The BOR will undergo a separate NEPA and Section 106 process covering BOR related activities.

Cultural Resources Working Group and Activity Study Tasks

In order to facilitate the pre-application process, PacifiCorp has convened a stakeholder plenary committee and numerous working groups. Working groups are provided research and information gathering tasks by the Plenary Committee. The Culture Resources Working Group has been tasked with those research and study activities that will assist PacifiCorp and FERC through the NHPA Section 106 process. Studies currently completed or initiated are:

- Historic Buildings and Structures Assessments
- Pedestrian surveys
- Tribal Ethnographic literature studies
- Ethnographic synthesis of five tribal ethnographic literature studies
- Ethnographic Riverscape Regulatory Analysis

Findings of these studies may require additional studies to be conducted.

Ethnographic Literature Review Studies, Inter-tribal Synthesis as Historical Component and Regulatory Analysis

Each of five tribes (Klamath, Shasta Nation, Shasta, Karuk, Yurok) traditionally occupying a segment of the Klamath River will conduct a background ethnographic literature review and summary. Information collected will be augmented with information collected from oral history interviews. Together the five tribes have selected a subject or thematic outline. The thematic outline is attached as Appendix 2 to this document. Several inter-tribal meetings have occurred to assure that document consistency will be achieved across the five ethnographic studies. A separate document will synthesize the five studies into one summary compliance document. The ethnographic summary document can be considered the historical component of the Klamath Riverscape Cultural Landscape Report.

Specific scope-of-work language from the Yurok-PacifiCorp Regulatory analysis contract is as follows:

1. Provide a definition of "Traditional Cultural Landscape" and/or "Traditional Cultural Riverscape."
2. Provide an explanation of the concept of landscapes/Riverscapes and the regulatory and advisory apparatus available to support the identification and significance evaluation of landscapes/riverscapes.
3. Provide examples from other projects or other regions of the U.S. where TCLs or TCRs have been identified, recorded, evaluated for NRHP eligibility, and subsequently managed.
4. Provide an explanation of how a TCL or TCR would be established within the Klamath River corridor and the management implications for PacifiCorp.

2. Ethnographic Riverscape

Among others, five Tribes and one Inter-Tribal Fishing Commission participate on the Culture Resource Working Group. Through this forum the Tribes and the Commission have made it clear that:

1. Fish and water should be considered cultural resources (historic properties) as well as natural resources.
2. The entire river needs to be holistically considered for the multiple, complex, and intertwining cultural values that it conveys for Native people whose traditional riverine way of life depends upon adequate flows of clean water.

A cultural landscape approach to historic property identification, evaluation and treatment can address these two considerations.

1. Fish and water can be considered contributing elements to the landscape[2].
2. The landscape approach to culture resource identification moves beyond the dots- on-a-map approach to standard historic property identification[3].

However, the cultural landscape approach to culture resource management generally, and historic properties identification, evaluation and treatment specifically, have yet to be applied to riverine bodies of water in routine and standardized ways. Perhaps this is because hundreds of miles of river with flowing water and migrating fish is an overwhelming landscape concept. However a recent article in a popular historic preservation journal, advocating that views of nightscape skies need to be considered in preservation planning, suggests that preservationists should not be afraid of large landscapes (Flanagan 2003). The specific challenge is that the historic preservation movement (laws, standards) has presupposed a fixed time and space environment of historic properties (albeit historically vulnerable to degradation). The current trend of historic preservation literature reflects the preconceived bias towards static models for defining, assessing and treating historic properties.

> Indeed, the technical language used in cultural landscape preservation – especially in documents prepared by governmental agencies and organizations - often poses problems, since many terms and definitions are borrowed directly from architectural preservation. In addition, the very concept of cultural landscape preservation may sound like an oxymoron to some people; because cultural landscapes are composed of natural elements that grow, mature, erode, move, die and revive once again, how can they possibly be preserved? (Alanen 2000:3).

Rivers and traditional lifeways that have flourished about the river are by definition dynamic. By definition anadromous fish migrate and waters flow. The Cultural Resources Working Group has chose the newly coined term "Riverscape" to best capture the historic property type that it attempts to define for purposes of this and other studies.

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[2] See NPS Preservation Brief #36 p2: "It is these interconnected systems of land, air and water, vegetation and wildlife which have dynamic qualities that differentiate cultural landscapes from other cultural resources such as historic structures."

[3] See Downer and Roberts 1993

Historic Properties – Riverscape Nomenclature

36 CFR Part 800 defines and guides cultural resource practitioners through the Historic Preservation process. *§ 800.4 Identification of historic properties*, requires the lead agency in consultation with Tribes, SHPOs, THPOs and based upon information previously gathered, to identify historic properties within the Area of Potential Effects (APE). Upon determination that a historic property is eligible to the National Register the lead agency is required to assess effects leading to strategies and practices that avoid or minimize impacts to the property.

There are five types of Historic Properties: Buildings, Structures, Sites, Objects and Districts. There are five types of districts: Archaeological Districts, Residential Community Districts, Historic Landscapes, Rural Landscapes, and Cultural Landscapes. There are five types of Cultural landscapes: Historic Sites landscapes, Historic Designed Landscapes, Historic Vernacular Landscapes, and Ethnographic Landscapes. The Klamath Riverscape is a type of Ethnographic Landscape and hence it is a type of historic property.

Confusing the definitions is the decade-old category of Traditional Cultural Properties (TCPs). TCPs are defined in NPS Bulletin 38 as a property which is associated with: "Cultural practices or beliefs of a living community that a) are rooted in that community‟s history, and b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1992). TCPs are identifiable and locatable resources of which the evidence for existence is often intangible and often not readily apparent to non-members of the community. When the TCP definition is applied to larger geographical areas such as mountains and rivers, the concepts of ethnographic landscapes is more applicable. Because ethnographic landscapes are similar in regards to intangibles and the intimate knowledge of associated communities, the two labels have
been confused through meaningless hybrids such as "Traditional Cultural Landscapes" or "Ethnographic Sites."[4]

Per NHPA Section 101, the National Park Service is charged with providing guidelines, standards and technical assistance to other federal agencies concerning implementation of the National Historic Preservation Act.
National Park Service Policy defines an **ethnographic resource** as any historic property that is a:

> Site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it (NPS 1994).

A **cultural landscape** is defined in National Park/ Service policy as:

> A reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of the cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions (Ibid).

[4] See King‟s "Beyond TCPs".

Combining the definition of ethnographic resource with cultural landscape allows for a **ethnographic landscape;** a landscape associated with a contemporary group because of the group‟s traditional relation to the landscape.

National Park Service asserts that the primary purpose of researching cultural landscapes is to:

> define the values and associations that make [landscapes] historically significant. Research findings provide information for management decisions and actions extending from the development of long-term plans to compliance with preservation law and maintenance, assist in determining appropriate treatment, and supportive interpretive programs (Ibid).

The National Register (a division of the National Park Service) has produced guidelines for identifying, evaluating, nominating and treating cultural landscapes (Goetcheus 2002). Two important publications are:

1. Preservation Brief 36: Protecting Cultural landscapes: Planning, Treatment and Management of Historic landscapes (Birnbaum 1994)
2. The Secretary of the Interior‟s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural landscapes (Birnbaum 1996)

Preservation Brief 36 defines a cultural landscape as "a geographic area, **including both cultural and natural resources and the wildlife or domesticated animals therein**, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values (emphasis added)." An ethnographic landscape is defined as "a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, religious sacred sites, and massive geological structures. Small **plant communities, animals, subsistence** and ceremonial grounds are often components (emphasis added)."

The National Park Service has also established or is otherwise affiliated with programs for assisting in the preservation of cultural landscapes. All three programs and the National Register maintain listings, inventories and bibliographies of landscapes and associated preservation documents.

- Historic Landscape Initiative Program (HLI) was established to assist federal agencies, state agencies, non-profits and individuals in identifying, assessing, treating and preserving cultural landscapes.
- National Park Cultural Landscapes Program (CLP) was established to promote the preservation of landscapes within the National Park units.
- These two programs are assisted by the Olmstead Center for Landscape Preservation (OCLP).

The primary landscape preservation document is called a Cultural Landscape Report. Such a report summarizes 1) historical research, 2) existing conditions, 3) integrity and significance evaluation and 4) historic preservation approach and treatment plan. Per the Secretary of Interior‟s Standards there are generally four treatment types: Preservation, Rehabilitation, Restoration, and Reconstruction. In cases of smaller landscapes, culture landscape reports may

combine the Cultural landscape Report with recommendations for treatment. For more complex landscapes or when a Section 106 undertaking is multi-year (as in the case of FERC re-licensing of hydroelectric facilities), each phase of preservation can be contained in separate documents compiled over the course of several years. In addition and after effective treatments have been identified, a cultural landscape‟s on-going preservation can be guided by a Maintenance or Management Plan.

The Guidelines for the Treatment of Cultural Landscapes covers examples illustrating the four general types of treatment: preservation, rehabilitation, restoration and reconstruction. This document will be used in this report to explain possible management implications for PacifiCorp should the Klamath River be found eligible to the National Register as an ethnographic riverscape.

While a number of National Park Service cultural landscape programs and related literature exists; specific responsibilities for landscape identification, consultation, documentation and treatment rest with federal agencies fulfilling NHPA Section 106 and 110 responsibilities. In cases of large acreage, multi-phased and otherwise complex undertakings, it is often the case that multiple agencies are involved. Successful historic preservation requires that each agency be identified with responsibilities, roles, and timelines. Success also requires agency commitment of qualified staff and proper funding. While there are many qualified historic preservation consultants available to assist agency preservation staff, very few have expertise in cultural landscape preservation, and even less have experience in applying cultural landscape concepts to bodies of water and Native American ethnographic values.

3. Cultural Landscape Literature Review Summary

A central task of this regulatory analysis is to identify relevant literature/documents that provide clues on how the Cultural Landscape concept was or can be applied to riverine environments (i.e. riverscapes). Information from five sources was identified, retrieved, and reviewed. Relevant information is summarized in the following section. Specific document reviews are provided in Appendix 1. The five information sources from which documents were retrieved are:

- The National Register,
- The National Park Cultural Landscape Program,
- Determination Of Eligibility documents provided by cultural resource consultants, Internet search for the combined keywords: „cultural landscape" „preservation"
- and „river", and
- Cultural landscape and human ecology literature search (books and journal articles) conducted at the Oregon State University World Catalog at Corvalis Oregon and Humboldt State University at Arcata, California.

National Register Search

A data base search, intended to gather sample cultural and ethnographic landscape documents was conducted at the National Register of Historic Places. Paul Lusignan of the National Register was of great assistance. The following table provides a listing of query words, number of total hits of query word appearing in the title, number of titles appearing to be relevant from reading the complete title, number of titles determine relevant enough to obtain a copy of the entire nomination document. The wide difference between total hits and relevant hits is due to the query words being part of a document title of which the document has nothing to do with the query relevance. For example titles such as *Smith River Bridge*, *Smith River Dam* or *Smith River Town Historic District* are unlikely to provide information on the Smith River as a riverscape. The last table column

reflects the number of nomination documents actually copied.[5] A listing of nomination documents desired copied but not obtained is also provided in the appendix.

Query Word	# Total Hits	# Relevant Hits	# Desired Copy	# Copied
river	661	16	16	4
landscape	10	3	1	1
Culture	7	0	0	0
traditional	2	2	2	2
conservation	16	0	0	0
Canyon	137	24	2	0
Fish	10	0	0	0
Island	105	4	1	1

[5] At the time of visitation, the National Register files were in the process of being moved and consequently some reports were not available for copy.

In summary, three points are emphasized:

- No cultural landscape document has been done in, along, or across the Klamath River. Seven cultural landscape documents have been prepared that circle the Klamath River Basin. (De No to, Mus Yet Sait Neh, Medicine Lake, Mt. Shasta, Bald Hills, Helkau Culture District, Crater Lake).
- One TCP study document focused on an entire watershed as the boundary within which sites were located, generally documented tribal relations to the watershed including the river, but did not focus on the riverscape in any specific way (Cedar River Watershed TCP Study).
- Several documents provide good examples of traditional practices and landscapes but did not focus on rivers as part of the landscape (Kalo Kana O Ka „Aina Cultural Landscape).

The National Park Service Cultural Landscape Program

A meeting was held between the author and Charles Birnbaum, FASLA. Mr. Birnbaum is the National Park Service‟s lead landscape program staff. While enthusiastically received, the meeting confirmed that the "Riverscape" concept has never been attempted. Mr. Birnbaum provided several key documents germane to developing the riverscape concept:

- NPS Preservation Brief #36: Protecting Cultural Landscapes
- Secretary of the Interior‟s Guidelines for the Treatment of Cultural Landscapes
- NPS Cultural Landscape Bibliography

The Brief, Guidelines and Bibliography provided references to numerous cultural landscape reports. Approximately two-dozen cultural landscape reports were obtained and reviewed for relevance to rivers and traditional cultural properties. Selections were especially made based upon landscapes involving water (i.e. river, ocean, lake, island etc). Two documents came the closest to the riverscape concept: Buffalo National River Cultural Landscape Report and Saint Croix National Scenic Riverway General Management Plan. While both documents had a lot to say about the importance of a river for human life-ways, neither document focused exclusively on the river and its preservation as a riverscape.[6] Instead, focus was on the adjacent landscapes and the infrastructure that aided river access. Both documents stated that water quality and fish resources were important to the landscape and should be qualitatively managed. Relevant reports are summarized in an appendix.

Determination of Eligibility Documents Provided by Cultural Resource Consultants

CRM consultant Janet Eidsness provided a copy of two documents that identify, evaluate and articulate Determinations of Eligibility for TCPs affiliated with the Esselen Tribe and people and located in the Carmel River Basin, California (New Los Padres Dam and Reservoir Project). These two documents provide a template for how an Army Corps of Engineers and State Water Quality Control Board reservoir and dam project addressed TCPs (including a TCP District) within a river basin. The methodology involved 1) review of the literature including previous survey efforts, 2) intensive oral history interviews, and 3) surveys where Esselen informants had indicated that TCPs existed. Surveys were conducted with Esselen people as guides. A 100% pedestrian survey was not required.

CRM consultant Dr. Thomas King provided the author with an article that summarizes a larger document, *The Mushgigagamongsebe District: A Traditional Cultural Landscape of the Sokaogon Ojibwe Community* (King 2003). The article articulates how and why a cultural landscape approach to National Historic Preservation Act Section 106 compliance was relevant to Ojibwe faced with an Army Corp of Engineers permitted project that would allow a mining company to fill wetlands. The wetlands area supports a wide array of plants and animals vital to Ojibwe traditional lifeways. A standard archeological survey approach would have identified very few historic properties eligible to the National Register, yet would have missed what is most important to the Ojibwe, the cultural landscape. This landscape was a system of lakes, creeks, and wetlands.

The author also relied upon knowledge gained in preparing two cultural landscape studies that identified and evaluated the ethnographic landscape of a prairie oak woodland in Redwood National State Parks (Gates et.al 2000, 2002). The reports conducted oral histories and site visitation to 17 TCPs. In addition basketry material gathering areas were identified and management strategies developed.

Internet search for words: „cultural landscape" „preservation" and „river", and Cultural Landscape and Human Ecology Literature Search (books and journal articles) conducted at Oregon State University at Corvalis and Humboldt State University in Arcata, California.

Internet and library searches produce extensive lists, winnowed down to twenty-nine journal articles, and five books that were copied or purchased and reviewed in relation to the production of this riverscape regulatory analysis.

All five books provided relevant theoretical underpinnings to the linkage between Native American communities and broad landscape areas requiring preservation (Hufford 1994, Jackson 1994, Groth 1997, Alanen 2000, and Shakel 2001). Each book (and especially Shakel) suggests that American cultural landscape preservation is biased with historic landscapes commemorating fixed periods of resource extraction (agriculture, timber, mines) and environmental conquest (roads, bridges, dams).[7] This is because Western cultural ideology and consciousness is framed in terms of the Western expansion movements from the Puritans to the present. The Puritans and their successors brought their own land survey and ownership concepts to bear across the land. They also introduced the enduring concept of individual private rights and the right of individuals, (and by default) the rights of the government to alter the environment in the course of resource extraction. Preservation theory and practices, geared towards the particular cultural ethos of expansion, does not work well with landscapes associated with ethnographic groups. Particularly within Native American groups, the issues concern interdependency and proximity to cultural resources rather than preservation to a distant place encapsulated in a static time period. Obviously management decisions involving criteria of eligibility, significance and value with specific regard to ethnographic landscapes must take cross-cultural values into consideration.

[7] See Kramer 2003 for an historic context statement related to 7 Klamath River dams and associated hydroelectric facilities

Two journal articles, *Water We Believed Could Never Belong to Anyone: The San Luis Rey River and the Pala Indians of Southern California* (Karr 2000) and *Power and Dignity: The Social Consequences of Hydroelectric Development For the James Bay Cree* (Niezen 1993), directly link, on the one hand, traditional Native American cultural practices and identity with water and, on the other hand, social and economic impacts to indigenous communities faced with hydroelectric and municipal water development.
Both articles, however do not mention the use of ethnographic landscapes as a planning and management tool for considering and possibly mitigating said impacts.

Of all of the diverse journal articles, *Cultural Landscapes and Traditional Cultural Properties: a Southern Paiute View of the Grand Canyon and Colorado River* provides an interesting framework for assessing various properties and contributing elements that make up an Ethnographic Landscapes (Stoffle 1997). It is suggested that Native American Ethnographic Landscapes be broken into five hierarchical categories: Holy landscapes, Story/Song scapes, Regional Scapes, Ecoscapes, and Landmarks.

4. Applicability to Klamath River

This section applies the broader Riverscape concept, as defined in previous sections, to the Klamath River by applying the *Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* to the Klamath Riverscape. This application stretches the limits of "The Guidelines" beyond its intended purview of cultural landscapes as lands (not rivers) managed to highlight a specific static historic theme and period (not adaptive continuum). Instead, the Regulatory Analysis author assumes that management themes would be determined in relation to the following criteria:

- The Klamath River is a dynamic and fluctuating ecosystem seeking equilibrium.
- Native American Cultural relations to the river have adapted to a fluctuating ecosystem seeking equilibrium.
- Many other non-indian cultural and technological intrusions have not adapted to a fluctuating ecosystem seeking equilibrium.
- Native Americans have adopted some non-indian technological intrusions into an Indian way of life. Motorboats and nylon mesh fishing nets are such examples.

Ethnographic Riverscape Report and Riverscape Management/Treatment Plan

In order to implement and complete the "Ethnographic Riverscape" concept, two types of documents are required: an Ethnographic Riverscape Report and a Riverscape Management or Treatment Plan.

An Ethnographic Riverscape Report is developed in order to articulate the riverscape as eligible or ineligible to the National Register. In general the steps to take to define an ethnographic riverscape for the purposes of an Ethnographic Riverscape Report are:

1. Research to identify the continuum of historic period(s) (Ethnographic Overviews and synthesis).
2. Research to identify historic period(s) associations that contribute to understanding the riverscape‟s significance (Oral Histories).
3. Survey/Inventory contributing elements of historic period associations (Survey).
4. Write an existing conditions statement(s) for the landscape as a whole and for contributing elements.
5. Identify those contributing elements that are less than adequate for contributing to the integrity (location, setting, design, materials, workmanship, feeling, and association) of the landscape as a whole.

Larger and more complex riverscapes (i.e. an entire river as compared to one section of river) may require that the above steps are phased. Steps 1 and 2 logically go together; step 3 could be a separate document and steps 4 and 5 are logically compatible.

An Ethnographic Riverscape Management/Treatment Plan is developed to articulate how the eligible Ethnographic Riverscape will be managed or treated in relation to Preservation, Rehabilitation, Restoration and Reconstruction. By comparing between the desired historic period context(s) (and taking into account that the Ethnographic Riverscape is a dynamic fluctuating ecosystem seeking equilibrium and that Native American lifeways adapt to these dynamics) and the existing conditions, managers utilize plans to route a course of action to bring existing conditions into conformance with the desired continuum of historic period

context(s). Where there is a close fit between historic period contexts and existing conditions "Preservation" becomes the management or treatment guideline. For example the mouth of the Klamath River has never been artificially breached; therefore preservation involves assuring that the mouth is not breached. Where there is a significant difference between historic period contexts and existing conditions, and it is desired to bring the two into conformance, then reconstruction becomes the management or treatment guideline. For example where a dam has placed a section of river under a reservoir, then removal of the dam and restoration of the original riverbed becomes the management or treatment guideline (FERC 2002).

Contributing Elements

Identification, Evaluation, Management and Treatment focus on seven types of contributing elements (Birnbaum 1996)[8]:

1. Spatial organization and patterns
2. Topography
3. Vegetation
4. Wildlife (including fish)
5. Circulation
6. Water features
7. Sites, structures and Objects

Spatial Organization and Patterns

Spatial organization and patterns is different from the other elements in that it provides context or framework for the other elements and is more difficult to manage once lost. While from bend to bend of a river there may be little perceptible difference, comparing the mouth of the river to the headwaters (lakes) makes for a huge contrast. These systemic differences must be identified. There are also places within the river system where dramatic differences occur in short or bounded sections of the river. For example the mouth of the river, Ishipishi Falls, the Klamath-Shasta confluence, and the Link River confluence with upper Klamath Lake provide acute emphasis to the Riverscape. Native American interests keenly focus on these dramatic riverscape changes. Each perceptible stretch of a riverscape also has unique spatial organization that patterns traditional practices. For example, each natural turn of the river has its ideal places for various types of fishing, an ideal place where a village or camp is located, a characteristic place that has a higher degree of flooding, a place where certain types and sizes of rock are distributed across gravel bars, and ideal places where boats can be put in and taken out of the river.

The river has it flows through various turns of the canyon has a natural rhythm of swiftness, slowness, back-eddy, shallowness and depth. Riverscape spatial organization and patterns are impaired when the course of the river is bulldozed, excavated, dammed, rip-rapped or breached.

[8] Stoffle"s (1997) Grand Canyon and Colorado River landscape categories (Holy, Story/Song, Regional, Ecological and Landmarks) may provide a classification for understanding contributing elements and groupings according to uniform treatments.

Topography
This element, while character defining, is also different from the other elements in that once impaired is difficult to restore. Topography of the riverscape, beside the physical fact of land rising on either side of the river to define the river (whether steep canyon wall, gently sloping valley floor or adjacent wetland), is also defined by the micro- topography of particular stretches of river, (what can be seen from a particular river vantage point). Micro-topography is comprised of riverbars, confluences, rock outcroppings, islands, slicks, riffles and pools, waterfalls, and secondary channels. For example fishing holes or pools where nets are set can fill with sediment due to poor water quality or become unavailable because water flow rates are so severely reduced that pools dry up or the riverbed and river course change.

Vegetation
Character defining vegetation associated with the Klamath Riverscape are those plant communities that exist along the sides of the river and within the flood plain. These plant communities provide habitat for wildlife, gathering sources for the continuance of Native American life-ways, and effect micro-topography. In addition plant communities provide an integral aesthetic to the riverscape. Plant communities can be native, non-native but purposely introduced by Native Americans (e.g. tobacco), or be naturally introduced as invasive species. For example a population of willow, rooted in the middle of the river, creates a unique place that periodically builds up as an island and thereby creates a secondary channel, influences how the water flows into, through and downstream of the willow (and thereby also how gravel is distributed and hence where to find porch rocks and acorn cooking rocks), provides roots utilized for basketry material, provides songbird habitat in the summer months, a place to gather willow sprigs for the summertime brush dance ceremony (of which while gathering such sprigs a songbird may inspire a new brush dance song), and deer coverage (and a place to hunt) in the fall.

Wildlife (including fish)
Various birds, mammals, and fish have their places in and along the river, the accompanying topography and vegetation, and in the Native American culture. There is a simple, fundamental and clear relationship between Native Americans, rivers, fish and adjacent plants and animals. For example, it is not mere coincidence that a stand of young fir trees grow near a river rock outcropping, and is harvested for the purpose of building a scaffold on the rock outcrop from which to set a trigger net for the purpose of fishing.
Additionally it is not coincidence that iris stands grow in abundance near these fishing places as the iris fibers were used to make rope used to make nets. It is also not coincidence that villages or fish camps are located near fishing places so that fish can be processed into food. And it is not coincidence that the seasonal return of the buzzard marks the approach of the spring salmon fishery, signaling a time to get spring fishing gear prepared. It is not coincidence that as the fishermen are preparing gear in wait of the spring run that they watch and admire the Great Blue Heron‟s stealth in plucking small fish from the back-eddies of the river. This all happens within, and is supported by, the riverscape.

Circulation
Circulation features include the quantitative and qualitative flow of water for support of the river, as water is a transportation thoroughfare, a ceremonial route, a place of fish, wildlife and

vegetative passage. In addition, parallel land routes provide passage as a compliment to the river (water) transportation corridor.

Water features

Water features are aesthetic as well as functional components that define the character of the riverscape. Riverscape water features are linked to the natural hydrological system; their associated water supply and drainage are important components. Water features include backeddies, pools, slicks, riffles, falls, lakes, mouths and confluencing streams and rivers. The characteristics of water features, including reflective qualities, associated and dependent plant and animal life, as well as water quality are important to consider in understanding the preservation or restoration of Riverscapes.

Sites, Structures and Objects

These character defining features are all of the various built environment apparatuses that are traditionally related to the riverscape and may include the following: Fishing scaffolding, net hanging rack, fish smoke house, eel basket anchor bolt, fish dam prayer seat, death rock access trail marker, boat put-in place, cooking rock pile, basketry pictographs, prayer coin offerings, etc.

Boundaries

Cogent arguments for avoiding debate on establishing boundaries for particularly large historic properties and historic properties with intangible attributes have recently been made (King 2002). Despite the precaution and in light of the above interrelated ecology and culture, should boundaries be desired, the following concepts can guide boundary establishment.

- **Watershed – A**n entire watershed, from ridge crest to ridge crest and headwaters to mouth can easily provide boundaries. This may be too large of a reasonable management unit, and particularly if the watershed is comprised of several rivers.
- **Viewshed –** Boundaries can be drawn based upon perceived ridgeline as viewed continuously from the river. GIS spatial analysis software can generate maps depicting such boundaries. This approach should be considered if viewshed (in conjunction with wild, scenic and recreational designations) is an identified value.
- **Contributing element habitat** – After defining contributing elements, boundaries can be drawn to encompass all elements or all elements that will be selected for management. This approach may also provide an unreasonably large management unit but may be used in conjunction with a more narrow approach.
- **Flood event** – A more narrow approach would to draw boundary lines based upon flood events (100 or 500 year flood event). Many land managing agencies, Federal Emergency Management Agency (FEMA) and Insurance Companies have maps that indicate flood extent.
- **River under reservoir** – Boundaries of rivers that have been artificially flooded can be narrowly drawn. However if reservoir removal is a desired management tool the management plan may need to consider the entire drained reservoir area due to effects to a more narrowly defined riverscape boundary.
- **Land trails** – Particularly if the riverscape has overriding values and contributing elements as a transportation corridor then boundaries can be drawn up from the river to the downhill side or riverside of a paralleling road, trail or railway.

- **Arbitrary political –** Boundaries can be drawn along political boundaries such as Indian reservation or federal, state or private land-ownership boundaries. Many National Park cultural landscape boundaries simply conform to the park boundary.
- **Arbitrary negotiated** – A boundary can be determined based upon negotiation of various parties that each relies on various types of reasoning that combines the above rationales or other arbitrary measures such as the boundary will be drawn randomly within 100 feet elevation up or out from the average water surface or water edge depending on adjacent topography.

Estimating Types and Survey Methodologies

Depending on the parameters of the Riverscape boundaries the relevant things inside the boundaries could be infinite or at least so numerous as to not be identifiable or counted in entirety. The 100 percent survey criterion has recently been identified as an impossible standard to insist upon (King 2002:124). Based upon previous historic property and other environmental surveys (and those surveys stated or assumed methodologies), previous and current oral history, predictive modeling, specific interests of consulting parties and identified areas of potential effect, a survey strategy should be defined and agreed upon. Where possible, amounts of types of historic properties, and contributing elements should be estimated. Field sampling should be strategically conducted to verify if the estimates are accurate in quality and quantity. Where specific sites or contributing elements are known to be at risk then such places and things need to be prioritized for evaluation.

For example, assume that there are approximately 250 Native American habitation sites along the Klamath River comprised of roughly 150 village sites, 75 fish camps and 25 river ceremonial sites. Also pretend that it is known that 5 village sites are currently eroding and that tribal elders insist about complete protection of all ceremonial sites.

Knowing this combination of general estimates, some specific site conditions and a general community treatment preference, a survey strategy could then plan for identification and evaluation of ten percent of each type. However, all eroding sites would be visited and all ceremonial sites would be visited. Further that the ten percent of each type would be selected based upon the general goal to represent all segments of the river.

Where survey involves identification and evaluation of natural resource contributing elements (water, soil, rock, and plant and wildlife populations) then survey strategy should be planned with the best data currently available. This data will undoubtedly be in the control of geologists, hydrologists, biologists and botanists; not archeologists or anthropologists. CRM professionals can identify where natural resources data is lacking and work with the appropriate natural resource professionals to gather such data.

Treatment of Contributing Elements in Relation to EIS identification and Management of Natural resources

Where contributing elements are being considered as natural resources and addressed through the NEPA process then there may be less of a cultural management role.

However it should not be assumed that there is no cultural role. For example the amount of water needed in order to keep fish populations alive may not be the same amount of water needed to conduct a boat ceremony that, from a Native American understanding, is also

required in order to keep fish alive. Fish survival may be assured but not enough to assure that a particular fishing family‟s one and only traditional fishing hole will have fish. The water quality needed in order to assure that fish survive and that people do not become diseased by being in contact with water may be a much lower standard than what is required to prevent moss build-up on fishing nets and for purposes of ceremonial bathing. Suspended sediment standards set by State water quality control boards may be lower than accumulated affects to the sedimentation of fishing holes. Water flow regimes may be enough to maintain minimal meander requirements but not enough to scour willow root for purposes of traditional gathering. Endangered species may be considered in the NEPA process through the Endangered Species Act but many culturally important species are not listed and therefore are not considered; yet projects may have adverse effects on such local populations.

5. Executive Order 12898 "Environmental Justice"

The NHPA historic preservation process has limits to the protection of large-scale resources important to the vitality of Native American life-ways. The cultural landscape approach to Tribal historic preservation has not been aggressively explored and successfully applied in ways that have yielded standard treatments enhancing Native American life-ways. The Riverscape approach to historic preservation has not yet been applied to Native American or other cultural life-ways. The NEPA process, particularly at Section 102(2)(C), is not utilized enough to consider Tribal life-way preservation because EAs and EISs routinely defer to NHPA Section 106 for a process that considers such lifeways as those lifeways are defined within the narrow confines of historic preservation. There is clearly a gap.

Executive Order 12898 articulates the need to consider disproportionate environmental risk burden placed upon any population group. American Indian Tribes are identified as one population group that has routinely received an inequitable brunt of environmental risk and damage resulting from the execution of federal programs and policies (Danielson 2003). Section 4, Subsistence Consumption Of Fish and Wildlife, of Executive Order 12898 specifically states:

> In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, Federal agencies whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns.

An implemented ethnographic riverscape concept can bridge the gap between the limits of both NEPA and NHPA, while addressing the charge of Environmental Justice.

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APPENDIX

I. Cultural Landscape Literature Review

The following is a list of desired but not copied nomination documents.

Medicine Lake Area Traditional Cultural Places District Badger –
Two Medicine Blackfoot Traditional Cultural District De-No-To
Cultural District
Mus-yeh-sait-neh Village and Cultural landscape
Aniakchak Bay Historic Landscape District Yamsey
Mountain
Little Rocky Mountains Traditional Cultural Property Sweet
Grass Hills Historic District
Mount Shasta Crater
Lake

Review of Applicable Landscape Nomination Documents

Kalo Kanu O Ka „Aina: A Cultural landscape Study of Ke‟anae and Wailuanui, Island of Maui

This study focuses on the land management and utilization systems for traditional taro plants of native Hawaiian peoples of two isolated communities on the island of Maui. Specifically the scope of the study included: identification of the historic context of the traditional landscape through a literature search, identified and mapped boundaries of the landscape, Community history documentation through interviews with traditional practitioners, description of trends and existing conditions, assessment of integrity and significance and recommendations for preservation management. This document provides an excellent example of a complex landscape that combines sites, structures, objects into one holistic place.

Cedar River Watershed Cultural landscape

This study focuses on seven tribes‟ traditional use, (hunting, gathering, fishing and ceremonial) of the Cedar River watershed. The 50 mile river runs from the crest of the Cascade Range to the Puget Sound in the State of Washington. The scope of study involved identifying the location and range of traditional cultural properties, documenting contemporary Native American TCP utilization, Compiling a comprehensive list of Native American place names, conducting tribal consultation concerning significance, integrity and protective measures of historic properties. The nomination to the National Register states that the main contributing element (attribute) is the river based upon concentration of sites being located within the corridor. However the nomination does not articulate how the river is a unifying factor beyond the clustering effect. The cultural landscape nomination combines three previously determined eligible districts (two historic and one archeological) and 69 archeological sites, one traditional cultural property and multiple hunting and gathering areas. The study does provide an excellent interview questionnaire for querying Native Americans about traditional hunting, gathering, fishing and ceremonial practices. [Nomination returned, further studies requested by Muk]

Safely Moored at Last: Cultural Landscape Report for New Bedford Whaling National Historical Park

The landscape boundary was determined by the boundaries of the existing 34-acre park. The Park primarily protects and interprets a historic buildings district associated with early American whaling history made famous by Herman Melvilles classic "Moby Dick". While the study includes information on a Wharf that interfaces with a river outlet to the Ocean and whales, Ocean and Whales are not considered contributing elements to the landscape. Indeed, Whales were brought to near extinction as a result of early over- harvesting. Volume I covers: History, Existing Conditions, Analysis of Integrity and Significance and a preliminary overview of preservation issues. Concurrent with Volume I are Volume II, a historic structure assessment and Volume III an archeological assessment. These studies identify issues for developing a park Historic Preservation management plan.

Fairsted: A Cultural Landscape Report for the Frederick Law Olmsted National Historic Site (Volume I: Site History)

This report provides seven eras (1878-1994) of site history for the 1.76 acre landscape. Frederick Law Olmstead Sr., considered the father of American landscape architecture, and later his two sons (also architects), and more recently the National Park Service landscape program, have occupied the residence and meticulously maintained the landscape with an eye towards preserving the grounds as originally designed. The site history is very comprehensive due to the successive occupants profession. While this Cultural Landscape Report is a must for all landscape enthusiasts it has little bearing on how to document large tracts of landscapes

Cultural Landscape Report: Dumbarton Oak Park, Rock Creek Park (Part 1: Site History, Existing Conditions, and Analysis and Evaluation

This report documents four centuries of history associated with a popular 27 acre NPS park originally designed by the mother of American Landscape architecture, Beatrix Jones Farrand. The report provides sections including: existing conditions, and an analysis and evaluation of the contributing elements: land use, circulation (trails) views and vistas, vegetation, water features, structures and small scale features. A subsequent Part II presents a treatment plan based upon the analysis and evaluation provided in part I.

Cultural Landscape Report: Bremner Historic District, Wrangell-St. Elias National Park

This report covers a 20,000 acre historic mining district in the Chugach Mountains of Alaska. Documenting a century of gold mining history, the report covers existing conditions of buildings, structures, objects and sites affiliated with each of the gold claims. The document also provides recommendations for treatment of the various categories of historic properties dotted across the vast mountain landscape. This report provides an excellent example of how a large tract of land, albeit focusing on one historic theme (gold mining), does not require all sites, objects, structures and buildings to be inventoried in order for treatment objectives to be determined.

Determination of Eligibility Documents (see Section 3 for document reviews) Identification and Evaluation of Traditional Esselen Cultural Properties, New Los padres (Carmel River) Dam and Reservoir Project and Summary Report on the Cultural Properties Inventory and Determination of Eligibility for Listing on the National Register of Historic places For the New Los Padres Dam and Reservoir Project, Monterey County, California.

The Mushgigagamongsebe District: A Traditional Cultural Landscape of the Sokaogon Ojibwe Community (copy not obtained)

Bald Hills Phase I and Phase II Reports

Cultural Landscape and Human Ecology Literature Search

Preserving Cultural landscapes in America

The book was reviewed for an overview of the cultural landscape preservation movement. The book consists of history of the discipline, its various applications in American land management policy and practice, and cogent discussion on cultural landscape preservation problems, solutions and dilemmas. Specifically informative are the introductory chapter, Chapter 2 discussions on the false dichotomy of Nature – Culture, Chapter 7 concerns Ethnographic Landscapes and the final Chapter Eight provides an in depth review of the concepts of value and integrity as applied to assessing significance of cultural landscapes.

Myth, Memory and the Making of the American landscape

The Cultural Landscape discipline‟s relevance to current trends in human cultural identity, the land and human relations thereof was further pursued in this book. The book suggests that American Cultural Landscape Preservation is biased with historic landscapes commemorating fixed periods of resource extraction (agriculture, timber, mines) and environmental conquest (roads, bridges, dams).

Cultural Landscapes and Traditional Cultural Properties: a Southern Paiute View of the Grand Canyon and Colorado River

This Journal article provides an excellent framework for assessing the boundaries and leveling concepts of Ethnographic Landscapes. The authors suggest that Native American Ethnographic Landscapes be broken into five hierarchical categories: Holy landscapes, Story/Song scapes, Regional Scapes, Ecoscapes, and landmarks.

Other journal articles inform the reader of issues concerning:

- the relation of economy and ecology to cultural landscape boundaries and human value (Mathewson 1998, 1999, Navehhis 2000, Hong 1999, Niezen 1993)
- intrinsic, extrinsic, and instrumental cultural landscape values and historic interpretation (Nordstrom 1993, Niezen 1993, Mignolo 1996, Snead 2002)
- measurements and calculations of patch, grain, calories, populations, bio- diversity, space and time and the boundedness of landscapes (Hong 1999, Power 2002) and in relation to dam removal (Poiani 2000) and water quality (Turner 2003)

- land settlement, property survey techniques, land ethos and boundaries of landscapes (Lehr 1994, Karr 2000, Mitchell 2002, Niezen 1993, Snead 2002)
- common field agriculture and the tragedy of the commons (Zimmerer 2002, Nordstrom 1993)
- private lands, public lands and the merging of the two through land trust cultural landscape conservation easements (Geisler 2000, Lehr 1994)
- the importance of preserving seed banks related to cultural landscapes (Gillis 1993)
- The Klamath River irrigators, hydroelectric generation, federal agency water management and tribal fisheries (Levy 2003, Barcott 2003, Barnard 2003, Easthouse 2003)

II. Riverscape Thematic Outline

1.0 Nomenclature

1.1 Types of Historic Properties

Buildings, Structures, Sites, Objects, Districts

1.2 Types of Districts

Archeological Districts, Residential Communities, Rural Landscapes, Historic Landscapes, Cultural Landscapes

1.3 Types of Cultural Landscapes

Historic Sites Landscape, Historic Designed Landscape, Historic Vernacular Landscapes, Ethnographic landscapes

2.0 River Ethnographic Landscape (Riverscape)

2.1 Natural Features

2.1.1 Water
2.1.2 Fish
2.1.3 gravel bars
2.1.4 rock promontories/rock canyon walls
2.1.5 Willow/Riparian
2.1.6 Riverside vegetation
2.1.7 Upslope vegetation

2.2 Cultural Features

2.2.1 Ceremonial
- **2.2.1.1** grounds
- **2.2.1.2** boat ceremony
- **2.2.1.3** first fish
- **2.2.1.4** fish gate
- **2.2.1.5** bathing
- **2.2.1.6** visual

2.2.2 Fishing places
- **2.2.2.1** Net setting
- **2.2.2.2** Scaffolding
- **2.2.2.3** Eel Basket

2.2.3 Gravel
- **2.2.3.1** cooking rocks
- **2.2.3.2** porch rocks

2.2.4 Rock Promontories/Rock canyon walls
- **2.2.4.1** death rocks
- **2.2.4.2** rock art

2.2.5 Gathering/Botanical
- **2.2.5.1** willow
- **2.2.5.2** spruce roots
- **2.2.5.3** tobacco

2.2.6 Habitation
- **2.2.6.1** village sites
- **2.2.6.2** fish camps
- **2.2.6.3** cemeteries
- **2.2.6.4** s

2.3 Other Features

2.3.1 Up-slope
- **2.3.1.1** View shed/Coverage
- **2.3.1.2** Botanical gathering, subsistence and medicinal

2.3.2 Transportation
- **2.3.2.1** River - boat
- **2.3.2.2** Riverside trails

2.3.3 Communication

2.3.4 River Morphology

2.3.5 Oral History
- **2.3.5.1** How the river (or associated features) came to be
- **2.3.5.2** Traditional etiquette/river (or associated features) management

2.3.6 Relations with up or –down river neighbors

2.3.7 River language

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Department of the Interior (DOI)
The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors the Nation’s trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

Bureau of Ocean Energy Management (BOEM)
The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.