Integrating Tribal Resource Use into the North Coast Marine Life Protection Act Initiative

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The mission of the Bren School of Environmental Science & Management is to produce professionals with unrivaled training in environmental science and management who will devote their unique skills to the diagnosis, assessment, mitigation, prevention, and remedy of the environmental problems of today and the future. A guiding principal of the School is that the analysis of environmental problems requires quantitative training in more than one discipline and an awareness of the physical, biological, social, political, and economic consequences that arise from scientific or technological decisions.

The Group Project is required of all students in the Master's of Environmental Science and Management (MESM) Program. It is a three-quarter activity in which small groups of students conduct focused, interdisciplinary research on the scientific, management, and policy dimensions of a specific environmental issue. This Final Group Project Report is authored by MESM students and has been reviewed and approved by:

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Abstract

California's Marine Life Protection Act (MLPA) requires the state to establish a network of marine protected areas (MPAs) with the goal of protecting natural marine resources. This project worked with the MLPA Initiative, a stakeholder-driven planning process designed to implement the act in the north coast region, to collect data on tribal marine resource use for incorporation into the planning of the MPA network. In addition to data collection, the work of this project included an examination of tribal participation throughout the MLPA process, an evaluation of the final MPA network proposals submitted to the Fish and Game Commission, and a discussion of the implications of accommodating tribal uses in the MLPA process. Examination of the planning process revealed that certain tribal groups tended to participate more than others regardless of the forum, and that the input received was inconsistent and varied in specificity, resulting in information gaps. However, tribal input was incorporated and greatly influenced MPA network design by affecting MPA location, size, and boundaries, and the number and types of uses allowed within MPAs. Incorporation of tribal input did limit the MPA network's ability to meet scientific guidelines for MPA size, spacing, and habitat replication and representation. Not all tribal requests were met, resulting in a restriction of some tribal gathering and harvesting within MPA boundaries, but specific language included in the final proposals could facilitate a system of tribal exemption in the future. Based on these conclusions and firsthand experiences of group members working within the MLPA process, this project offers a set of recommendations for improving tribal consultation, outreach, representation, and relationships for future marine spatial planning processes.

Table of Contents

Abstract 1

Glossary 4

Executive Summary 5

Introduction 10

Literature Review 12

1 - Legal Background 12

1.1 - Tribal legal sovereignty in the United States 12

1.2 - Federal treaties and law 13

1.3 - United Nations declaration 14

1.4 - History of tribes in California 14

1.5 - Status of tribal communities in California state policy 17

1.6 - Tribal consultation guidelines for the State of California 17

1.7 - Regulations and codes managing California's natural resources 18

1.8 - Court decisions regarding tribal fishing rights 18

1.9 - Five cases of DFG exemptions for tribal groups 20

2 - Law and the MLPA 21

2.1 - California's Marine Life Protection Act: Assembly Bill 993 21

2.2 - North Central Coast and the Kashia Pomo 23

3 - MLPA Implementation 26

3.1 - Conservation goals of the Marine Life Protection Act 26

3.2 - Marine Life Protection Act implementation 27

3.3 - Contention over MPAs 28

3.4 - MLPA science guidelines 29

3.5 - Levels of protection 30

3.6 - Limitations within the north coast MLPA process 32

3.7 - North Coast MPLA implementation and public participation 32

3.8 - Stakeholder involvement and outreach methods 35

4 - Culture and the MLPA 37
4.1 - Tribal vs. Western philosophies of nature and science 37
4.2 - Case study: Tribal management of salmon populations 41
4.3 - Issues of equity and distributional inequality in the tribal context 42
Research Question 1: How did tribes participate in the North Coast MLPA process? 44
Methods and Results of Public Comment Analysis 46
Methods and Results of Tribal Data Collection 55
Discussion of Results 60
Research Question 2: How was tribal input incorporated into the MPA network proposals? 62
Methods and Results of Database Analysis 62
Methods and Results of External Array Analysis 65
Methods and Results of Proposal Analysis 68
Discussion of Results 74
Research Question 3: What are the implications of incorporating tribal input for MLPA goals and for tribal groups? 76
Methods and Results of Analysis of MPA Proposals 76
Discussion of Results 86
Conclusion 88
Recommendations 91
References 99
Appendices ..... **Error! Bookmark not defined.**

Glossary

BRTF: Blue Ribbon Task Force
Bycatch: accidental catch of non-target species during the harvest of marine resources, often discarded
CDPR: California Department of Parks and Recreation
DFO: Fisheries and Oceans Canada
External MPA Array: an MPA network proposed in the first round of planning in the north coast region by local users and groups who may or may not be directly affiliated with the MLPA
FGC: Fish and Game Commission
IMA: Canadian interim resource use and management agreements
LOP: Level of Protection
MLPA: Marine Life Protection Act
MLPAI: Marine Life Protection Act Initiative
MPA: marine protected area
NAHC: Native American Heritage Commission
NCAI: National Congress of American Indians
NCRSG: North Coast Regional Stakeholder Group
PISCO: Partnership for Interdisciplinary Studies of Coastal Oceans
Rancheria: Land purchased for landless Native Americans
RSG: Regional Stakeholder Group
SAT: Science Advisory Team
SMCA: State Marine Conservation Area; allows some types of commercial and recreational fishing
SMP: State Marine Park; allows some types of recreational fishing
SMR: State Marine Reserve; does not allow take of any kind
Spillover: the movement of adult or larval marine species from inside an MPA to the surrounding region, thereby enhancing neighboring fishery stocks
Tribal communities: non-federally recognized tribal nations
Tribal groups: term encompassing both tribes and tribal communities
Tribes: federally recognized tribal nations
Use: the combination of a species and gear type used for commercial or recreational fishing; the basis of DFG governance of recreational resource take

Executive Summary

The California State Legislature passed the Marine Life Protection Act (MLPA) in 1999 with the goal of protecting California's marine life, habitats, and natural heritage by requiring the State to establish a network of marine protected areas (MPAs). In 2004, the MLPA Initiative was formed to implement the Act through an inclusive, transparent, science-based, and stakeholder-driven planning process to be completed in phases by dividing up the California coastline into study regions (Gleason *et al* 2010). In the north coast study region, there are 27 federally recognized tribes and numerous tribal communities (referenced in whole as "tribal groups" throughout this document), many of whom have relied on marine resources in the area for thousands of years (MLPAI 2010). Tribal groups in this region maintain long-standing historical and cultural ties to particular locations along the coast, for both consumptive and non-consumptive uses (Caldwell *et al* 2005). The MLPA does not explicitly address tribal sovereign rights in its legislation, so the California Department of Fish and Game (DFG) cannot provide exclusive exemptions for tribal resource use in MPAs, leaving tribes regulated under the same rules applied to all other user groups (DFG 2010).

At the onset of MLPA planning in the north coast study region, the available data on tribal marine resource use was incomplete or in a qualitative form, making it incompatible with the quantitative analyses and scientific evaluation used by the MLPA Initiative (Grenier 1998; Caldwell *et al* 2005; MLPAI 2010). The initial purpose of this group project was to fill this gap by working with the MLPA Initiative in the north coast region to gather data on tribal use of marine resources, with the ultimate goal of considering tribal harvesting and gathering in the planning of MPA network proposals. In addition to providing new data through outreach to tribal groups, this project sought to understand: 1) how tribal groups participated in the MLPA process and what data gaps still existed, 2) how tribal input actually was incorporated into the MPA network proposals, and 3) what the implications of incorporating tribal input were to both the goals of the MLPA and to tribal groups. Data sources used for analyses conducted for this project included specific to general input collected during outreach to tribal groups, written and verbal public comments given throughout the MLPA process, and information gathered during a comprehensive literature review conducted by group project members to understand the MLPA Initiative structure, legal framework, and evaluation methods.

How did tribes participate in the North Coast MLPA process?

This project studied the potential opportunities for tribal participation provided by the MLPA Initiative and the extent to which tribal groups utilized them. This project reviewed written and

verbal public comments and examined tribal input collected through outreach by group project members. These data sources were analyzed to assess which tribal groups were participating in the MLPA process, and to what degree.

Analyses showed that tribal groups with representatives on the North Coast Regional Stakeholder Group (NCRSG, hereafter identified as RSG) were best able to communicate their needs and ultimately influence MPA locations, sizes, and boundaries. Because tribal groups did not use the opportunity to create their own MPA proposals at the beginning of the North Coast MLPA process, they had to participate in a reactive way to proposals made by other interest groups. Direct outreach to north coast tribes by MLPA Initiative staff and Bren group project members provided tribes without representatives on the RSG with an alternate means of participation in the MLPA process, one that is arguably more convenient and accessible to tribal groups than verbal public comment at MLPA meetings. A majority of the tribes took advantage of the opportunity to meet in person with MLPA Initiative staff and Bren group project members, but not all north coast tribes listed in the regional profile agreed to meetings, so a clear gap exists in this method of direct person-to-person communication. The identity of tribes and individual tribal members that met with or provided data to MLPA Initiative staff and Bren group project members is confidential information. Any data collected from tribal groups was aggregated to maintain confidentiality before the data was submitted to MLPA decision makers.

Analyses of written and verbal public comments found tribal groups that provided data through outreach meetings also were more likely to give frequent public comments, while tribes that did not meet with members of the MLPA Initiative staff and this Bren group project were least likely to give public comment. This implies that tribal participation in any facet of the MLPA process is more a function of that group's general willingness to share information than a preference toward one form of participation or another. Of the tribes that participated in meetings and provided input, the nature of the input varied from specific information on tribal gathering and harvesting to general comments about the MPA proposals and the MLPA Initiative, with little consistency in the amount or type of information provided.

How was tribal input incorporated into MPA network proposals?

Using a combined approach of databases and visual mapping, this project tracked the degree to which tribal input received during outreach meetings was incorporated into the final MPA network proposals. This project also conducted an in-depth analysis of the final MPA network proposals that were forwarded onto the California Fish and Game Commission (FGC). These analyses assessed the degree to which each proposal incorporated the proposed allowed uses, defined as species and gear type combinations, intended to accommodate tribal groups. The

analyses also highlighted any additional accommodations made for tribes through associated statements of intent. Verbal and written comments by a particular tribe that was very active throughout the process were examined as a case study to examine how public comment was incorporated into the final proposals.

Tribal input was incorporated in MPA network proposals by including lists of allowed species and gear types within MPAs that overlapped with locations of traditional tribal gathering. Not all of the species and gear types requested by tribes were incorporated into the proposals; 20 species and gear type combinations were removed by the DFG from the aggregated list of proposed uses intended to accommodate tribal groups because the uses were not legal or they were not in the marine environment. Intent language also was incorporated into proposed MPA regulations to identify which allowed uses were intended only for tribal groups in the event that tribe-specific exclusions will be possible in the future. Descriptions of proposed MPAs also included recommendations for co-management to express the RSG's desire for the DFG to consider working with tribal groups to manage MPAs. Finally, the case study revealed that input provided by tribal members who were not members of the RSG altered the structure and boundaries of some proposed MPAs.

What are the implications of incorporating tribal input for MLPA goals and for tribes and tribal communities?

Group project members compared the final three MPA network proposals for the north coast study region, including the pre-exisiting MPA network as the no-action alternative, that were forwarded to the FGC. All three proposals were analyzed using the Master Plan Science Advisory Team (SAT) evaluation methods to determine how well each MPA network proposal met the MLPA science guidelines. Each proposal also was assessed to determine the potential impacts that each MPA network would have on tribes.

Attempts made by both the RSG and BRTF to incorporate tribal input into their final proposals resulted in MPA network proposals that did not fully meet the science guidelines or accomplish the conservation goals of the MLPA. This outcome resulted from the number and types of proposed allowed uses intended to incorporate traditional tribal gathering that were included in a number of proposed MPAs, resulting in a low level of protection (LOP) for those MPAs overall. An LOP below moderate-high in a given MPA caused the MPA to be excluded from several of the primary SAT evaluations, and therefore, the proposed MPA did not contribute to the size, spacing, and habitat representation and replication standards established by the SAT to address goals of the MLPA.

The only legal mechanism to accommodate tribal groups offered by DFG was to identify proposed uses intended to accommodate tribes and allow the proposed uses for all recreational users. Because of the potential for all recreational users to engage in the uses intended to accommodate tribes, the protection for these targeted species was reduced. Therefore, fishing pressure from all recreational users could result in impacts to or loss of these culturally important species. The inclusion of language in the descriptions of MPAs specifying the species and gear intended to accommodate tribes will assist in limiting the use of these species if tribal exemptions are allowed in the future.

Conclusions and Recommendations

Interactions with tribal groups and analyses of the implications and effectiveness of including tribal resource use in the MLPA process have informed the course of this project and its findings. Tribes are not a typical stakeholder group due in part to their sovereign status and their strong cultural and spiritual ties to the land and sea. The MLPA Initiative had limited information on tribal resource use for the MPA network planning process in the north coast. Some qualitative descriptions written by some tribes were included in a regional profile and 7 members of the RSG were tribal representatives. However, there was no information to help RSG members identify what species and gear types should be allowed in proposed MPAs to accommodate traditional tribal gathering. This group project documented species and gear types that tribal groups would like to continue in proposed MPAs. As a result, the RSG was able to develop their final proposal with better knowledge of tribal concerns, MPA locations that overlapped with sites of traditional tribal gathering, and types of resource use that tribes wanted allowed within MPAs.

Tribal groups had a strong influence on the design of the final north coast MPA proposals submitted to the FGC, and their concerns and issues dominated the north coast process. The lack of an existing State or MLPA-specific mechanism to address tribal concerns resulted in MPA proposals that addressed tribal concerns to the greatest extent possible by accommodating all recreational users at the cost of achieving MLPA conservation goals.

This project offers the following recommendations for future marine spatial planning processes in handling matters relevant to tribal groups:

- Explicitly incorporate formal and informal tribal consultation requirements into laws establishing guidelines for marine spatial planning and/or develop a formal state-tribal or department-tribal (e.g. DFG-tribal) consultation process
- The relevant government entity (e.g. national, state, county) involved in planning should issue an official statement declaring its legal authority and stance on indigenous rights

- Pursue a hybrid approach to tribal representation within the planning process that acknowledges tribes' reliance on natural resources while recognizing their sovereign status
- Determine how best to represent and structure the variety of tribal interests within the stakeholder planning process
- Develop a method of analysis and collect field data to better assess potential ecological impacts of tribal gathering
- Create a robust outreach process to tribal groups
- Develop a formalized approach to accommodating uses and/or systems of co-management for tribes that are not federally recognized

Introduction

Native peoples in California have used marine resources for subsistence and cultural, medicinal, and religious purposes for thousands of years (Heizer and Sturtevant 1978). Despite their long-standing use of marine resources, California tribal groups[1] were not specifically identified in California's Marine Life Protection Act (MLPA). A number of tribal governments were formed after the MLPA was signed into law, which prevented government-to-government consultation with some of the tribes while the law was being written. Furthermore, lawmakers may not have been aware of tribal groups' marine resource use because the current land-holdings of federally recognized tribes in the region do not include the coast or ocean. The lack of any explicit mention of tribal sovereignty in the language of the MLPA and the constraints of California's Fish and Game Code hinder the California Department of Fish and Game (DFG) from regulating tribal groups separately from other marine resource users. This leaves tribal groups' resource use vulnerable to the same restrictions that limit other user groups.

Tribal groups were incorporated into the MLPA planning process through a set of complex interactions between tribal groups, state and federal agencies, and the formal structure and evaluation methods of the MLPA planning process. To understand the context for these interactions and develop recommendations for similar public planning processes in the future, group members researched these topics in detail and include our findings in the literature review immediately following this introduction.

The primary objective of this project was to promote the integration of tribal marine and resource use into the MLPA north coast planning process by providing information on tribal resource use and explicitly stating the gaps in that information, and to answer the following research questions:

1. How did tribes participate in the north coast MLPA process?

This project was interested in how tribal groups viewed the MLPAI and what comments they had regarding the planning process. Although this kind of information was shared in the outreach meetings conducted with tribal representatives, this data could not be used for this portion of the project due to confidentiality issues. To obtain data that was not confidential, this project turned to the public comment record, tracking comment themes, speakers, writers,

[1] Throughout this thesis, "tribe" refers to a federally recognized tribe, the phrase "tribal community" refers to a Native American community that is not federally recognized, and the phrase "tribal groups" refers to both tribes and tribal communities.

and venues over time. By tracking public comment, trends and gaps in tribal participation were identified.

2. How was tribal input incorporated into the MPA network proposals?

The MLPA planning process required spatial and quantitative information on tribal marine resource use to better accommodate tribal groups in planning the north coast MPA network. Tribal uses of marine resources in northern California had not been previously documented or mapped in a systematic way. A large portion of this project was devoted to providing outreach to north coast tribal groups to collect the data needed to better integrate their needs into the planning process. The data were aggregated to protect confidentiality. The information that was collected is accompanied within this thesis by a gap analysis to explicitly inform the FGC of where information gaps still exist.

Project members also observed the changes made to MPA proposals over the course of the RSG's negotiations to determine how tribal requests were accommodated. We evaluated the intent language used in these proposals and the BRTF motion to create a separate tribal uses category, and how the intent language may affect protection of marine resources and tribal uses in the future. Finally, project members examined how the tribal uses were interpreted in level of protection (LOP) evaluations, and whether the LOP was the most suitable method for evaluating the effects of tribal uses on the marine ecosystem.

3. What are the implications of incorporating tribal input to both the MLPA goals and to tribal groups?

This project was interested in how incorporating tribal uses impacted the final two north coast MPA network proposals. To assess tribal impacts on the proposals, this project evaluated how tribal input was incorporated into the NCRSG proposal, ECA proposal, and proposal 0, as well as how incorporating tribal uses into the MPA network proposals affected the networks' abilities to meet the goals and science guidelines of the MLPA.

Finally, this project developed a set of recommendations based on group project members' experiences working within the MLPA process, as well as conclusions drawn from background research and analyses. This project's work will help inform the FGC's choice of which MPA network to implement in the north coast region, and will serve as a starting point for future dialogues between the state of California and tribal groups. The work of this project will also inform future conservation planning processes on how to better incorporate the needs of tribes and other underrepresented communities.

Literature Review

1 - Legal Background

Historical interactions between tribes and state and federal governments and agencies as well as unresolved matters surrounding tribes' legal sovereignty shaped the way that tribes and tribal communities engaged in the MLPA process. Precedent for consideration of tribal management of natural resources in California, the United States, and other locations around the world provides context to better understand and assess the approach taken in the MLPA process. Examination of these issues provides valuable insight in assessing the effectiveness of tribal involvement in the MLPA process and improving communication and interaction between tribes and state and federal agencies in the future.

1.1 - Tribal legal sovereignty in the United States

There are currently 562 federally recognized tribes in the United States, all of which possess the status of sovereign nations, as well as many additional tribal communities not recognized by the federal government (Passut 2009). At its core, sovereignty entails the right to self-governance and tribes have been explicitly empowered by law to make and enforce their own laws, tax, establish membership, license, zone and regulate activities, engage in commercial activity, and exclude people from tribal territory. Gambling is the one of the most visible examples of tribes being exempted from state laws governing otherwise restricted activities (Utter 2001).

A long history of laws, case laws, Supreme Court rulings, treaties, and Presidential resolutions has sculpted the legal meaning of tribal sovereignty in the US. Indian tribes are considered sovereign nations under federal law, but, under the 1823 Supreme Court ruling of *Johnson v. M'Intosh*, the federal government has ultimate control over tribal lands. Only the US Congress can buy and sell Indian lands, and lands can be removed from Indian control "either by purchase or by conquest" (Klein 1996). Article 1, Section 8 of the US Constitution states that "Congress shall have the power to regulate Commerce with foreign nations and among the several states, and with the Indian tribes," determining that Indian tribes were separate from the federal government, the states, and foreign nations (US Constitution; Leventhal 1977). The *Johnson v. M'Intosh* case is part of a series of Supreme Court cases known as the Marshall Trilogy, which also includes the 1831 decision *Cherokee Nation v. Georgia* and the 1832 decision *Worster v. Georgia* (1832). Collectively, these cases define tribal sovereignty by establishing tribal land as inalienable, tribes as "domestic dependent nations" not equivalent to foreign

countries, and that only Congress, and not states, has overriding power over Indian affairs (Leventhal 1977)

The process of defining tribal sovereignty is still evolving, as fundamental questions remain unresolved and new conflicts between tribes and various levels of government continue to emerge (Pommersheim 2010). The right to harvest natural resources such as fish is a particularly challenging issue as it involves private and public lands owned by states and the federal government, valuable natural resources that can be overexploited unless take is regulated, and practices imbued with cultural significance among tribes. Because states are responsible for managing their natural resources, yet for the most part are not explicitly granted power to regulate tribal activities like fishing, establishing a coherent policy across states has been challenging (McEvoy 1986).

1.2 - Federal treaties and law

When the US government purchased tribal territories, treaties were the dominant legal mechanism for regulating this exchange. These treaties specified the rights that were granted to tribes at the time of land transfers, often protecting the rights of tribes to continue their traditional lifestyles and maintain access to culturally important lands. After a Congressional bill abolished treaties in 1871, agreements, which were substantively identical to treaties, took their place until falling out of use in 1913. A second agreement era, however, emerged in the 1960s as a result of Native self-determination policies as well as tribal efforts to reestablish lost rights. Both treaties and agreements created difficulties in, among other things, managing natural resources and placed limits on state revenues from natural resource extraction, leading many states to try to circumvent them. In response, tribes defended the legitimacy of these treaties in courts, clarifying and solidifying the terms of their rights of access. *Waldron v. United States* (1905) and *Antoine v. Washington* (1975) established the legal standing of these documents, while additional case law has generally reinforced these contracts (Utter 2001; McCorquodale 1999).

Public Law 280 (1953), the Indian Child Welfare Act (1978), and the Indian Gaming Regulatory Act (1988) all address states' power to regulate tribal activities. Generally, courts have ruled in deference of tribal sovereignty, although the limited power given to states in certain circumstances is still controversial (Berry 1993; Lorber 1993). The American Indian Religious Freedom Act (AIRFA) was passed by Congress in 1978 to "protect and preserve the inherent right of individual Native Americans to believe, express and exercise their traditional religion" (AIRFA 1978). The act requires federal agencies to consider the impacts of proposed programs on places and practices of religious importance. AIRFA directs federal agencies to consult with tribes, but does not provide a mechanism to enforce provisions and is therefore unable to

provide religious freedom without condition. The act requires federal agencies to accommodate traditional tribal customs, though it does not apply to state agencies (AIRFA 1978).

1.3 - United Nations declaration

The issue of tribal sovereignty and indigenous rights is not unique to the United States and efforts are being made to address this issue on a global scale. In 2007, the United Nations General Assembly adopted the Declaration on the Rights of Indigenous Peoples. The Declaration is a comprehensive statement addressing the collective rights of indigenous peoples, including their rights to "culture, identity, language, employment, health, education and other issues" (UN 2007). This is a non-binding text emphasizing the rights of indigenous peoples to maintain and expand their culture and traditions while condemning discrimination against indigenous peoples. The Declaration also promotes their participation in all matters that may affect them. At the time of the vote, 143 Member States voted in favor, 11 abstained and four, Australia, Canada, New Zealand and the United States voted against the statement. The countries that did not adopt the Declaration said that because it was not binding and had no enforcement it was not compatible with the countries' existing constitutional and legal arrangements (New Zealand Government 2007). Since then, all four countries that originally voted against the statement have reversed their positions and supported the Declaration, though it remains non-binding in all countries, including the United States.

1.4 - History of tribes in California

California tribes experience a completely different set of circumstances than tribes in the rest of the United States. Due to the state's specific political and legal history, California tribes cannot benefit from more recent federal rulings affording tribes the right to manage non-Indian resource use on traditional tribal lands or explicit rights to coastal waters (Klein 1996).

Spanish conquistadors first encountered native California tribes in 1769. For the next 80 years under Spanish and later Mexican rule, native Californians were considered *indios*, an inferior class of people suitable for hard labor in mines and farms (Field 1999). Still, the Mexican government allowed tribes to hold title to their own lands, permitting the tribes some degree of autonomy. In 1848, the Mexican government signed the Treaty of Guadalupe Hidalgo, ending the Mexican-American War and ceding huge tracts of land, including present-day California, to the United States government. In 1849, gold was discovered in the hills of California, prompting the gold rush and hastening the state's 1850 admittance into the Union (Klein 1996).

California became a state during a time of great conflict between the United States and Indian tribes, with tribes being forcibly removed from their lands to make way for western settlers. In 1851, the new state legislature passed the California Land Settlement Act, mandating that all who owned land under Mexican rule must reapply for ownership under American rule within a two-year time window or the lands would return to the public domain (Klein 1996). To keep the courts from becoming swamped with claims, the Act also declared that those with unquestionable, "perfect" titles from Mexico could simply reapply for ownership on paper, while those with imperfect claims must plead their cases before a judge. As the California Indians had been given explicit titles to their lands by the Mexican government, they did not present their cases in court (Klein 1996).

Under Mexican law, all California lands within 10 leagues of the coastline were to be part of the public commons. The Treaty of Guadalupe Hidalgo specifically banned this, however, and allowed California's coastal lands to be divided and claimed as private property. Mexico also granted a limited number of private claims to submerged lands to both Mexicans and Indians, but when land claims were converted to American control, only the land grants to Mexicans were recognized (Klein 1996).

At the same time that the California Land Settlement Act was being passed, President Fillmore sent representatives to draw up treaties with the tribes in an effort to convince them to relocate to make way for gold miners. Through these treaties, approximately one seventh of California, over 7.5 million acres, was to be set aside as Indian Country. When the treaties were sent to the US Congress for ratification, however, members of the California delegation blocked their passage and insisted that a new system of forced relocation onto reservations be instituted instead (Field 1999). The treaties were then filed away under an injunction of secrecy, preventing tribes from claiming parts of their historic range in perpetuity (Paschal 1991).

The California reservations were established as *de facto* work camps on federal military land. Tribes were informed that they would only be formally recognized by the federal government if they complied with this new order. Few tribes complied and all but one of the reservations were dissolved within a few years due to pressure from western settlers who demanded the right to claim those lands. By the late 19th century, most California Indians were landless and homeless (Field 1999).

In 1889, the United States Supreme Court ruled in *Botiller v. Dominguez* that portions of the California Land Settlement Act of 1851 were null and void. Automatically approving claims to lands that had been considered "perfect" titles under Mexican rule was declared illegal and

those transfers were nullified. In 1901, the Court's ruling in *Barker v. Harvey* confirmed that the *Botiller v. Dominguez* decision applied to Indian land claims as well, and all remaining Indian lands in the state of California were immediately considered to be part of the public domain – a ruling that stands in federal court to this day (Klein 1996).

In an effort to address the homeless Indian communities throughout California, the US Bureau of Indian Affairs established a series of rancherias. Regardless of any prior land claims, these tiny parcels were only given to "legitimate" tribes, as determined by their federal recognition or appearance in anthropological literature of the time. Remaining "unacknowledged tribes" received no such land or assistance (Field 1999; Klein 1996).

The Indian Reorganization Act (IRA) of 1934 provided an opportunity for tribes to restore some of their lands. The federal government awarded tracts of land to tribes if they formed standard government structures as dictated in the act. Tribes that did not comply would lose federal recognition. In the north coast region of California, both the Smith River Rancheria and the Elk Valley Rancheria bands of the Tolowa Nation were among those who received the first grants of additional tribal lands from this act (Field 1999; Klein 1996). The IRA allowed the Bureau of Indian Affairs (BIA) to use an informal tribal acknowledgement process in which approval of an IRA constitution submitted by a tribe to the Secretary of the Interior qualified as federal recognition. In 1978, the process was improved in order to set standards and solidify an accountable decision making process for federal recognition. This process, while needed to ensure consistency and fairness, has hindered some California tribes in their ability to gain acknowledgement in a timely manner (Fixing the Federal Acknowledgement Process 2009). Federal acknowledgement has taken decades for some California tribes, further hindered by Public Law 280 and the resulting "termination era" of 1953-1964, during which time no California tribes were acknowledged (Slagle 1989). Today, tribes can obtain federal status through this Federal Acknowledgement process, federal court recognition, or congressional legislation (Fixing the Federal Acknowledgement Process 2009).

Tribal government structure and organization in California varies from tribe to tribe. Many tribes formed governments by adopting a constitution and bylaws through the IRA, while other tribes developed their own constitutions and bylaws based on traditional values. Of the 100 federally recognized tribes in California, 20 have non-IRA constitutions, 29 have IRA constitutions, and 51 have traditional or other forms of organizational status (Department of the Interior 2010). Regardless of structure or origin, the established tribal governments are responsible for managing the tribe's assets and lands and determining the laws and regulations (Morgan *et al* 2005).

1.5 - Status of tribal communities in California state policy

More than 200 Native American communities, both federally recognized and non-federally recognized, have been identified in California (Slagel 1989). The term "tribal communities" refers to groups of Native Americans that have not been federally recognized by the United States government; in essence they do not have special legal status. Currently, there are seven criteria that must be met by a tribal community to receive federal recognition (Jamestown S'Klallam Tribe 2011):

1. The Tribe has been identified as American Indian since at least 1900.
2. The Tribe has lived together in a community since historical times.
3. The Tribe has governed itself since historical times.
4. The Tribe has provided governing documents which include who may be enrolled.
5. All of those enrolled in the Tribe descend from a historical Indian Tribe which functioned as a nation.
6. None of those enrolled are members of any other recognized Indian Tribe.
7. The Tribe has never been terminated by the United States government.

Due to the unusual history of California tribal communities, meeting the criteria of cultural and political continuity is especially difficult (Slagel 1989). The previously mentioned political pressure to exploit California's resources during the Gold Rush meant that Congress allowed California to create and enforce laws suppressing open social and political activity of Indians (Slagel 1989). The state policy toward tribal communities during that period makes it difficult for tribal communities to prove social and political continuity today. Although a tribal community may have had continuous tribal governance, documentation of a tribal community's continued political activity is difficult to obtain due to the rapid decimation and dispersal of California Indian communities and the indifference of non-tribal observers (Slagel 1989). Especially in rural areas, relatively small tribes and bands survived this time period to resume political and cultural functions after their resources were no longer desired. These smaller tribes make up most of the candidate groups for federal recognition today (Slagel 1989). As mentioned earlier, the federal recognition process is extremely time-consuming and may require decades for a tribal community to gain recognition (Fixing the Federal Acknowledgement Process).

1.6 - Tribal consultation guidelines for the State of California

In order to provide California Native American tribes with the opportunity to participate in land use decisions throughout planning processes and improve tribal consultation standards, the state legislature passed Senate Bill 18 (SB 18) in 2004. The bill requires tribal consultation during the early stages of land use planning for both public and private lands so that cultural

places can be considered before final decisions planning decisions are made (Morgan *et al* 2005). Under the bill, a tribe is defined as "a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the Native American Heritage Commission (NAHC)." The state of California tribal consultation guidelines published in November 2004 give all California tribes the opportunity to consult with city or county governments. It is the responsibility of the NAHC to provide local governments with a list of tribes that should be consulted, based on NAHC's understanding of locations of traditional tribal lands (Morgan *et al* 2005). As this bill was not passed until 2004, no such consultation requirement existed at the time of the MLPA's passage in 1999.

1.7 - Regulations and codes managing California's natural resources

Historically, California's natural resources have been regulated through various government bodies including the state legislature, Department of Fish and Game (DFG), and the Fish and Game Commission (FGC). The state legislature managed California's commercial fisheries while the DFG and FGC managed recreational fisheries. Only recently, with the passage of the Marine Life Management Act in 1998, has management of many commercial fisheries been transferred to the FGC. This set a precedent of FGC management of both commercial and recreational marine resource use.

All current regulations, in both Fish and Game Code and California Code of Regulations Title 14, regulate the take of marine resources using recreational or sportfishing and commercial categories. Regulations specifically addressing tribal marine resource use have been included in Fish and Game Code chapters describing recreational fishing restrictions, thereby categorizing traditional tribal marine resource use as recreational take (Title 14). The DFG regulates the take of marine organisms through specific regulations on the species, season, bag limit, size limit, and method of take. There exists a number of regulations outlining specific exemptions for the tribal take of species, such as salmon, by certain tribes, but these are not inclusive of all California tribes. In the following cases, tribes and tribal communities fall under the category of recreational users.

1.8 - Court decisions regarding tribal fishing rights

One of the most important case laws establishing precedent in ensuring resource rights for federally recognized tribes emerged from the Pacific Northwest. In the late 1800s, tribes signed a unified treaty with the governor of Washington Territory, Isaac Stevens, which stated that "the right of taking fish, at all usual and accustomed grounds and stations, is further secured to said Indians" (Ebbin 2002). Regardless, the state of Washington severely limited tribal access to fishing grounds, eventually leading to the landmark Supreme Court case *United States v.*

Winans. The court's 1905 decision in favor of the tribes held that, "the treaty was not a grant of right to the Indians, but a grant of rights from them" (Ebbin in "The Tribes and the States" 2002). The decision protected tribal rights to fish commercially, but the greater implications are far-reaching. The case establishes that all rights that are not explicitly restricted in treaties are granted to tribes, a precedent known as the "Reserved Rights Doctrine" (Native American Rights). The doctrine is supported by the well-recognized legal concept that tribes given land rights were implicitly granted rights to utilize the land (Utter 2001). While the *Winans* case has helped safeguard many of the rights reserved in treaties, it has not been used to secure rights for tribes without treaties despite its expansive language. For these tribes, the law says nothing explicitly about their right to harvest in the "usual and accustomed places." Off reservation lands, these tribes are regulated by the same laws as non-indigenous people (Utter 2001).

Emerging conflicts between tribal and non-indigenous fishermen in the 1960s and 1970s led to another landmark ruling on this issue in the 1974 decision *United States v. Washington*, heard in the Western District Court of the State of Washington. The ruling, known as the Boldt Decision for the adjudicating judge, laid the foundation for co-management of salmon fisheries in Puget Sound and the Columbia River by establishing that states may not impinge on treaty-specified rights to fish off-reservation in "usual and accustomed fishing areas, for religious, ceremonial, or subsistence purposes." Language in the original treaty signed by Governor Isaac Stevens was interpreted to mean that tribes are entitled to half of the salmon run and could manage their share provided that they established the capacity to do so. This decision survived a litany of legal challenges to solidify the role of tribes as equal partners with the state in co-managing salmon stocks that they have harvested for many years (Ebbin 2002). Recently the scope of the Boldt Decision was expanded further in 2007 through a legal re-visitation of *United States v. Washington*. The decision, also known as the Culverts Opinion, established that the state must not undertake a particular action, in this case the construction of culverts blocking salmon runs, which will impede a tribe's ability to harvest their share of salmon. This case was interpreted narrowly by the judge, as it did not outlaw all measures that would have negative environmental consequences that may impact salmon runs. Nonetheless, it may serve as a critical precedent for future cases where treaty-granted rights are negatively impacted by environmentally destructive measures by the state or private parties (Fisher 2009).

Through *United States v. Winans*, the Boldt Decision, and the Culverts Opinion, treaty rights have been enforced and further delineated. Because treaties and state laws vary widely, and due to the narrow interpretation in Culverts, tribes will likely be forced to bring suit against the state in order to assert their treaty rights in similar cases where traditional harvest is impinged upon by indirect actions. For example, Mille Lacs, a band of Chippewa, won a 1999 lawsuit granting them unregulated access to fish stocks in much of northern Minnesota based on an

1855 treaty. In 2010, all Minnesota Chippewas asserted their protection under the same treaty by flouting fishing regulations and organizing a day of pre-season harvest. Despite threats from the state Department of Natural Resources to arrest anyone seen fishing, no arrests were made. Critics of the tribal exemption claim that the exemption presents a major threat to local businesses involved in fishing and tourism (Fellegy 1996; Smith 2010). This issue will likely need further resolution in the courts (Smith 2010).

1.9 - Five cases of DFG exemptions for tribal groups

Since 1987, the California DFG has given five tribal exemptions to laws governing natural resource use. These exemptions were a result of close, collaborative efforts between the individual tribes and the DFG, and were granted on a case-by-case basis. These cases include (Title 14):

1. Maidu Tribe on the Feather River

Under Fish and Game Code 14 CA ADC § 8.20, the DFG issues permits to allow the Maidu Indians to take fall-run Chinook Salmon in the Feather River using traditional fishing equipment and methods for religious or cultural purposes. These permits include restrictions necessary to prevent damage to aquatic resources and to protect endangered or threatened species (F&GC Section 14).

2. Karuk Tribe at Ishi Pishi Falls on the Klamath River

Under Fish and Game Code 14 CA ADC § 7.50 (b)(91.1)B2, members of the Karuk Tribe are exempt from the prohibition on fishing from the Ishi Pishi Falls road upstream and including Ishi Pishi Falls from August 15 through December 15 (F&GC Section 14). Members of the Karuk Tribe may fish there using hand-held dip nets. This exemption was put into place as a result of the Karuk tribe filing a lawsuit against the DFG in 2006. A subsequent petition was filed by various mining groups to reverse the Karuk exemption. The FGC denied the petition on the grounds that there was insufficient evidence to show that the Karuk Tribe was making a negative environmental impact on the river basin (Smith 2009).

3. Yurok Tribe on the Klamath River

Under the California Fish and Game Code § 7155, members of the Yurok Tribe are allowed to fish for subsistence purposes from the Klamath River between the mouth of the river and the junction of Tectah Creek, using hand dipped nets and hook and line. Tribal members must acquire permits, which are nontransferable and renewable, issued by the DFG to fish. Permits will be revoked if members are caught selling any fish taken under this provision (F&GC Section 14).

4. Hoopa Tribe on the Trinity River

Under California Fish and Game Code 14 § 5.86, members of the Hoopa Valley Tribe and Yurok Tribe may possess more than two salmons outside the boundaries of the Hoopa Valley and Yurok Reservations. Tribes must have in their possession their "Indian Fishers" identification card and all fish must be possessed for "subsistence or ceremonial purposes" and clearly marked as such by removing the dorsal fin prior to transporting them from the Reservation (F&GC Section 14). Salmonids from the Klamath River Basin are managed through a cooperative system of state, federal, and tribal management agencies.

The Yurok and Hoopa have reserved Federal Treaty Fishing Rights. The Klamath River fall-run Chinook salmon harvest allocation between tribal and non-tribal fisheries was based on court decisions and agreement of tribal and non-tribal river fisheries representatives under the auspices of the Klamath Fishery Management Council and adopted by the California Fish and Game Commission.

5. Pit River Tribe on the Fall River

In 1987, the Freshwater Sport Fishing Regulations under the California Fish and Game Code section 14 Regulation § 2.12 were amended to allow the Pit River Tribe to continue traditional fishing of Western Suckers in waters of the Tribe's aboriginal territory in Shasta County. The regulation allows the Pit River Tribe to fish for Western Suckers in "all waters of the Fall River Valley River downstream to Lake Britton and in Hat Creek from Hat No.2 Powerhouse downstream to Lake Britton" by hand or hand-thrown spears (F&GC Section 14).

The five cases above were brought up repeatedly throughout the north coast MLPA process through public comment by tribes and tribal community members emphasizing the DFG precedent for creating tribal exemptions from proposed resource regulations. The five cases exemplify tribal exemptions and co-management opportunities and could serve as a framework for the DFG to work with tribes and tribal communities to exempt them from MLPA regulations.

2 - Law and the MLPA

2.1 - California's Marine Life Protection Act: Assembly Bill 993

The MLPA was established by California Assembly Bill 993 (AB 993), and passed by the state legislature in 1999. The Act added the MLPA as Chapter 10.5 in Section 3 of the Fish and Game Code. This bill required the DFG to prepare a master plan using the best available science to

create and manage a network of MPAs. AB 993 addresses the importance of California's coastal marine resources and identifies a network of MPAs as the most appropriate management strategy to achieve the goals of the act. Solicitation of relevant information from local communities and interested parties is required in the bill, but it does not specifically require consultation with tribes and tribal communities. The bill also authorizes the commission to regulate commercial and recreational fishing, but does not explicitly mention traditional tribal uses. In addition, AB 993 requires the creation of the master plan which serves as the guiding document for implementation of the MLPA process and also requires the following components:

1. Recommendations for the extents and types of habitats that should be represented
2. Identification of select species likely to benefit from MPAs
3. Recommendations to augment or modify the guidelines to reflect the most up-to-date science
4. Recommended alternative networks of MPAs
5. Simplified classification system
6. Recommendations for a preferred siting alternative for a network of MPAs
7. Analysis of the state's current MPAs
8. Recommendations for monitoring, research and evaluation in selected areas of the preferred alternative
9. Recommendations for management and enforcement measures
10. Recommendations for improving the effectiveness of enforcement practices
11. Recommendations for funding sources to ensure all MPA management activities are carried out and the Marine Life Protection Program implemented

The MLPA, as written into the Fish and Game Code, mandates that the FGC establish a Marine Life Protection Program with six goals, including species and habitat preservation, public education, and effective management. The Act also gives the Commission the authority to regulate the take of marine species within MPAs, including "commercial, recreational, and any other taking of marine species in MPAs" (DFG Code 2004). This language has given rise to the question of whether tribal uses can be regulated separately from nontribal uses. Throughout the north coast planning process, the DFG stated that tribal uses cannot be regulated separately as written in Fish and Game Code and therefore tribal uses would be regulated under the category of recreational uses.

Two sections in the Fish and Game Code may give the FGC the ability to amend the Code to better accommodate tribal uses, but it is unclear whether this authority is over amendments to species regulations or the ability to create a new category of regulations. Article 220(b) gives

the commission the power to ”add, amend, or repeal regulations at any regular or special meeting… if the commission determines the regulations added, amended, or repealed are necessary to provide proper utilization, protection, or conservation of fish and wildlife species or subspecies” (DFG Code 2004). Article 1050(b) states that “the commission shall determine the form of all licenses, permits, tags, reservations, and other entitlements…” (DFG Code 2004).

Currently, the California DFG lacks the authority to regulate tribes differently from any other user group because no treaties or applicable state legislation provide the legal framework for creating regulations specific to tribes. Furthermore, states cannot enter into treaties or similar agreements with tribes because states are not sovereign. States can, however, sign official agreements with tribes, such as the memoranda of understanding that sets forth protocols regulating tribal gaming operations in California. These agreements may provide mechanisms for states to reserve tribal harvest practices in areas such as MPAs (Madar 2010)

2.2 - North Central Coast and the Kashia Pomo

In 2010, shortly after MPAs were established in the north central coast study region, the FGC modified an existing MPA to allow a variety of recreational uses, open to all users, to accommodate a request by the Kashia Pomo.

The north central coast study region was the second of five study regions to be completed in the MLPA process. The planning process began in March 2007 with the appointment of the regional stakeholder group (RSG). Public outreach within the region occurred continuously throughout the entire process. Consistent with other study regions, public comments could be submitted online at any point and presented verbally at public meetings. The FGC formally adopted the Integrated Preferred Alternative (IPA) network of MPAs in the north central coast on August 5, 2009. The IPA consisted of 21 MPAs constituting 20.1% of the coastline, including 11% in no-take state marine reserves. The regulations went into effect on May 1, 2010.

In this region, there was limited tribal involvement in the MLPA process. Two members of the north central coast RSG were tribal members. The limited participation and lack of direct outreach to tribes and tribal communities led the National Congress of American Indians (NCAI) to pass a resolution in October 2009 addressing the failures of the MLPA to recognize tribal coastal and marine resource use and expressing their need for government-to-government interactions, particularly in MLPA regions that had not yet been addressed (NCAI 2009). Without information about tribal uses in the north central coast study region, the FGC established no-take marine reserves off Stewarts Point in Sonoma County and Point Arena in Mendocino County, areas in which the Kashia Pomo and other tribes engaged in harvesting of seaweed. On May 1, 2010, the day that the MPA network went into effect in this region, tribal

members peacefully demonstrated and expressed their dissatisfaction with the MLPA process for not taking their needs into account (Bacher 2010).

The Kashia Pomo of Stewarts Point Rancheria began working with the DFG and FGC to resolve problems associated with closing the Stewarts Point area. Reno Franklin, a tribal member, addressed the FGC at several meetings, explaining that Stewarts Point was where the Kashia were first believed to have come to land, and the associated cultural and spiritual importance of the site to the Kashia Tribe (FGC May, FGC June). Despite site's importance, however, the tribe did not engage in the public planning process. This illustrates a defining problem associated with the MLPA process: tribes and tribal communities, as sovereign nations, expect a government-to-government consultation within the process, and this did not occur. Scott Williams, the attorney for the Kashia Pomo of Stewarts Point Rancheria, stated in the May 5, 2010 FGC meeting that the tribal elders had submitted a request for government-to-government consultation and never received an answer. This sentiment was reaffirmed by Reno Franklin in the June 24, 2010 FGC meeting when he explained that the elders travelled to a public meeting early in the process and explained their concerns and believed this would be enough to keep the section of coast they used open.

On June 24, 2010, the Kashia Pomo formally submitted a proposal to the FGC requesting a change to the Stewarts Point State Marine Reserve (SMR) as well as requesting emergency action to open the coast for an important spiritual ceremony. The proposal, if accepted, would create a four mile long ribbon MPA starting at the northern border of the SMR and extending from shore to 300 feet offshore. This ribbon would become a State Marine Conservation Area (SMCA) that would allow for the recreational take, open to all non-commercial users, of certain species of traditional and cultural importance to the Kashia. Because the area to be reopened was adjacent to private land and the Kashia had a long-standing agreement with the owners for access, only tribal members would have had access to the area and would have been able to engage in take within the area. The FGC unanimously voted to approve the proposal, only expanding the SMCA from 300 to 1000 feet for feasibility reasons (FGC June 2010).

The FGC's decision was important for two reasons. First, this was the first time that the commission had voted to change regulations that had been decided during the public planning process (FGC June 2010). Second, this decision set a precedent for addressing tribal concerns in the remaining study regions.

The commission approved the Kashia proposal for several reasons. The Blue Ribbon Task Force (BRTF) in the north central coast study region wrote a letter indicating that they did not have the ability or opportunity to consider the Kashia's concerns before they made their

recommendations (FGC June 2010). The Kashia also worked directly with the DFG to develop a proposal that met both the goals of the MLPA and the science guidelines. The Stewarts Point SMR originally spanned seven miles of coastline, so three miles of coastal habitat are still protected within the SMR, keeping the backbone network of reserves intact. The Kashia proposal was detailed, giving specifics on the history and culture of the tribe. Additionally, the proposed uses were identified by species and gear type, information required so that the DFG can write regulations specific to those activities. Finally, due to a restriction in access to the area because of private land holdings, the SMCA would have been effectively open to tribal uses only. The fact that the general public's shore access is restricted would potentially reduce the ecological impacts of the permitted activities (FGC June 2010).

There is a greater tribal presence in the north coast study region than in other regions of California, with over 20 federally recognized tribes and several non-federally recognized tribes and tribal communities who have claimed use of the entire coastline of the north coast region for traditional cultural, spiritual, and subsistence activities. The Kashia proposal was successful because only a portion of the coastline was reopened within one MPA while still protecting coastal habitats in an adjacent SMR. The length of the coastline and the large size of the MPA made this approach possible. However, the sizes of proposed MPAs in the north coast study region were too small to accommodate this approach. Additionally, many tribes and tribal communities in the north coast were unwilling to share specifics about their resource gathering, such as locations, seasonality, species, and methods.

The precedent set by the Kashia proposal for Stewarts Point, setting aside a nearshore ribbon MPA to accommodate traditional tribal gathering, influenced the recommendation for the Enhanced Compliance Alternative MPA Proposal by the north coast BRTF. The critical difference between the Stewarts Point precendent and the north coast MPAs in the Enhanced Compliance Alternative was that the north coast MPAs were too small to accommodate nearshore ribbon SMCAs while also protecting coastal habitats in adjacent SMRs. While they do accommodate traditional tribal uses, the resulting proposals for the north coast did not provide effective protection for nearshore species and habitats.

Although legal issues surrounding sovereignty remain unresolved, MLPA Initiative and DFG staff continued to move the planning process forward. To address the need to consider traditional tribal gathering, the MLPA Initiative included seven tribal representatives on a stakeholder group of 33 individuals, and continued to engage in outreach to tribal groups throughout the planning process (Madar 2010).

3 - MLPA Implementation

3.1 - Conservation goals of the Marine Life Protection Act

Natural shifts in oceanographic conditions, in combination with increased anthropogenic pressures from resource extraction, coastal development, and climate change threaten the sustainability of California's coastal and marine ecosystems (Gleason *et al* 2010). MPAs have been used as a management tool to conserve marine resources in California since 1903 to preserve biological diversity, protect essential habitat, and aid in the recovery of fisheries. MPAs can restore the structure and functioning of marine habitats and provide a buffer to future large-scale changes (Why the MLPAI 2010). Prior to 1999, California MPAs were established in a disjointed manner that failed to provide the consistency and ecosystem protection necessary to be effective. It became clear to scientists and policy makers that, in order for MPAs to improve the sustainability and resiliency of marine resources, they should be designed as ecologically connected networks (Gleason *et al* 2010).

In response to mounting public demand for ocean protection and improved effectiveness of existing MPAs, the MLPA was enacted by the California Legislature in 1999. The goals defined by the MLPA are:

"(1) To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
(2) To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.
(3) To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
(4) To protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value.
(5) To ensure that California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines.
(6) To ensure that the state's MPAs are designed and managed, to the extent possible, as a network." (DFG Code 2004)

The California DFG is the government agency charged with implementing the Act through a planning process that uses the best available science as well as participation from policy makers, scientists, outside consultants, and the public.

3.2 - Marine Life Protection Act implementation

Before the current MLPA planning process, two initial attempts to implement the MLPA fell short due to a lack of public participation and funding. In 2004, a public-private partnership was formed between the California Natural Resources Agency, the Department of Fish and Game, and Resources Legacy Fund Foundation (RLFF), which uses private resources to leverage public money, improving the State's ability to implement the Act (Master Plan 2008). This partnership, defined as the MLPAI, created a structure for planning California's MPA network and ensures that the process is inclusive, transparent, science-based, and stakeholder-driven (Gleason *et al* 2010). In funding the implementation process, the RLFF required that each regional planning process be completed over the course of one year, though that timeline was extended by six months in the case of the north coast region. The RLFF also required that the best available science be the guiding factor in MPA design. The RLFF only provided funding, and did not participate in or influence day-to-day operations. Various planning groups, including the RSG, SAT, and BRTF were involved and served different roles in the process.

In the north coast study region, the RSG included 33 members of Del Norte, Humboldt and Mendocino counties representing various interests, including seven tribal members. The RSG was responsible for evaluating existing MPAs in the north coast study region, developing MPA proposals that meet the MLPA's requirements, and conducting outreach to their constituent groups (RSG 2010). MPA proposals were developed in an iterative process, composed of three rounds, each with feedback from scientists, agencies, and task force members.

The SAT conducted evaluations of MPA network proposals developed by the RSG and external proponents based on the science guidelines included in the Master Plan. (SAT Charter 2009). The SAT consisted of experts in marine science and economics who were appointed by the DFG Director. The RSG learned from these scientific evaluations and created revised MPA proposals for rounds two and three to better meet the science guidelines. At the end of round three, the RSG presented its final proposal to the BRTF.

The BRTF was appointed by the Secretary of Resources and served to ensure that the MLPA Initiative was a fair and transparent process (BRTF 2010). The BRTF reviewed the MPA proposals developed by the RSG and the information submitted by the SAT throughout the process. Ultimately the BRTF forwarded the RSG's North Coast MPA Proposal and created an Enhanced Compliance Alternative to address some of the missing science guidelines in the RSG's proposal (BRTF 2010). The BRTF also created 7 motions to address science guidelines that had not been addressed in the MPA proposals, and forwarded the motions, RSG proposal, and the alternative proposal to the FGC for consideration (BRTF Motions 2010).

3.3 - Contention over MPAs

The decision to use MPAs for marine resource management under the MLPA has been contentious. In a case study on the MLPA's implementation in the Central Coast region, Weible (2006) surveyed a wide range of stakeholders in an attempt to determine why the process has encountered so much resistance. Through interviews, document analysis, and mailed questionnaires, he gathered data on opinions about the process, the science behind it, and the way forward. He found that stakeholders had organized themselves into *de facto* coalitions for and against the MLPA process. These groups had different resources available to them to draw attention to their causes and garner further support, and the trust they exhibited toward other stakeholder groups depended on the coalition to which they belonged. Both pro-and anti-MLPA coalitions exhibited normative behavior, focusing on statements that supported their position while ignoring all others. In the end, Weible (2006) determined that most conflicts over the MLPA process were a result of differences in values and political goals between the two groups, rather than deficiencies in scientific data. Commercial and recreational fishers, for example, agreed with scientists and environmental groups that something must be done to protect fisheries, but disagreed that MPAs were the best tool to achieve this.

Because the legal framework surrounding property rights in the ocean is still evolving in the United States, most people view marine resources to be common property. As such, few fishermen initially support efforts, such as the MLPA, to restrict their access to a resource they perceive as being partially theirs. Many fishermen have also paid considerable amounts of money in their equipment and may still be paying off their investments. Many claim that it is financially infeasible to reduce their fishing effort or relocate (Agardy 2000).

Choosing MPA design and selection methodology can also be a serious source of conflict. Jones (2002) recognizes two basic approaches to procedure: structure-oriented and process-oriented. Structure-oriented MPA design is a bottom-up approach, relying on public participation to select MPAs from a set developed by scientists, with the goal of having the final network of MPAs incorporate a predetermined set of habitats in the region. Process-oriented design chooses MPAs based on the level of their contribution to the ecosystem as a whole. It is a top-down approach whereby MPAs are designed by scientists and then implemented. Where structure-oriented processes ensure that a specific set of habitat types is protected, process-oriented strategies tend to be more effective at maintaining and restoring ecosystems, based on scientists' expertise. The two methods can be combined by having scientists identify areas crucial to ecosystem function and develop a list of potential MPAs that would adequately protect these areas, then having members of the public choose which of the potential MPAs will actually be implemented.

3.4 - MLPA science guidelines

The Master Plan is the guiding document for the MLPA process which encompasses six goals mentioned in the prior section. The SAT addressed each of these goals as they developed a series of science guidelines used to evaluate potential ecological and economic impacts of each proposed MPA, determine levels of protection within each proposed MPA, and answer science related questions from the public (Master Plan 2008):

Biogeographical Regions: The MLPA requires marine reserves in each bigeographical region in California, addressing goals 1, 2, and 4. The two biological regions determined by the Central Coast BRTF based on input from the SAT include the California-Oregon border to Point Conception, and Point Conception to the US-Mexico border.

Species likely to benefit: The Master Plan Team must develop a list of species likely to benefit from each of the proposed MPAs, addressing goals 1 and 2. Species likely to benefit may include those that are directly impacted by fisheries, species that are negatively impacted from bycatch, and species that may indirectly be affected through ecological changes within MPAs. Species that migrate or move long distances will not be considered for species likely to benefit from MPAs.

Levels of protection (LOP): Levels of protection distinguish between MPAs that are no-take reserves and those that allow from some extraction, addressing MLPA goals 1, 2, 4, and 6. Very high LOPs are assigned to state marine reserves (SMRs) only, while high and moderate-high LOPSs are given to state conservation areas and parks (SMCAs, SMPs) that allow some types of uses that have only limited negative ecological impacts on biological resources and habitats.

Habitat replication and representation: Habitat replication addresses goals 1, 2, 3, 4, and 6 and states that in order to protect the biodiversity of species in different habitats, including those species that move to different habitats depending on their life cycle, key marine habitats should be represented in the MPA network. These key habitats are divided into three ecosystems: intertidal/nearshore, subtidal, and oceanographic, compromising a total of 17 habitats in the north coast region. The Master Plan requires that three to five replicates of each key habitat be protected within marine reserves in each biogeographical region. Further, the SAT recommended protecting at least one replicate of each key habitat in bioregions, smaller regions distinguished by biological and physical characteristics within each biogeographical region. The SAT identified 2 bioregions in the north coast study region, from Point Arena (overlapping the north central coast study region) to the Mattole River and the Mattole River to the California-Oregon border.

MPA size: MPA size and shape guidelines reflect goals 2 and 6 and emphasize the idea that MPAs must be large enough to accommodate typical movement patterns of adults of individual marine species, despite variations in home range size between species. Science

guidelines base minimum MPA size requirements on more mobile adult species, recommending that MPAs have length of 3-6 miles of coastline at minimum, and preferably 6-12.5 miles. Furthermore, in order to protect species at different depths and movement of larvae, the guidelines recommend that MPAs extend from the intertidal zone to deep waters offshore. Taking both alongshore and offshore guidelines into consideration, the science guidelines recommend that each MPA covers a minimum of 9 to 18 square miles and preferably 18 to 36 square miles to ensure effectiveness.

MPA spacing: In order to protect dispersal of bottom-dwelling fish, invertebrate groups, and larvae, MPAs are recommended to be spaced 31-62 miles apart. This guideline addresses MLPA goals 2 and 6 and is based on the best available science and research regarding larval dispersal.

Monitoring: This guideline addresses goals 3 and 5, and emphasizes the importance of adaptive management for maintaining MPAs. It also describes the need for ongoing evaluation and monitoring within MPAs, as well as the opportunity to use MPAs as locations for ecological research.

3.5 - Levels of protection

The levels of protection (LOP) evaluation was designed by the MLPA Master Plan Science Advisory Team (SAT) as a means of evaluating the conservation potential of a range of MPAs. A great deal of flexibility is built into the design process, with four different MPA classifications and a wide array of uses, both recreational and commercial, that could be allowed within proposed MPAs. This flexibility means a range of MPAs can be designed with varying activities and effects on the environment. The LOP evaluation simplifies this variation by determining LOPs through assessments of proposed uses within each MPA. Species to be targeted and gear types used to catch them determine the level of environmental protection within each MPA.

LOPs are determined based on both direct and indirect effects of the method of take for each species. Direct effects include impacts of gear on the substrate or ecological impacts of removing target and non-target species (California 2010). Indirect effects include ecosystem-wide effects of the removal of targets species (California 2010). There are several assumptions that are used in the LOP evaluations:

1. No appreciable take aside from permitted scientific take for restoration and monitoring is permitted within SMRs. Levels of protection for each activity (species and gear type) are determined based on the differences expected to be found within MPAs that allow uses when compared to SMRs.
2. Activities that alter habitat will have significant impacts on the ecosystem.

3. Any activity may occur locally to the maximum extent allowable under current state and federal regulations.
4. An unharvested system is a marine reserve that is successful in eliminating fishing and other extractive uses within the MPA.
5. The proposed activity is occurring in isolation from other activities without cumulative effects of multiple allowed activities. (This assumption was based upon limitations in the SAT's ability to assess the cumulative impacts of multiple activities.)
6. The lowest level of protection assigned to a species within an MPA will be assigned to the MPA as a whole.

The LOP for each proposed allowed use is evaluated using a decision tree developed by the SAT. A conceptual model of the LOP decision tree can be found in Appendix 1: LOP Decision Tree. The LOPs range from "very high" (SMRs only), which indicates a minimal environmental impact, to "low," which indicates a high environmental impact. LOP designations are outlined below:

Level of Protection	MPA Designation	Allowed Uses	Description of uses
Very High	SMR only	No allowed uses	• no take of any kind allowed
High	SMCA & SMP	Recreational/Commercial	• does not directly alter habitat • no substantial difference relative to SMR in species abundance or community structure
Moderate-High	SMCA & SMP	Recreational/Commercial	• does not directly alter habitat • may be differences in abundance and community structure relative to SMR, hard to distinguish from natural variation
Moderate	SMCA & SMP	Recreational/Commercial	• likely to alter habitat and abundance • unlikely to affect community structure
Moderate-Low	SMCA & SMP	Recreational/Commercial	• likely to alter habitat, • significant difference in abundance • community effects based on species interaction
Low	SMCA & SMP	Recreational/Commercial	• likely to substantially alter habitat leading to significant alterations in community structure

3.6 - Limitations within the north coast MLPA process

The north coast MLPA process was limited by its funding and timing, which in turn affected its ability to address specific needs such as the interests of north coast tribes and tribal communities. For example, the BRTF was invited by tribal representatives on the RSG to go on study tours and field trips to tribal reservations and gathering sites to understand how tribes and tribal communities use marine resources and what uses should be allowed for tribes and tribal communities, but the BRTF was unable to attend due to time and financial limitations (Satie Airamé, personal communication, 5/2010). Time constraints also posed a limitation to the MLPA process. The MLPAI is a time-sensitive planning process; each study region must complete the required planning by the end of a predetermined time frame (FAQ 2011). Due to the strict timeline of the process, there was less time for relationship building and outreach to tribal groups. Financial limitations significantly impacted the process due to the state of California's debt and its inability to fund state programs. The MLPA process gained some of its capacity from state employees from the Department of Fish and Game who contributed working hours to the process. As a result of the state budget crisis, state employees were furloughed on Fridays (Department of Personnel Administration 2010), causing the MLPAI to lose some work capacity.

3.7 - North Coast MPLA implementation and public participation

A variety of public participation methods were available to tribes and tribal communities in the north coast process. Public participation is defined as an action that a member of the public can take to influence the course of the MLPA process. Many of the following methods involve public comment or testimony, participation in providing information to the process, disseminating information from the process to the north coast community, and becoming or contacting an RSG member.

Develop Round 1 array proposals

On the north coast, the external proposal development process occurred during the first round to address the concern that members of the public who wanted to submit external MPA arrays also wanted to serve on the RSG. Considering the low overall public stakeholder involvement, members of the public argued that the Initiative would not have sufficient capacity to engage in an external community-based planning process while simultaneously participating in the formal RSG process. Therefore, members of the public representing a variety of interests from north coast communities were invited to develop and submit external MPA proposals. The north coast process was unique in that round one of the array proposals focused solely on external proposals developed by the individuals and local organizations on the north coast.

This form of public participation is similar to the initiative process to place items on the ballot for a popular vote (Rowe & Frewer 2000). However, unlike the initiative or referendum process, the external MPA arrays were used as starting points for MPA proposals developed by the RSG, rather than selecting proposals by vote (Rowe & Frewer 2000). This approach differs from the other three completed study regions, where the external process developed alongside the RSG process for rounds one and two (S. Airame, personal communication, May 27, 2010).

Although no arrays were submitted by tribal groups alone, tribal representatives contributed to both arrays B and G, which were created by the Mendocino Ocean Community Alliance and Local Interest Work Group, respectively (Mendocino Ocean Community Alliance 2010; Pfeifer *et al* 2010). Tribal contributors to the Array B included: Smith River Rancheria, Hopland Band of Pomo Indians, Trinidad Rancheria, Yurok Tribe, and Noyo River Indian Community (Mendocino Ocean Community Alliance 2010). Tribal Contributors to Array G included: Bear River Tribe, Round Valley Tribe, Potter Valley Tribe, Trinidad Rancheria, and Resighini Tribe (Pfeifer *et al* 2010). Tribal contributions to developing external arrays did not necessarily predict tribal participation in other areas of the process; of the nine tribal groups that participated in developing external arrays, two tribal groups frequently gave public comment. Other tribal groups that frequently gave public comment did not participate in the development of external arrays.

Array proposals C, D, F, and H did not mention any specific tribal contributors, but expressed support for protecting traditional tribal resource use (Nichols *et al* 2010; Walsh and Perkins 2010; Carpenter and Yoakum 2010; Martin 2010). The arrays that tribal groups participated in developing were among those created by broad groups of stakeholders, including local governments, county governments, fishing associations, seafood processors, and conservation groups. In comparison, other arrays were solely developed by fishing associations, or conservation groups.

Through public open houses, meetings, and workshops, community members learned about the goals of the MLPA and how to utilize tools, such as MarineMap software, to design arrays that fulfilled these goals. MarineMap has been utilized throughout the MLPA process and allows members participating in the process as well as the public to design MPAs on a map and offers access to social and ecological data layers. During the first round, eight external proposals were submitted by members of the public. These Round 1 external MPA arrays were evaluated by the SAT, DFG, and DPR, who provided these assessments to the RSG and BRTF (DFG Round 1 2010).

Become a member of the RSG

RSG members were nominated by the public, and the nominees were then selected to serve on the RSG by a set of independent facilitators who attempted to repesent all interests in the region. Criteria to become a member of the RSG included the ability to represent the broadest possible stakeholder interests and work together to successfully complete the project (MLPAI Public Participation 2010). The RSG engaged in negotiated development of recommendations, in which stakeholder representatives reached a consensus on a specific question. In the case of the MLPAI, the consensus regarded MPA size, location, and what uses should be allowed within them. Such negotiations are cost-effective and work best when the resources are available to make a well-informed decision and the task is precisely defined (Rowe & Frewer 2000).

Give public comment, assist with joint fact finding, and participate in open houses

Giving public comment, participating in open houses, and assisting with joint fact finding were all comment-based ways for the general public to participate in the process. Oral public comment was given at meetings, while written public comment could be sent through mail, email, or fax (MLPAI Involvement 2010). Participating in joint fact finding involved providing local knowledge for and commenting on the north coast regional profile. Open houses offered opportunities for the public to provide feedback at various stages of the process, including input on marine resource uses, access, geographic areas, and MPA proposals being considered (MLPAI Public Participation 2010).

Provide data for consideration by the SAT

The public was invited to contribute both spatial data and qualitative descriptions for consideration by the SAT. The form for data submission to the SAT, which was posted on the website, provided an opportunity for anyone to contribute information relevant to the process. Some types of information that may be contributed included data from Geographic Information Systems Software, Google Earth, or other spatial data (Data Submission 2009).

Participate in public informational presentations

Public informational presentations were directed toward specific interest groups in order to ensure that members of the public were informed about the MLPA process and how they could become involved (MLPAI Public Participation 2010). The north coast study region has some limitations based on public access to computers, the internet, and occasionally phone lines (MLPAI Public Participation 2010).

Become a key communicator

Key communicators disseminated outreach and educational materials to the communities of the north coast through pre-existing channels. No tribes and tribal communities on the north coast volunteered to be key communicators.

After the external process (round one) was completed, a north coast RSG was formed and divided into two work groups, Sapphire and Ruby, with similar representation of a broad range of stakeholder interests (NCRSG Working Groups 2010). The group of 33 was divided into two in order to facilitate communication among group members. During this time there was debate about how the issue of tribal resource use should be addressed. Some members of the RSG gave public comment stating that they felt the issue should be solved by the state assembly revising the law rather than the RSG placing MPAs in areas that would not conflict with tribal use. The RSG received guidance from the BRTF that they should work to avoid placing MPAs in areas that conflict with tribal uses (Tribal Guidance 2010), so the RSG, with input from SAT evaluations of external MPA arrays and additional guidance, developed a set of four draft MPA proposals. Each subgroup of the RSG was directed to design one array to meet the preferred science guidelines and another array to meet the minimum science guidelines and accommodate tribal needs (Satie Airamé, personal communication 1/2011). The SAT, DFG, and DPR evaluated these round two draft MPA proposals and provided the results to the BRTF and RSG in July 2010.

In the third and final round of planning, the RSG developed a unified draft MPA proposal for evaluation by the SAT and consideration by the BRTF. The north coast is the only study region thus far to have the RSG agree on a single proposal to forward to the BRTF; other regions have typically submitted multiple proposals to the BRTF. The round 3 proposal included information gathered by this Bren School Group Project to protect tribal use of coastal and marine resources. Any MPAs in which tribal resource use was identified during our meetings with tribal representatives were designated as SMCAs and extractive uses permitted. An aggregated list of permitted resource uses was applied for MPAs for which there was no specific tribal data.

3.8 - Stakeholder involvement and outreach methods

As summarized above, outreach and educational tools to communicate with stakeholders throughout the MLPA process included the MLPAI website and internet-based technologies, print materials, informational meetings, open houses, workshops, study tours and field trips, the RSG, SIG, and key communicators, as well as existing community resources and joint fact finding (MLPAI Public Participation 2010). Press releases were also used for communication with stakeholders and the public. A staff member on the MLPA process served as outreach and education coordinator (MLPAI Contact 2011), meeting with tribal representatives to inform them of developments in the MLPA process (Satie Airamé, personal communication, 11/2010). Official letters from the MLPA Initative were sent to tribal councils and tribal representatives requesting information and participation. Tribal representatives invited BRTF members to

engage in study tours and field trips at tribal gathering areas to learn about tribal use of marine resources and their stake in the MLPA process (Satie Airamé, personal communication, 3/2010).

Much of the literature regarding stakeholder involvement focuses on identifying stakeholders, classifying them, and describing their relationships to one another through stakeholder analysis. Stakeholder analysis is a process that defines social or natural phenomena, individuals, groups, and organizations that are affected by a decision or that can affect the outcome of a decision (Reed *et al* 2009). The drawbacks in identifying stakeholders include how to determine who has a legitimate stake in the issue and who does not, with the risk that some stakeholders may be accidentally omitted (Reed *et al* 2009). There is a range of ways to identify stakeholders, including identification by experts, through written or census data, through the records of events, and through self-selection in response to advertisements (Chevalier & Buckles 2008). Additional stakeholder analysis may have enabled the MLPAI to determine which stakeholders would require extra communication to facilitate their participation.

Once the stakeholders have been identified, analytical categorizations commonly used in the policy and development fields can place the stakeholders into groups. A popular method used in policy development classifies stakeholders into the following categories:

- **Key Players:** Stakeholders who should be actively groomed because they have high interest and influence over a particular phenomenon (Reed *et al* 2009).
- **Context Setters:** Stakeholders who should be monitored and managed because they are highly influential, but have little interest in the process and could be a significant risk (Reed *et al* 2009).
- **Subjects:** Stakeholders who have high interest but low influence, including subjects who are supportive but lack the capacity for impact. They may become influential by forming alliances with other stakeholders. These are marginal stakeholders that should be empowered (Reed *et al* 2009).
- **Crowd:** The public that has little interest of influence over desired outcomes; there is little need to consider them in much detail or engage with them (Reed *et al* 2009).

Tribes and tribal communities would fall under the subjects category in this classification scheme. One of the drawbacks of the analytical categorization method is that it tends to identify and classify the obvious groups and may lead to underrepresentation of marginalized or powerless groups (Reed *et al* 2009). Adequate representation in a public planning process is often a matter of access (National Research Council 2008).

A body of research shows that resources available to the individual, such as level of education, occupation, social status, and available time and money affect the likelihood that a person will participate and will participate influentially (National Research Council 2008). Highly-educated,

wealthy people are more likely to be involved in public planning processes than less educated, lower income people because of the differences in control of politically valuable resources, such as money and a sense of political efficacy (National Research Council 2008).

Difficulties have arisen in environmental planning processes involving Native American tribes because of the differences between biocentric values expressed by tribal representatives and the conflicting values of other stakeholders (Lubell & Leach 2005). In addition, lack of awareness about the importance of sovereignty to tribes make negotiations between tribal and nonnative stakeholders challenging when nonnative stakeholders do not know proper tribal etiquette or understand with whom they should negotiate (Jostad *et al* 1996).

Another way to bridge the culture differences between tribal and nontribal representatives and participants is to focus on relationship-building, first through field trips, social opportunities and storytelling (National Research Council 2008). Considering the history of stakeholders and their communities is important when encouraging participation. Stakeholders' past experiences inform how they respond and interpret the present (Gallardo & Stein 2007). Certain groups' absence from ongoing dialogue in public planning processes can be explained by how they have been treated in public planning processes before (Gallardo & Stein 2007). For example, if a stakeholder group has previously been barred from entering public buildings and participating in public processes, they may not want to go to public buildings to engage in a public planning process (Gallardo & Stein 2007).

4 - Culture and the MLPA

4.1 - Tribal vs. Western philosophies of nature and science

Cultural differences between tribal and western philosophies regarding nature and science contributed to the challenge of engaging tribal members in the process and addressing their interests in proposals for a network of MPAs. Western science has developed over centuries into a systematic investigation into the workings of the environment, using tools such as the scientific method and statistical analyses. With a focus on data and concrete hypotheses, theories, and equations, it is largely quantitative means of interpreting the natural world. Traditional ecological knowledge, on the other hand, is a more holistic accumulation of knowledge stemming from a community's residence in a particular place over a long period of time. It is a collection of experiential and observational knowledge of a specific location passed through generations as a part of that community's culture (Berkes 1998).

Traditional ecological knowledge develops as community members interact with their environment. They observe species and ecological associations and cycles, which informs the development of resource use practices through trial and error (Berkes 1998). Over time, these observations, inferences, and practices become institutionalized into the culture as religious and ethical precepts (Berkes 1998). Unlike western scientific practices, traditional ecological knowledge tends to be more abstract and qualitative in nature. As such, it is often met with skepticism from western scientists: with little to no concrete data to work with, traditional ecological knowledge cannot be easily verified (Berkes 1998; Stevens 1997). Managers may worry that such unproven data might render their conservation efforts less effective. Additionally, incorporation of traditional knowledge into management plans frequently requires institutional changes, which are slow to arrive at best (Stevens 1997).

A major difference between western resource management and that of indigenous communities is exactly who is doing the management. In indigenous cultures, resources are managed by the entire community, occasionally with some oversight from a single person or group such as a shaman or other ritualist (Stevens 1997). Western cultures began that way as well, but as populations grew rapidly, management became a full-time responsibility. Resources became commodities to be exploited for profit rather than subsistence only, and progressive improvements in technology increased profitability. The large scale of modern resource use means that, while professional managers oversee resource harvest and collection, they do not carry out these activities themselves (Berkes 1998).

One of the most telling differences between western and native cultures is exhibited in creation stories. Initial North American settlers were largely European Christians. In the story of Adam and Eve, man is given dominion over nature and the right to exploit resources as he wishes. Native American creation stories, on the other hand, present humans as partners with nature and agents of regeneration with a responsibility to help maintain natural cycles of life and death. Where natives saw nature as an agent of good, western cultures saw it as something to be conquered (Cronon 1996). To a great extent, these contrasting stories reflect how each culture sees its relationship to nature today.

Western civilization has increasingly depersonalized nature over time (Berkes 1998). Urbanization has physically separated modern westerners from nature, while cultural origins have entrenched a philosophy that nature means a complete lack of humans. Yet it is important to remember that a truly untouched habitat does not exist (Stevens 1997). This is not a modern thing: even the untouched wilderness that the first North American settlers claimed to have seen was really one systematically maintained by native tribes (Cronon 1996). In pre-settlement California, for example, southern tribes such as the Kumeyaay used fire as a tool for habitat

management. Periodic burning of chapparal scrubland left behind fertile soils in which to grow plants for food and medicine. Over time, the chapparal would return, overgrow the crops, and start a new cycle of controlled burns and agricultural cultivation (Berkes 1998).

In northern California, tribes used fire to selectively groom vegetation for use in basketry while maintaining fire corridors to prevent uncontrolled burns (Anderson 1999; Berkes 1998). Periodic low-intensity fires reduced the prevalence of insects and disease. Combined with regular pruning, it ensured that smooth, straight branches were available to make baskets, important tools in the tribes' daily lives. The regular burns also benefitted the surrounding ecosystems by promoting increased plant productivity, insect and disease resistance, nutrient cycling, watershed maintenance, and greater biodiversity among both plants and animals (Anderson 1999).

Resource management, particularly the responsibility to ensure long-term resource maintenance, is a theme found throughout indigenous cultures worldwide (Berkes 1998). Still, conservation should not be confused with preservation. Indigenous cultures tend to see themselves as integral parts of the ecosystem, and manage their environments accordingly. Unlike western cultivation of monocultures, indigenous groups typically rely on an ecosystem's sustained biodiversity for survival and their conservation efforts reflect this goal. In their understanding, conservation of biodiversity does not preclude human resource use or habitat modification.

The contrast between indigenous and western philosophies on nature and goals for conservation frequently leads to conflict (Berkes 1998). For example, the Yosemite Valley was discovered by westerners in 1851. A year later, they evicted the resident Ahwahneechee tribe and proceeded to institute a conservation plan that banned the grazing and burning that the Ahwahneechee had carried out, with the intention of preserving the spectacular views across the valley. In 1929, Totuya, the last surviving member of the Ahwahneechee, returned to the valley and remarked that it was neglected and overgrown. During the westerners' tenure as managers, vegetation had grown throughout the valley, uncontrolled by fire or grazing. By preserving every part of the landscape and allowing no "damage" to occur, the western managers had lost the very features they had sought to protect.

This case highlights the differences in management philosophy between westerners and native tribes: where westerners sought to preserve the aesthetics of the Yosemite Valley, the Ahwahneechee sought to maintain it for their sustained use (Cronon 1996). Each goal has its merits, but it is a reminder that managers must constantly evaluate whether their plan of action is truly effective, and whether additional insight from another perspective might be helpful.

Like Western approaches to understanding nature, traditional ecological knowledge also has limitations. Indigenous groups can and do overexploit resources, and may misinterpret natural phenomena as well (Stevens 1997). Throughout history, as each civilization has moved and colonized landscapes, its methods of resource use have evolved. Initial settlers tend to exploit their new environments. Over long periods of time, however, communities develop ways of life that are less damaging, progressing toward a state of minimal impact to the landscape (Berkes 1998; Stevens 1997). In order to survive in a particular place, these communities must develop ways of living sustainably within the limited resources available to them, giving them a strong incentive to manage resources responsibly (Berkes 1998). Such communities develop identities that are heavily linked to the specific locations in which they have developed. In many cases, it is this long-term stewardship of a landscape that can make regions managed by indigenous communities particularly desirable for the establishment of national parks and other protected areas (Stevens 1997).

Frequently, indigenous groups do not wish to share their traditional knowledge. This could be a result of historical interactions between cultures with poor outcomes, or a wish to preserve intellectual property. As traditional knowledge is inextricably woven with cultural identity, a group may wish to keep its knowledge private as a means of conserving its cultural identity. They may also worry that the knowledge, which can include species movement patterns and aggregation points, will be used for profit by others without benefitting the community that created it. In addition, traditional knowledge is highly contextual, so its publication and dissemination can cause it to lose some of its meaning outside of its culture of origin (Berkes 1998).

Western science and resource management have progressed to recognize variability in the natural environment. Where science was once a pursuit of universal truths and concrete laws that would allow users to predict or control nature, western scientists now acknowledge natural unpredictability and beginning to incorporate other methods of study into their work (Berkes 1998).

Indigenous resource management is put into practice through community participation. Because all members of the community rely on the natural resources in their surroundings for survival, all have a stake in resource maintenance and management (Stevens 1997). This responsibility for the region helps give the community a sense of purpose and identity – an important detail to remember when western preservation efforts overlap with native homeland management. Ensuring that indigenous communities are full participants or co-managers when

implementing protected areas respects the traditional wisdom possessed by these groups, as well as their location-specific cultural identities (Berkes 1998; Stevens 1997).

While superficially different, traditional ecological knowledge and western scientific knowledge are truly two sides of the same coin. Where western science can provide specific numbers and details, traditional knowledge can provide context, placing those details into the greater ecological picture. In light of this need for native involvement and the acknowledgement of environmental variations, adaptive management is generally regarded as the best choice for both native and western interests (Berkes 1998; Stevens 1997). Like traditional ecological knowledge, adaptive management represents a more flexible relationship between humans and ecosystems than the prescriptive management traditionally used by westerners. The western culture's detachment from nature can be just as frustrating for indigenous groups as their hesitation to share knowledge can be to western managers. A collaborative effort reflecting the needs of both cultures as equals is an ideal compromise for each group. Thus an appropriate first step in finding common ground between western and native methods of resource management is for each side to reevaluate its concept of what "nature" really is and the role that humans should play within it (Berkes 1998).

4.2 - Case study: Tribal management of salmon populations

Northern California tribes rely heavily on biannual runs of king and coho salmon in coastal rivers as a major part of their diets. The runs provide the tribes with a short period of very high fishing yields for minimal fishing effort. With salmon playing such an important role in their lives, northern California tribes have institutionalized a series of rituals into their cultures that serve to moderate their take of this resource. Along the Smith, Klamath, Trinity, and Eel Rivers, as well as the San Joaquin Delta, tribes such as the Yurok, Karuk, Hupa, Tolowa, Sinkyone, and Cahto carry out rituals honoring the arrival of the salmon run. The first salmon of each run is caught and incorporated into a series of rituals honoring that fish as a regenerating hero making his return. These ceremonies can last for many days, during which time fishing is closed to the tribal community and the salmon swim by unmolested. When the rituals are finally complete, the shaman or other ritualist declares the salmon season open for all. The ritual leaders then guided the tribe in the construction of fish traps and dams, which were then removed after 10 days to prevent conflicts with other tribes farther up the river (Swezey & Heizer 1977).

Salmon rituals in Northern California may have originally been developed as a form of resource management. By allowing the first part of the salmon run to pass without being caught, the tribes ensured that enough fish would be able to spawn and sustain the population. Researchers studying the relationship between tribes and salmon populations have

hypothesized that the salmon harvests kept spawning beds from becoming overcrowded, and the delayed starts ensured that tribes only fished when the salmon supply was at its maximum, minimizing competition and conflict in the first few days of the run when salmon were still relatively scarce (Swezey & Heizer 1977).

Before western colonization, Northern California tribes harvested approximately 15 million pounds of salmon each year (Swezey & Heizer 1977). After suffering severe losses from overfishing, erosion damage to spawning beds, dam construction, and water diversion in the last 150 years, however, salmon runs are now significantly reduced: Northern California populations of coho and king salmon are federally threatened and Central Californian populations are endangered (Good *et al* 2005).

4.3 - Issues of equity and distributional inequality in the tribal context

The MLPA Initiative encouraged stakeholder input through several available channels of communication. At the beginning of the process in each study region, anyone could design MPA arrays and present them for consideration. Throughout the process they could also attend meetings and submit public testimony in person or via phone, letter, or email. The NCRSG had seven tribal representatives and representatives of other major stakeholder groups, including fishermen and environmental groups. A bottom-up, iterative, democratic, and stakeholder-driven process, the MLPA Initiative was designed to ensure that each citizen has an equal opportunity to influence the process. Furthermore, the MLPAI strove to achieve optimal utility, asserting that environmental protection goals should be met with minimal harm and maximum benefit to affected stakeholders.

Allowing everyone to participate in the process, however, does not mean that everyone actively participates or that everyone can exert the same influence on the proceedings given equal participation levels. As Sara Singleton (2009) writes,

> Yet the question of what it means to treat people equally is deeply contested, as ongoing conflicts over affirmative action and reparative justice will attest to. At the very least, the myth of the "level playing field" requires a considerable degree of naiveté concerning the effects of the past on the present. Nonetheless, it is a powerful image, and one for which the particular status of tribes and First Nations presents an inconvenient exception. It is this, I would argue, that partially accounts for the fact that they are often overlooked.

Different stakeholder groups have different legal rights, education levels, and incomes, all of which may significantly impact the participatory process. The difficulty that MLPA staff and this

project encountered in collecting data on tribal use, for example, reflects the discrepancy between how scientists and tribes perceive and steward nature, the tenuous relationship between tribes and the MLPA process, and the lack of research capabilities on the part of many tribes. In addition, it is never possible in natural resource management initiatives to ensure an equal distribution of costs and benefits across and within stakeholder groups. Social, economic, political and legal institutions can skew the impacts of a decision to fall inequitably on certain groups (Singleton 2009). Tribes, for instance, are typically less mobile and more tied to certain locations than other fishermen, so they cannot shift their fishing effort away from a new SMR as easily. Tribal representatives have also expressed their frustration in public comments made throughout the MLPA process that, while they are not responsible for the decline of fish stocks in recent decades, they are forced to radically alter their longstanding connection to certain marine species and areas.

At the core of the conflict between tribes and tribal communities and the MLPA process is the fact that tribes do not see themselves as stakeholders, but rather as a group deserving a unique influence on the outcome of the Initiative (Bacher 2010). Tribes are not a typical stakeholder group because they are not only trying to stake their claim to marine resources, but also their right to harvest in a manner consistent with their traditions. These harvest rights are primarily rooted in their legal claim to sovereignty, but also appeal to principles of aboriginal rights, cultural sensitivity, environmental justice, and respect for traditional ecological knowledge and stewardship.

Although tribal groups do not view themselves as stakeholders, the fact that there are no treaties that outline fishing and gathering rights between tribal groups and the federal government, the lack of explicit mention of tribal sovereignty in the MLPA, and the constraints of California's Fish and Game Code means that tribal members were accommodated administratively in the MLPA process. This project was interested in how tribes participated in avenues available to them in the MLPA process, how their input was incorporated into the network proposals, and what the impacts of incorporating tribal input were for achieving the MLPA goals. Our research questions, the analyses and evaluations used to answer them, and our results are in the sections that follow.

Research Question 1: How did tribes participate in the North Coast MLPA process?

The North Coast MLPAI presented tribal groups with a variety of avenues for participation, which can be evaluated on the basis of their effectiveness at incorporating stakeholders in general, and tribal groups in particular.

The first major point of input in the north coast MLPA process was to develop and submit external MPA arrays. The external MPA array process provided an opportunity for proposers to directly state what arrays would be ideal for their interests and allows them to become involved early in the planning process. Proposal submissions also encouraged the public to be proactive about where they would like to have MPAs placed, rather than reactive to later decisions. However, the external MPA array process may not be an appropriate way for tribal groups to participate in the MLPAI because creating an array of MPAs requires prioritizing some areas over others. Prioritizing different parts of the marine landscape is incompatible with the way tribal groups view the marine ecosystem and their resource use.

Tribes also participated in the north coast process through representation on the RSG. The RSG engaged in a negotiated process to develop MPA network proposals for rounds two and three. In general, the degree to which a stakeholder group's needs are met is heavily dependent on the level of representation it receives. If the representative does not represent the stakeholders well, or represents conflicting or competing interests, the stakeholders will not be able to participate in the process to the same degree as other stakeholders with unified interests and more involved representatives.

The 33 members of the north coast RSG included seven tribal members representing twenty federally recognized tribes and numerous tribal communities. The tribal representatives were expected to represent a range of interests from different tribal groups. However, a tribal representative is only accountable to his or her own tribal council, and will therefore represent that tribe or tribal community first. The RSG's ability to create MPA proposals accommodating tribal uses was further limited by the small number of tribal representatives in the group. RSG members gave public comment to the BRTF during round two of the process, stating that when tribal representatives were unable to attend meetings and offer input on external MPA arrays

and draft MPA proposals, the RSG could not legitimately create accommodate tribal resource use (BRTF Meeting 2010). Because of the responsibility for developing recommendations for MPA network proposals given to representatives of stakeholder groups rather than to the general public, some argue that groups such as the RSG and negotiated development of proposals are not forms of public participation at all (Rowe and Frewer 2000).

Members of tribal groups also participated in the MLPA process by providing input to RSG representatives. Contacting RSG representatives may be a more effective way to influence the MLPAI than submitting public comment because RSG members considered their stakeholders' desires in development of MPA proposals. Such input from RSG members had the potential to be more proactive in creating proposals than reactive to proposals that were already made. Tribal RSG members became active in rounds two and three to influence the size, spacing, and location of MPAs.

Tribal groups could have participated in the north coast MLPA process by submitting either quantitative data or qualitative information to the SAT. The data submission forms request spatial data in ArcMap or Google Earth formats (Data Submission 2009). It is unlikely that members of the general public would have collected this kind of data or would have this kind of information to submit, and tribal groups were not willing to provide data with this level of detail without assurances of confidentiality. Therefore, this kind of participation appears to be limited to nonprofits, academic institutions, and other organizations that have the capacity to create a spatial data set and a willingness to share it with the public. However, the data collected in this group project is similar to the qualitative information requested by the SAT data submission form. The form asks for descriptive information on the north coast ecosystem to incorporate local knowledge into the MLPAI (Information Submission 2009). This descriptive information may be more widely available and less subject to confidentiality concerns among members of the public and tribal groups.

Tribal groups were limited in their ability to participate in the MLPAI due to the limited time frame of the planning process on the north coast. Tribes needed extra time in the planning process so they could discuss MLPA topics at tribal council meetings and bring back the results of those meetings to the MLPAI. Tribal councils generally hold monthly meetings and may not be able to devote their full attention and meeting time to issues regarding the MLPA process. The BRTF meeting on May 17, 2010 exemplified the complications that can occur when working with representatives of tribal councils. The BRTF meeting agenda involved receiving comment on a draft memo from the BRTF to the RSG. The memo was intended to provide guidance on considering tribal issues when creating proposals. A new draft was made available shortly before the BRTF meeting for public comment, but tribal representatives had taken the older,

previously available draft of the document back to their councils for discussion. Several tribal members stated that they were unable to provide comment on the newly revised draft because they were unable to take it back to their council and receive feedback (BRTF Meeting 2010 B).

Individual tribal members participated directly in the MLPAI by providing public comment. While public comment is a widely-used form of public participation in the United States, it does not score well on evaluation criteria for public participation (Rowe & Frewer 2000). Public comment is a reactive, rather than proactive, way to participate in public planning processes. The public often provides comment on events that have already taken place rather than influencing the event before or as it occurs. Public comment is often held during weekday working hours in locations that can be intimidating to the public, such as government buildings (Rowe & Frewer 2000). The hours at which public comment is held may disadvantage low income and minority citizens and may decrease the representativeness of those attending public comment sessions (Rowe & Frewer 2000). Although barriers of access to public comment participation, such as money and time, have decreased due to notice and public comment policies, the costs remain sufficiently high to prevent individual citizens and public interest groups from participating (Yackee & Yackee 2006). Communication at public comment is primarily one-way, without much dialogue and debate (Rowe & Frewer 2000). Finally, determining how public comment affects the outcome of the decision-making process is difficult (Shapiro 2008). When the number of public comments received is large, managers may begin to tally the comments as if they were votes, rather than engaging with the substantive issues brought up in the comments (Shapiro 2008). Public comments make the greatest difference on low salience issues, especially when the commenters are in agreement on a change (Shapiro 2008). Some tribal members used public comment to great effect in the MLPAI. The most effective comments requested specific language or policy changes in the MLPA planning process and guidance documents. Such comments were often given verbally at meetings and were accompanied with written specific policy requests.

This project analyzed these public comments to better understand how this opportunity for input was being utilized and by which groups.

Methods and Results of Public Comment Analysis

All written public comments submitted to the MLPA Initiative were aggregated by MLPAI staff on a weekly basis and posted to the DFG website. The group project members read a total of 564 comments, including general written comments made from the first DFG posting on

November 19, 2009 to the final posting before FGC meeting, dated February 1, 2011, as well as written comments submitted for specific topics such as draft MPA network proposals.

Verbal comments were also reviewed. In compliance with the Bagley-Keene Act, all MLPAI meetings were recorded and those videos posted online for public viewing at cal-span.org. With these videos, all 1,132 verbal public comments made at SAT, RSG, and BRTF meetings were reviewed by group project members.

A number of key elements were recorded by group project members for every written and verbal public comment that was analyzed, including the comment type (written or verbal), venue, date, and the commenter's name and group affiliation. The comment was then coded on the basis of its contents. Reviewers looked for mention of any of 11 general topics in each comment:

- **Procedural disconnect:** Mentions of a disconnect between how the MLPA Initiative wished to proceed and the way tribal groups would prefer to interact with the process. This category did not include criticisms of the original MLPA law.
- **Tribal sovereignty:** Any mention of tribal sovereignty, whether legally recognized or not.
- **DFG exemption precedent:** Mentions of any of five previous exemptions granted by the DFG to tribal groups for resource gathering in freshwater systems: Maidu on the Feather River, Karuk at Ishi Pishi Falls on the Klamath River, Yurok on the Klamath River, Hoopa on the Trinity River, and Pit River on the Fall River (see section 1.9 of the literature review). This category did not include references to the Kashia Pomo tribe or the exemptions granted in fall 2010. This category was included to track the spread of an idea that was known to have surfaced halfway through the MLPA process.
- **Co-management:** Any mention of co-management. This could include comments in favor of or against setting up a co-management plan with the DFG, as well as citation of co-management schemes between other indigenous groups and government agencies in similar situations.
- **History of resource use:** Citation of the history of tribes and their resource use in the north coast region.
- **Cultural importance of resource use:** Citation of the cultural importance of marine resource gathering and use.
- **Anti-tribal comments:** Any comments from people without tribal affiliation expressing anger or resentment toward tribal groups and any special treatment they might be perceived to be receiving.
- **Anti-non-tribal comments:** Any comments from tribal groups expressing anger or resentment toward non-tribal users of marine resources in the north coast region.

- **Reference to a specific MPA or location:** Any comment from tribal members mentioning resource use at a particular site or within a specific proposed MPA. This category was included because public comment was the original method through which the MLPAI intended to receive tribal data and input. Anything offered to the MLPAI through public comment became part of the public record and could be used by the RSG to consider and potentially accommodate tribal needs in MPA planning.
- **Request to be directly involved:** Any request from a tribe or tribal member to be directly involved in the process. This could include participation as part of an MLPAI group or a request for current MLPAI members to travel to tribal territory for further interaction.
- **Specific recommendations for policy change:** Any proposal of specific language that should be added to existing policies, including the MLPA and allowed uses within MPAs.

A single public comment could contain multiple themes and was coded as such. Qualitative graphical analyses of the public comment data were performed on the basis of content, commenter affiliation, and date issued using a database in Microsoft Excel.

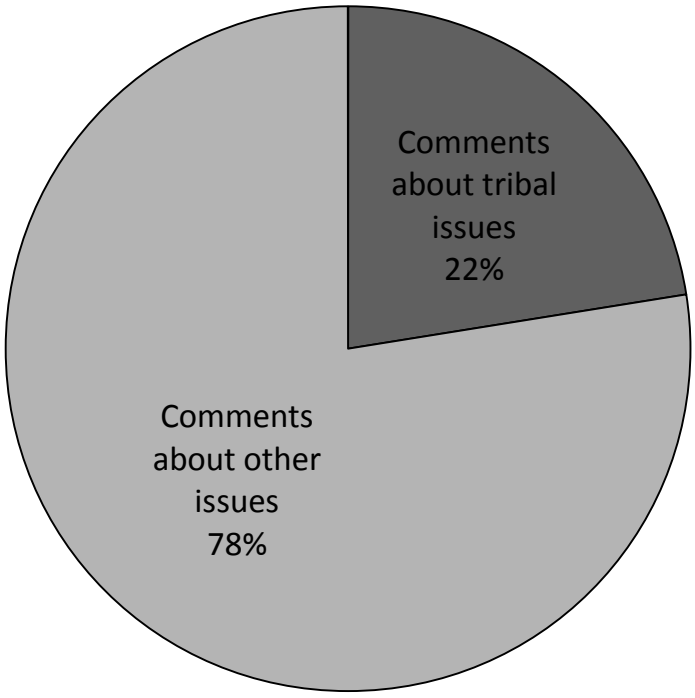

Fig.1 - *Proportion of comments made throughout the MLPA process that addressed tribal issues.*

Of the 1,696 verbal and written public comments made throughout the MLPA process, 22.5% addressed tribal concerns (Fig.1).

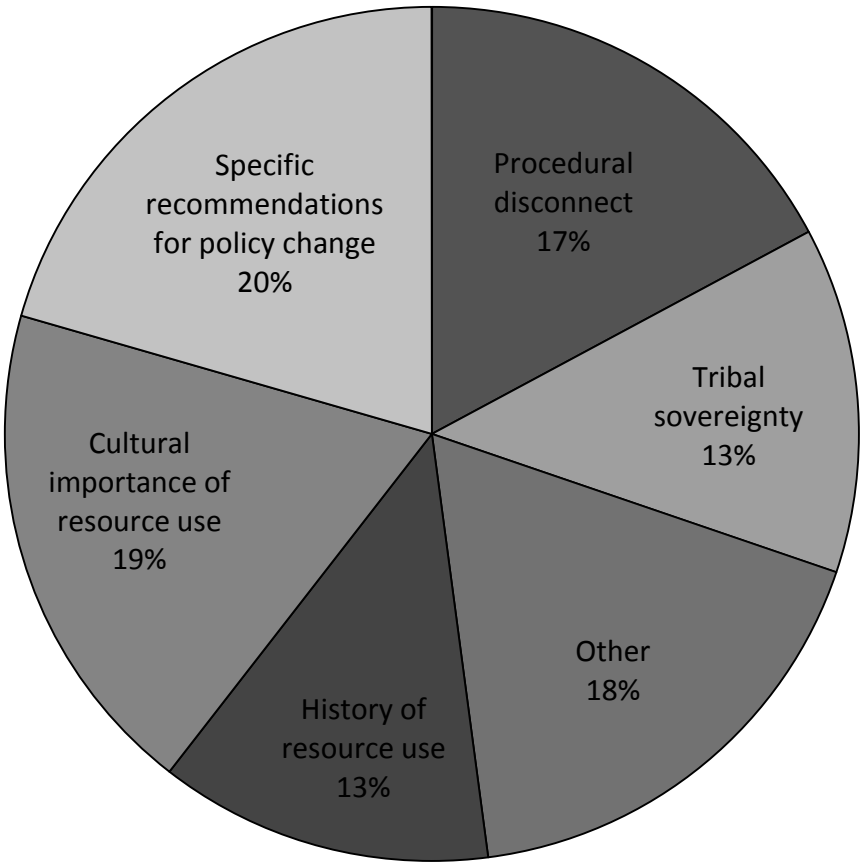

Fig.2 - *Incidence of each topic as a percentage of all tribe-related topics found in written and verbal public comments made throughout the North Coast MLPA process.*

Within this subset of comments about tribal issues, certain topics became dominant (Fig.2). The most common comments included specific recommendations for changes to policy (20%), cultural importance of resource use (19%), and procedural disconnect (17%).

The group project members also analyzed when these 11 study topics were mentioned to determine whether the popularity of certain ideas changed over time. The topic of the precedent of the DFG issuing tribal exemptions for resource gathering was chosen to evalute patterns in the timing of public comments.

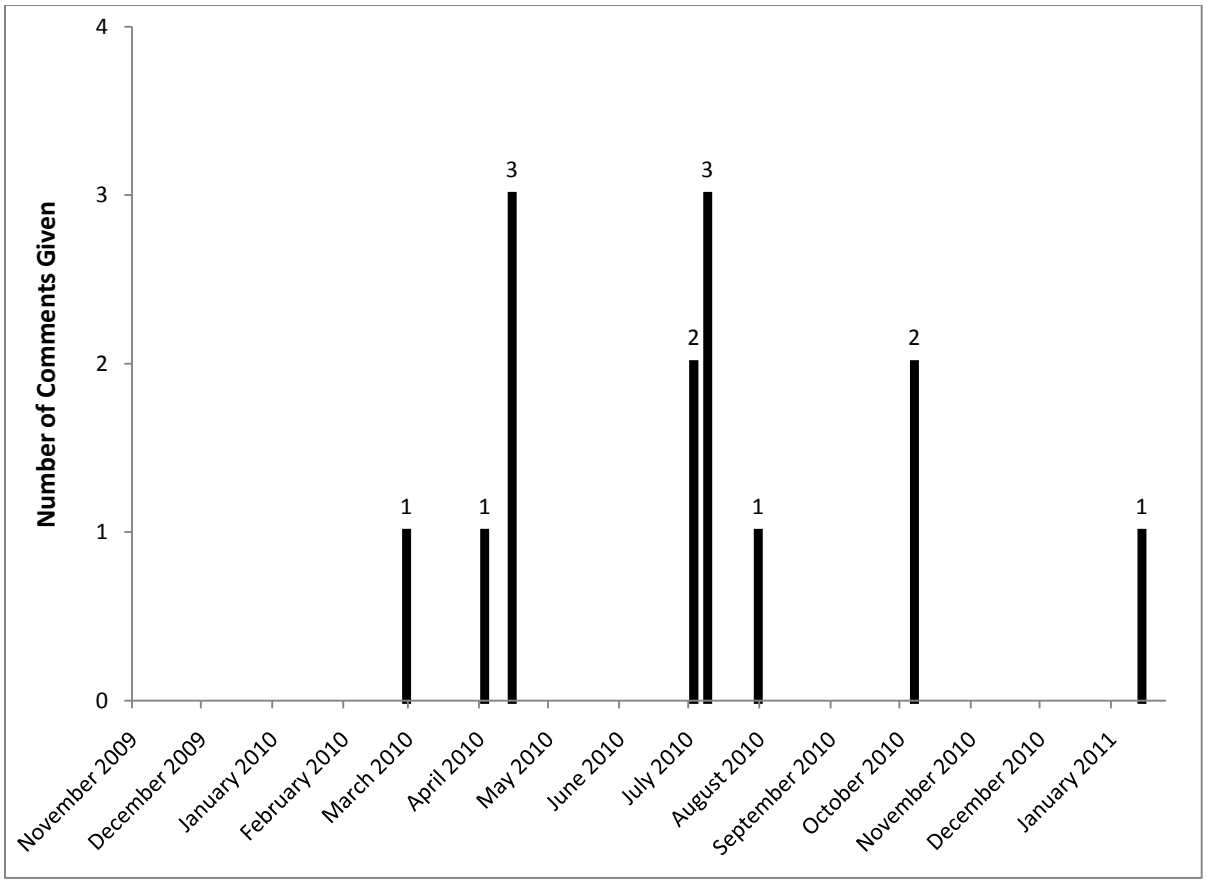

Fig.3 - *Incidence of written and verbal comments citing any of the 5 previous exemptions issued by the DFG to California tribes.*

The discussion of DFG exemptions for tribes remained generally sporadic throughout the MLPA process. The five exemptions were first cited in a single public comment by Benjamin Henthorne, an RSG member and member of the Hopland Band of Pomo Indians, at the March 18, 2010 BRTF meeting (BRTF Meeting 2010). In the following months, the same idea was used in comments by members of the InterTribal Sinkyone Wilderness Council, the Yurok Tribe, and a non-tribal representative of an NGO. The InterTribal Sinkyone Wilderness Council, in particular, made it one of the central arguments in both its written and verbal public comments to the end of the North Coast process: the topic appears in the Council's written comment submitted on the last day of public comment before the transfer of recommendations to the FGC on February 2, 2011.

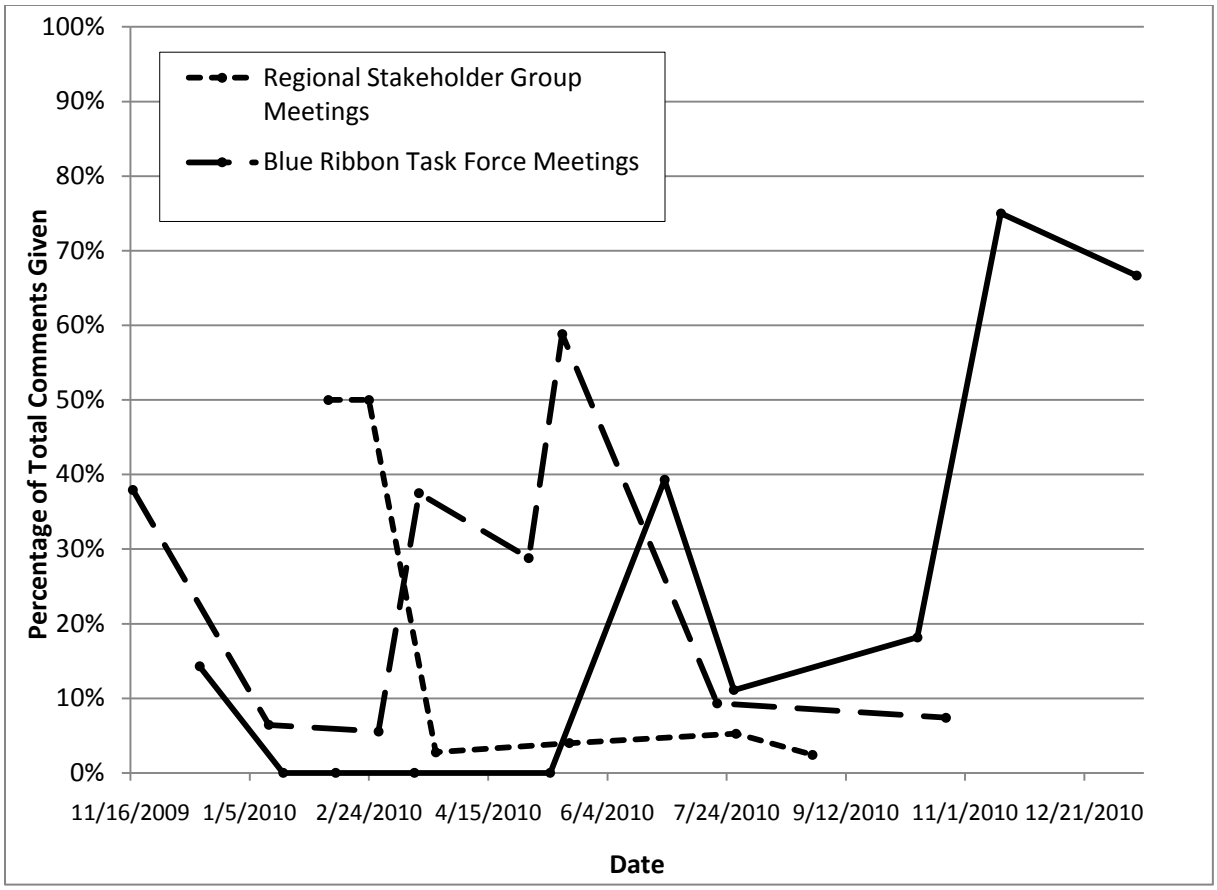

Fig.4 - *Incidence of verbal comments identifying a procedural disconnect between the MLPAI and tribal groups in each of the three venues for verbal public comments as a percentage of all comments given.*

Other comment topics follow interesting temporal trends as well. The presence of a procedural disconnect between the MLPAI and tribal groups was identified in 17% of all tribe-related comments given throughout the MLPA process. When the incidence of this comment was analyzed within narrower parameters, the verbal comment data showed how the popularity of this topic changed in each venue over time. Mention of the procedural disconnect first peaked in RSG meetings, then moved to BRTF meetings, and finally became the dominant topic in SAT meetings.

In addition to understanding what was being said and when, the group project members wanted to know who was giving public comments. The groups of people utilizing public comment as a means of participating in the MLPA process were analyzed by examining the affiliation of each commenter.

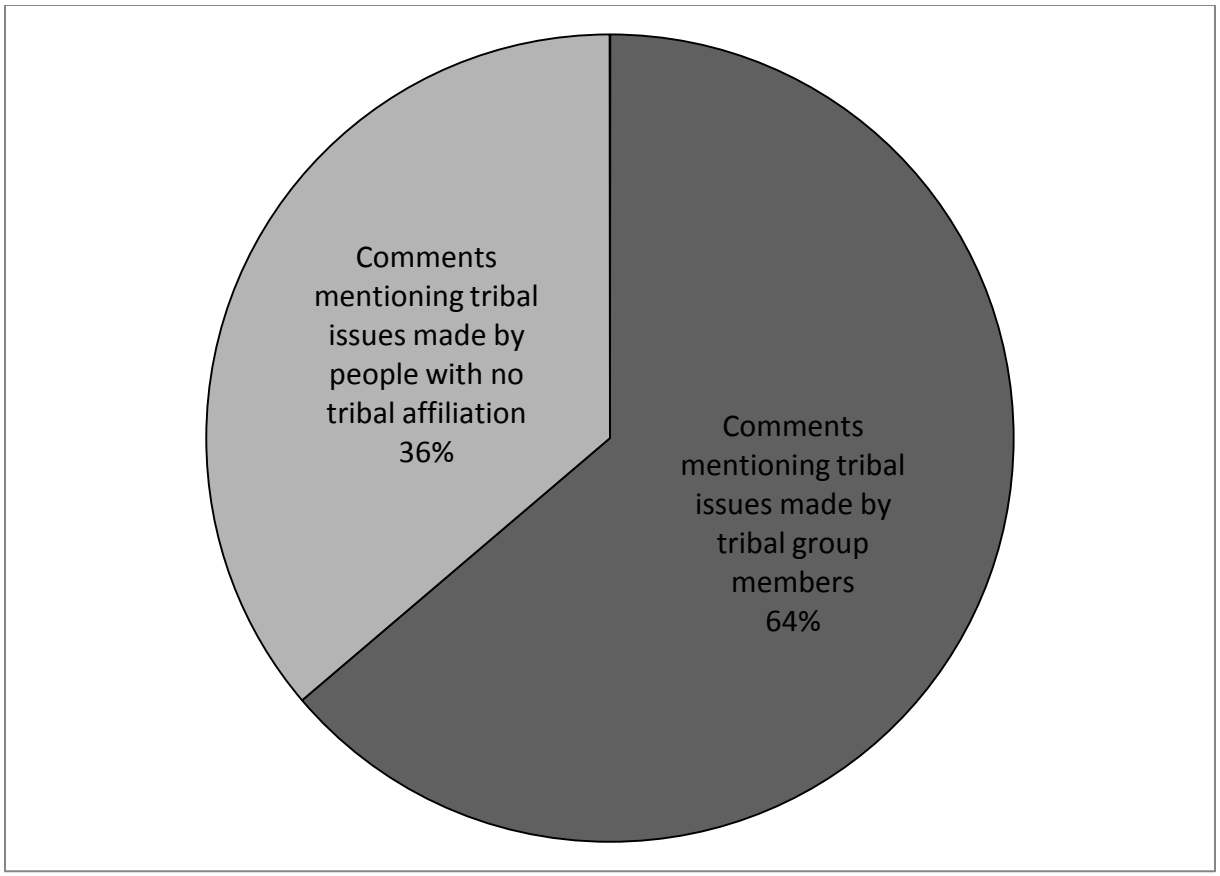

Fig.5 - *Affiliation of commenters making public comments related to tribal issues.*

Predictably, members of tribal groups made a large majority of the comments addressing tribal issues (Fig.5). It is interesting to note, however, that one third of comments about tribal issues were made by people with no tribal affiliation.

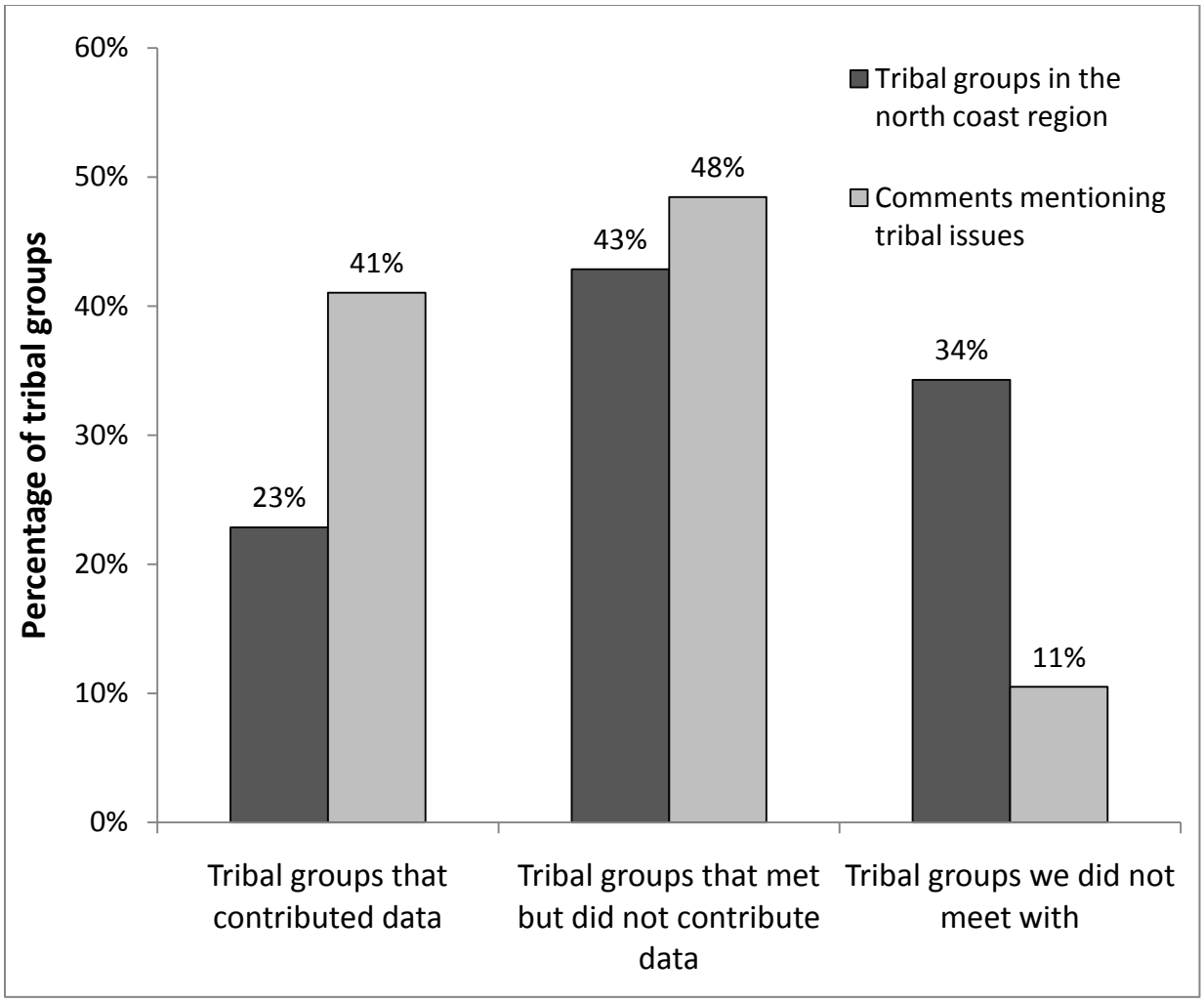

Fig.6 - *A comparison between the proportion of tribes in the North Coast Study Region and the amounts of comments given by tribes in each of three categories: tribes that provided our group with specific data on species and gear types used to gather resources, tribes that met with our group but did not provide specific data, and tribes that did not meet with our group.*

Within the subset of tribal commenters, participation levels varied. As the MLPA process progressed, some groups of tribes proved to be more participatory than others. In Figure 6, the darker bars indicate the proportion of all tribes in the North Coast Region that fall into each of three categories: tribes that provided the group with specific data on species and gear types used to gather resources, tribes that met with the group but did not provide specific data, and tribes that did not meet with the group. Due to concerns related to tribal confidentiality, tribes who provided specific data about species targeted and gear types used to harvest in proposed MPAs cannot be identified. If all tribes participated equally in public comment, the proportion of their public comments would match the darker bars in Figure 6. Instead, the actual rate at which tribes in each category gave public comment is shown in the lighter bars. In comparing the two, tribes that provided the group with specific data were disproportionately more

participatory than those in the other categories. In contrast, tribes that chose not to meet with the group were far less participatory in data submission and public comment than tribes in the other categories.

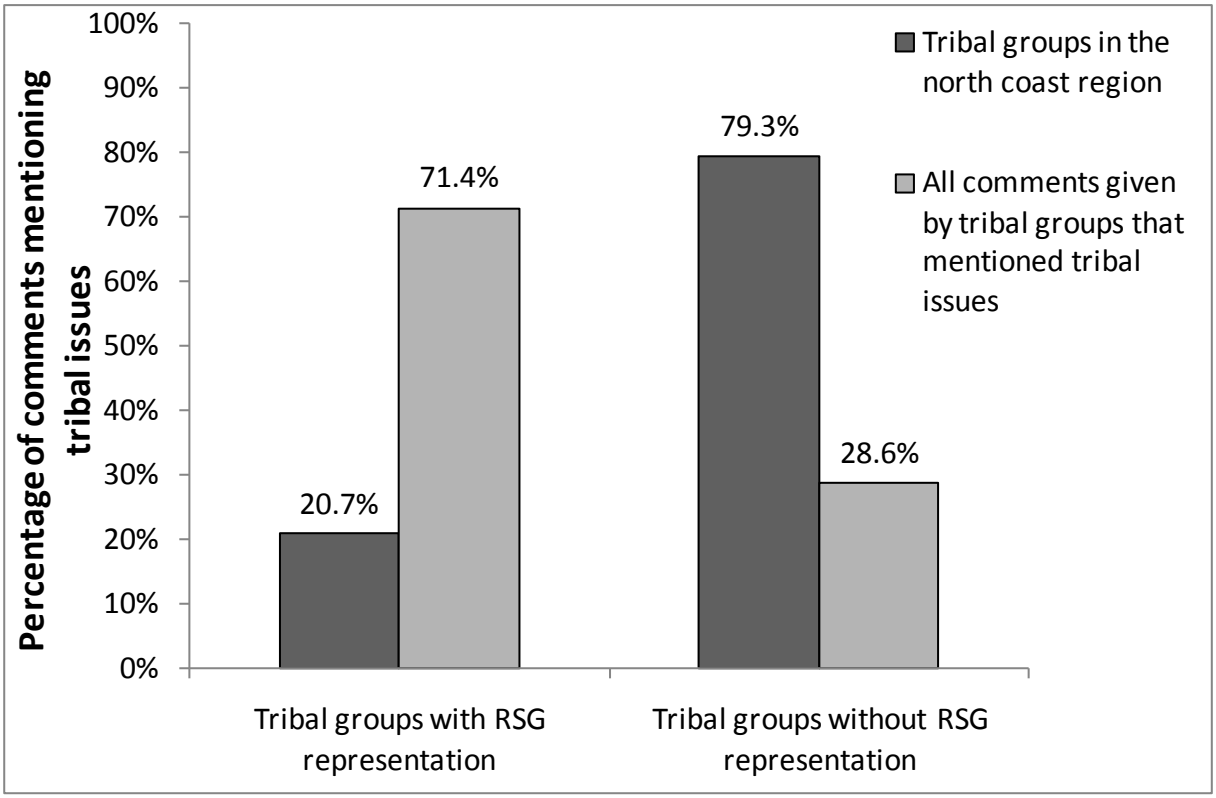

Fig.7 - *A comparison between the participation rates of tribal groups with and without direct RSG representation.*

Members of seven tribal groups served as representatives on the RSG (NCRSG 2010):

- Russ Crabtree, Tribal Administrator, Smith River Rancheria
- Benjamin Henthorne, Environmental Coordinator, Hopland Band of Pomo Indians
- Jacque Hostler, Chief Executive Officer, Trinidad Rancheria
- Megan Rocha, Assistant Self Governance Officer, Yurok Tribe
- Valerie Stanley, representative, Noyo River Indian Community
- Atta Stevenson, member, California Indian Heritage Council, Cahto Tribe of Laytonville Rancheria
- Reweti Wiki, Chief Governmental Officer, Elk Valley Rancheria

The seven tribal groups with direct representation on the RSG constitute just over 20% of the tribal groups in the north coast study region, yet these groups gave over 71% of all comments given throughout the north coast MLPA process (Fig.7). Meanwhile, the remaining 80% of tribal groups in the north coast gave only 28% of all public comments, indicating that direct

representation and involvement in the MLPA process had a large effect on how much these tribal groups chose to participate. In some cases, these seven RSG members gave comments on behalf of their tribal groups, outside of their roles as RSG members.

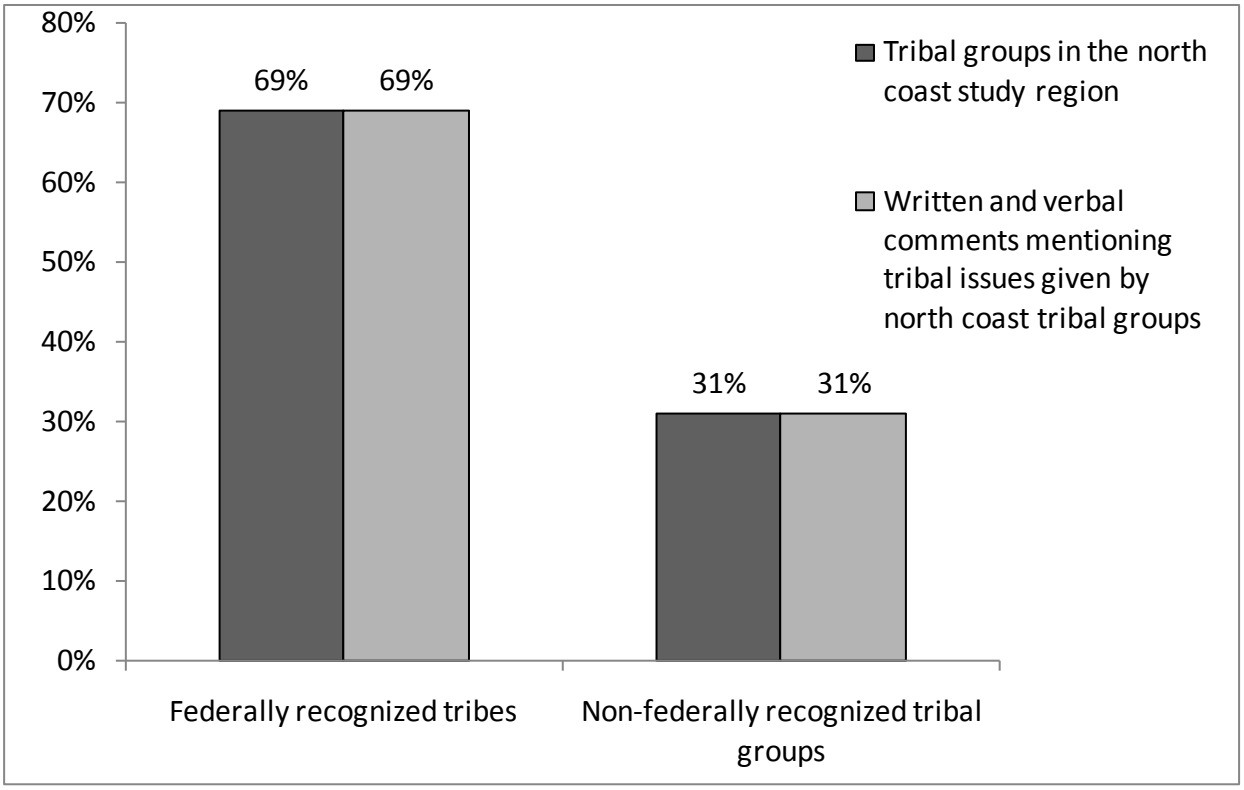

Fig.8 - *North coast tribal groups and their comments, separated according to the groups' federal recognition statuses.*

Surprisingly, participation rates of tribal groups were unaffected by the groups' federal recognition statuses. The proportion of tribal groups in the north coast region with each recognition status exactly matched the proportion of comments given by tribal groups of each recognition status: 69% of north coast tribal groups are federally recognized, and these tribes gave 69% of all tribe-related comments. This indicates that recognition statuses did not affect tribal groups' decisions to participate in the MLPA process.

Methods and Results of Tribal Data Collection

The RSG wanted to design a network of MPAs in the north coast region that did not conflict with traditional tribal gathering practices. The RSG requested information on tribal resource use that they could take into account when designing networks of MPAs for the north coast. If the

placement of MPAs could not avoid areas of traditional tribal gathering, the RSG wanted to allow tribal groups to continue traditional uses in proposed MPAs in order to minimize conflict. The MLPA Inititiative sent contract and DFG staff as well as three Bren group project members to the north coast to meet individually with tribes to provide information about the MLPA process and to try to gather some of the information needed for planning. Due to time and budget limitations, the MLPA Initiative and DFG were limited in their ability to conduct outreach. Without the data provided by the outreach efforts of this group project, the RSG and MLPAI would have been unable to carry out their plan to avoid or minimize impacts to traditional tribal activities.

Type of data needed: As discussed in the background information, under the current DFG Code the take of marine species from MPAs can only be regulated under the categories of commercial or recreational use. Traditional tribal gathering was therefore categorized as recreational use under current law. In order to allow a recreational use within an MPA, the DFG specified which species may be taken using which gear type within that MPA. Accordingly, for the RSG to allow tribal uses within an MPA, they needed to specify each species and gear type associated with that resource use.

Process of Data Collection: To gather the necessary information on tribal marine resource use, MLPA Initiative staff and Bren group project members conducted outreach efforts to tribes and tribal communities from May 20, 2010 to July 23, 2010. This outreach focused on:

1) Understanding the areas of traditional tribal gathering that overlapped with Round 2 MPA network proposals
2) Understanding which species and gear types the tribal groups wanted allowed in MPAs that overlapped with traditional tribal gathering sites

Input on the Round 2 MPA network proposals was solicited from north coast tribes via email, phone, and through in-person meetings conducted with MLPA Initiative staff and Bren group project members. Statistics on tribal outreach can be seen in Appendix 2: Summary Statistics of Outreach Efforts. In all communications, the outreach team offered to travel to the tribal reservations or locations that would be convenient for tribal members to meet. This was intended to accommodate tribal members who wanted to participate but were unable to travel to MLPA meetings.

Meeting approach: In meetings with tribes, MLPA Initiative staff and Bren group project members presented the four Round 2 draft MPA network proposals developed by the RSG subgroups (Sapphire 1, Sapphire 2, Ruby 1, and Ruby 2), explaining the types of MPAs and special closures proposed and answering any questions related to the MLPA planning process. A

data sheet was introduced as one of the possible means for tribes to submit input on the species and gear types they would like allowed in MPAs that overlapped with traditional tribal gathering sites.

Data sheet: The data sheet was developed by Bren group project members in conjunction with MLPA Initiative and DFG staff to facilitate tribal input into the MLPA planning process. In order to allow the take of a species in a MPA, the DFG must identify, at a minimum, the species name and the type(s) of gear used to take the species. The data sheet was designed to facilitate the communication of these two pieces of information. The initial list of species included within the datasheet was drawn from species listed by tribal groups in the *North Coast Regional Profile Appendix E: California Tribes and Tribal Communities*, as well as species that are currently regulated by the DFG in northern California. Appendix E is a document compiled from information submitted directly by tribal groups to the MLPA Initiative as a supplement to the abbreviated information already contained in the north coast regional profile. While Appendix E acted as a primary source for species and gear type data, it was not comprehensive and did not clearly connect the type of species with the gear used.

The data sheet originally included an optional section available for listing the types of tribal take. This version of the data sheet can be seen in Appendix 3: Original Data Sheet. Tribes that reviewed this data sheet found the section specifying the type of take to be too intrusive and therefore offensive, so the section was removed from future versions of the data sheet. The original data sheet also included optional columns for season and level of use. These columns were intended for use by the SAT to help evaluate the level of ecological impact exerted by traditional tribal gathering. Tribes viewed this type of input as being unnecessary and the edited version of the data sheet, seen in Appendix 4: Edited Data Sheet, emphasized that these columns were optional. Photographs of each species listed in the data sheet were added to facilitate communication since tribes often had different names for species.

Confidentiality of Data: It was a primary concern of the tribes and MLPA Initiative that any input submitted by the tribes be kept confidential. To protect confidentiality, any information that was shared by north coast tribes was aggregated by Bren group project members before it was submitted to the MLPA process. In addition, outreach efforts focused only on obtaining information on coastal areas that were within proposed MPA boundaries in the Round 2 network proposals. Tribal groups were not asked to divulge any information on areas that were outside of proposed MPA boundaries.

Data Processing: Bren group project members gathered and aggregated the information submitted by tribes on the round 2 MPA network proposals into a public document organized

by proposed MPA. Aggregated input for each MPA included both detailed information, such as species and gear type, as well as general comments from individual tribal members and tribal councils. In some cases, tribes chose to select a broader category of species, such as invertebrates, instead of listing individual species.

MLPA Initiative staff and Bren group project members were not able to meet with all tribes due to time and financial limitations, and in some cases an unwillingness to meet on the part of tribal groups. Therefore, the MLPAI did not receive tribal input or information for all proposed MPAs. Group project members created an additional species list that was generated from all species listed in Appendix E of the North Coast Regional Profile, as well as any additional species submitted by tribes through the data sheet process. The general list was used to supplement the information gathered for specific MPAs so that traditional tribal uses could be considered by the RSG for all proposed MPAs.

Since the majority of the outreach meetings involved listening to the concerns and opinions expressed by tribes, group project members developed a public document (see Appendix 9: Summary of Input) reflecting the major concerns and themes that emerged from these meetings. This document was created to inform MLPA decision makers and increase awareness of the major concerns of tribal members.

Assessment of Data Gaps: The regional profile of the North Coast Study Region lists 22 federally recognized tribes, 5 Lake County tribes, and 8 federally unrecognized tribes listed from Mendocino, Humboldt, and Del Norte Counties.

Federally Recognized Native American Tribes:

Tolowa Tribe of the Smith River Rancheria
Elk Valley Rancheria
Yurok Tribe
Resighini Rancheria
Big Lagoon Rancheria
Blue Lake Rancheria
Cher-Ae Heights Indian Community of the Trinidad Rancheria
Bear River Band of the Rohnerville Rancheria
Wiyot Tribe
Hoopa Valley Tribe
Manchester Band of Pomo Indians of the Manchester-Point Arena Rancheria
Guidiville Rancheria

InterTribal Sinkyone Wilderness Council:

Cahto Tribe of Laytonville Rancheria
Coyote Valley Band of Pomo Indians
Hopland Band of Pomo Indians
Pinoleville Pomo Nation
Potter Valley Tribe
Redwood Valley Band of Pomo Indians
Robinson Rancheria
Round Valley Indian Tribes (7 confederated tribes: Yuki, Wailaki, Pomo, Little Lake, Nomlacki, Concow, and Pit River)
Scotts Valley Band of Pomo Indians
Sherwood Valley Band of Pomo Indians

Lake County Tribes:

Big Valley Rancheria of Pomo Indians
Elem Indian Colony of Pomo Indians
Habematolel Pomo of Upper Lake
Lower Lake Rancheria
Middletown Rancheria of Pomo Indians

Federally Non-Recognized Native American Tribes:

Tolowa Nation
Melochundum Band of Tolowa
Tsnungwe Council
Tsurai Ancestral Society
Wailaki Community Near Garberville
Yokayo Tribe of Indians
SheBelNa Band of Mendocino Coast Pomo Indians
Noyo River Indian Community

Outreach efforts attempted to provide information and gather input from the majority of these tribal groups. This list was compared with the confidential list of tribes that the outreach team met with to assess whether there were any major groups with which the outreach team was not able to establish person-to-person communication.

Mapping tribal input: ArcGIS was used to generate a map overlaying the four round 2 proposals in order to highlight the three main categories of aggregated information received for each MPA: (1) species/gear type, (2) general comments, and (3) no input. This map visually

represents the diversity of input received from north coast tribes on an MPA-by-MPA basis and illustrates the geographic locations where the data gaps exist. To create this map, shapefiles for the Round 2 network proposals were exported from MarineMap. A geodatabase was then created using ArcCatalog to link the type of input received with the spatial data for the associated MPA. The final shapefiles were uploaded to ArcGIS as datalayers and edited to create maps illustrating the types of input. Data layers for each of the four round 2 draft MPA proposals were overlaid to produce a single map for round 2.

MLPA Initiative Staff and Bren group project members were only able to meet with 23 of the 35 tribal groups listed in the regional profile. Due to issues of tribal confidentiality, this project did not provide a list of those tribes in this report.

During these meetings, tribes provided input specific to species and gear type for 39 of the 69 round 2 proposed MPAs. Additional comments from individual tribal members and tribal councils were received for 17 of the 30 MPAs for which no specific input on species and gear type was received. A summary table of the Round 2 MPAs and the type of input received can be found in Appendix 5: Tribal Input Table. A map highlighting the types of input received for the Round 2 MPAs can be found in Appendix 6: Tribal Input Map.

Aggregated input collected from north coast tribes on the round 2 proposals was developed into public documents and submitted to the BRTF, RSG and SAT, including:

- The list of proposed uses and general comments from individual tribal members and tribal councils by MPA (Appendix 7: Proposed Uses)
- The species list developed for MPAs that did not receive input (Appendix 8: Species List)
- The document of common concerns and themes heard by tribes in outreach meetings (Appendix 9: Summary of Input)

Discussion of Results

Analysis of public comments provided substantial insight into which groups were utilizing opportunities to give public comment. Tribal groups that provided data to this group project were most likely to also make frequent public comment. This implies that tribal participation in any facet of the MLPA process is more a function of that group's general willingness to share information than a preference toward one form of participation or another. Analysis of groups making public comment also helped identify which groups might benefit most from targeted outreach, as those least willing to meet with members of this group project were also least likely to give public comment in any venue. This would indicate that the most efficient use of

DFG and MLPAI resources is in encouraging general tribal participation through whichever avenues seem most appropriate for tribes, with particular outreach effort focused on tribal groups that are otherwise disinterested in participation in the MLPA process. In addition, tribal participation increased dramatically when groups had direct representation in the RSG. Accordingly, future processes may benefit by including representation from each tribal group within the study region.

Direct outreach to north coast tribes by MLPA Initiative staff and Bren group project members provided tribes with an alternate means of participation in the MLPA process, one that is arguably more convenient and accessible to tribal groups than public comment. A majority of the tribes took advantage of this opportunity, using the meetings to have their questions about the MLPA Initiative answered, express their concerns about the process, and provide relevant input. Not all north coast tribes listed in the regional profile agreed to meetings, so a clear gap exists in the direct person-to-person communication. Not all tribes that met during outreach efforts provided input on the round 2 draft MPA proposals, leaving an additional gap in knowledge. Of the tribes that participated in meetings and provided input, the nature of the input varied from very specific to very general, with little consistency in the amount or type of data provided.

Although this data was inconsistent and incomplete, prior to the outreach effort, the RSG had no information on tribal resource use relative to the proposed MPAs. As a result of tribal participation in the outreach effort, the RSG was able to develop their round 3 proposals with better knowledge of major tribal concerns, MPA locations that overlapped with sites of traditional tribal gathering, and types of resource use that tribes wanted allowed within MPAs.

Research Question 2: How was tribal input incorporated into the MPA network proposals?

This project used two different tools, databases and mapping, to track how tribal uses were incorporated into MPA network proposals. Databases created by this project were used to observe how input gathered on tribal uses was incorporated into the round 3 MPA network proposals ultimately given to the FGC for consideration. Mapping tools allowed this project to compare how each proposal accommodates tribes.

Methods and Results of Database Analysis

Three databases were developed to track the type and number of allowed uses requested by tribes and tribal communities and how these uses were incorporated into the MPA network proposals. These databases were later translated into a geodatabase in order to create visual displays of the information using ArcGIS.

Database 1: The first database contained the complete list of marine resources and methods of take submitted by tribes and tribal communities to Bren group project members through the outreach meetings conducted from May 20th, 2010 – July 23rd, 2010. The database included fish, invertebrate, marine aquatic plant, bird, and marine mammal species, in addition to geological resources. Each of these items, when listed in the database, was associated with a method of take. A complete list of the marine resources and methods of take requested by tribes that went into the database is contained within the proposed uses document in Appendix 7: Proposed Uses.

A number of assumptions were made in the creation of this database. When the tribes referred to a larger category of species, each species known in this category to be used by tribes as understood from the data sheet as well as from DFG definitions was listed individually. This tactic was used to ensure the database was inclusive in describing uses by species and gear types and not category of species. The specific assumptions which were made for finfish, marine aquatic plants, and marine invertebrates are outlined in Appendix 10: Database 1 Assumptions. Also, for some species, specifics were listed as well as "other" when the tribe

could not specify all types. In this case, a species "other_species" was created as a placeholder within the database. Recognizing that this placeholder may contain more the one type of species, it was done in a consistent manner for all "other" listed in order to supplement the lack of information. After creation of this database the number of uses proposed by tribes was summed for each MPA.

Database 2: The second database was created to reflect the proposed uses listed in the Revised Round 3 RSG proposal (RNCP). This database contains all uses listed in the descriptions of the RNCP proposed MPAs, categorized in three ways: commercial, recreational (intended for all users), and recreational intended to accommodate traditional tribal uses. Database 2, in contrast to database 1, does not include all uses proposed by tribal groups but only the uses incorporated into the RNCP by the RSG. In particular, species and gear types were not included if they were determined illegal in state waters or not in the marine ecosystem (e.g., freshwater and terrestrial species) by the California Department of Fish and Game (DFG). A complete list of the modifications made by the California DFG to the list of uses proposed by tribes and tribal communities can be found in Appendix 11: Recommended Changes to Proposed Uses.

Database 2 was generated from the proposed allowed uses (take regulations) listed in the "*Description of Marine Protected Areas in the Revised Round 3 NCRSG Proposal document*" dated on November 16, 2010. A section from this document is in Appendix 12: Description Excerpt. In some MPAs, a species group was listed along with the number of species [e.g., greenling (2 species)]. The number of species for each species group was drawn from the "*Proposed Uses from North Coast Tribes and Tribal Communities for Round 2 Draft MPA Proposals,*" dated August 26, 2010 (Appendix 7: Proposed Uses). To determine the exact species referred to by the number associated with it in the take regulations Appendix 7 was referenced in creating the database. If the individual species were not referenced in Appendix 7 then the aggregated species list (Appendix 8: Species List) was applied.

For example, in Appendix 12, Samoa SMCA includes **greenling (2 species) by hook and line** within the recreational take intended to accommodate tribal uses category. Looking to Appendix 7, the 2 species of greenling listed for Samoa SMCA are rock greenling and kelp greenling. Therefore, in the database **greenling (2 species) by hook and line** would be inputted as two separate uses:

1) rock greenling by hook and line
2) kelp greenling by hook and line

As in database 1, some of the MPAs contained a larger species group [e.g., finfish by hook and line]. To correctly reflect the species contained in the larger groups that would be used by

tribes and tribal communities in database 2, each species used by tribes within the larger groups was listed as a separate use. For example, in Appendix 12, Samoa SMCA includes **pelagic finfish by hook and line** within the recreational take intended to accommodate tribal uses category. Looking to Appendix 7, pelagic finfish include barracudas, billfishes, blue shark, dolphinfish, Pacific herring, salmon shark, shortfin mako shark, swordfishes, thresher sharks, tunas and yellowtail. Therefore, in the database, **pelagic finfish by hook and line** was inputted as 11 separate uses:

1) barracudas by hook and line
2) billfishes by hook and line
3) blue shark by hook and line
4) dolphinfish by hook and line
5) Pacific herring by hook and line
6) salmon shark by hook and line
7) shorfin mako shark by hook and line
8) swordfishes by hook and line
9) thresher sharks by hook and line
10) tunas by hook and line
11) yellowtail by hook and line

Database 2 also included a level of protection (LOP) for each species and gear type combination drawn from the "*Draft Methods Used to Evaluate Marine Protected Area Proposals in the MLPA North Coast Study Region*" dated November 17, 2010. As with database 1, a number of assumptions were made in the creation of database 2. In particular, when a species and gear type did not have a clearly associated LOP listed in the Draft Methods evaluation document, assumptions about the LOP were made. The list of assumptions for this database can be found in Appendix 13: Database 2 Assumptions. After creation of database 2, the number of uses proposed by tribes and tribal communities was summed for each MPA.

Database 3: The third database was created to reflect the allowed uses in the Enhanced Compliance Alternative MPA Proposal (ECA). Similar to database 2, database 3 contained all proposed uses listed in the MPA descriptions categorized in three ways: commercial, recreational (intended for all users), and recreational intended to accommodate traditional tribal uses. The same assumptions made in the creation of database 2 were made for database 3. After creation of database 3, the number of uses proposed by tribes and tribal communities was summed for each MPA.

Creation of Maps: Shapefiles for the Round 2 and Round 3 MPA network proposals created by the RSG were exported from MarineMap. A geodatabase then was created using ArcCatalog to

link the total allowed uses in each MPA with the spatial data for the associated MPA. The final shapefiles created were uploaded to ArcGIS as datalayers and edited to create maps visualizing the number of proposed allowed uses in each MPA for each proposal. The data layer of each of the four proposals from Round 2 were overlayed to produce a single map for Round 2. We created separate maps for the RNCP and ECA proposals since they were created by two different groups (RSG and BRTF, respectively). The number of allowed uses for each proposal was scaled for consistency in illustrating more or fewer uses in each MPA across all of the Round 2 and Round 3 proposals.

A table containing the total number of allowed uses requested by tribes for the Round 2 proposals and the total number of allowed tribal uses listed in the Round 3 proposal descriptions for the RNCP and ECA, by MPA, can be found in Appendix 14: Total Allowed Uses.

A map illustrating all the uses proposed by tribes within the Round 2 MPAs from the data gathered throughout the outreach efforts can be found in Appendix 15: Round 2 Maps.

Maps illustrating the allowed uses included in the RNCP can be found in Appendix 16: RNCP Maps.

Methods and Results of External Array Analysis

As described in the preceding literature review, eight external MPA Arrays were submitted by various single and multi-interest groups during round one of the north coast MLPA process. Project members used ESRI's Geographic Information Systems software to compare external MPA arrays that received input from tribes to external MPA arrays created by groups primarily considering economic or conservation goals. We determined how much area, in square miles, within the MPAs in the round one arrays overlapped entirely or in part with area in MPAs in the RNCP, one of the MPA proposals forwarded to the Fish and Game Commission. We compared the three external MPA arrays: Array B developed by the Mendocino Ocean Community Alliance (MOCA), Array D developed by the Northern Redwoods Oceanic Group, and Array F developed by the Albion Harbor Regional Alliance. These MPA arrays were selected to represent: (1) an array created by a wide variety of interests, (2) an array created primarily by conservation interests, and (3) an array created primarily by economic interests, such as fishing and ports. The goal of this analysis was to compare how the different interests fared in the outcome of the RNCP. This analysis compared only the area within proposed MPAs, and assumed that the arrays revealed the ideal placement of MPAs for their proposers.

The tables in Appendix 17: External Array Tables summarize the results of the analysis.

Array B, proposed by MOCA, contained a broad range of individuals and organizations from fishermen to conservationists, and tribal representatives who were interested in the MLPA process (Mendocino Ocean Community Alliance 2010). Despite the broad range of stakeholders involved in the development of Array B, the proposed MPAs were incorporated less than those from the Array D, which was driven primarily by conservation interests. Forty percent of the area placed within MPAs in Array B was selected for MPAs in the RNCP (Appendix 17, Table 1). The RNCP placed 59% of the area in MPAs in places that were not identified in Array B. (Appendix 17, Table 2). Array B had fewer MPAs overall and the size of individual MPAs was smaller than those proposed in the RNCP, so a high percentage of area in the RNCP that was not in Array B.

Array D, submitted by the Northern Redwoods Oceanic Group, was created by first considering the conservation goals of the MLPA, and then seeking to reduce economic impacts created by MPAs (Walsh and Perkins 2010). Project members considered this to be a conservation-based array. The MPAs proposed in Array D were incorporated into the RNCP to a greater extent than MPAs proposed by the other two arrays. However, Array D included the largest amount of area to be placed in MPAs, so there was a greater chance of overlap with the RNCP. Ninety percent of the area within MPAs proposed in Array D also was placed in MPAs in the RNCP (Appendix 17, Table 1). Nine percent of the area in the RNCP was located in places where the Array D did not place MPAs (Appendix 17, Table 2). Of all of the area proposed to be within MPAs in Array D, 32% was not placed within MPAs in the RNCP (Appendix 17, Table 7).

Array F, submitted by the Albion Harbor Regional Alliance, was created by considering the needs of subsistence, sport, and commercial users, and then seeking to meet the science guidelines of the MLPA (Carpenter and Yoakum 2010). Project members considered this to be an economic-based array. Forty percent of the MPAs proposed in Array F overlapped with MPAs in the RNCP (Appendix 17, Table 1). However, fifty nine percent of the area in the RNCP was not proposed as MPAs in Array F (Appendix 17, Table 2). The limited overlap is due in part to the small size of individual MPAs and the smaller area set aside within MPAs in Array F, in comparison to the RNCP.

Determining the amount of overlap between these three round one MPA arrays potentially could reveal areas that were more likely to be included in the RNCP, because all three groups chose them for MPA sites. The percent of overlap between each array and the other two arrays can be seen in Appendix 17, Table 3. Overall, there were 78 square miles of overlap between arrays B, D, and F. However, when the amount of overlap between arrays B, D, F, and the RNCP

were calculated, only 25 square miles from the original arrays were included in the final RNCP. This amounts to only 32 percent of the original area of overlap. The 25 square miles of overlap comprised almost 19% of the RNCP (Appendix 17, Table 6). The dramatic decrease in the inclusion of area originally proposed within MPAs in the round one external MPA arrays indicates that, after the original arrays were proposed, new issues came to light in the RSG process that caused the original overlapping areas to be unsuitable locations for MPAs.

Part of the reason so much of the area within the RNCP was not found within the initial arrays was that the RSG process shifted several proposed MPAs to areas near but not overlapping the original proposed sites. An example is Reading Rock SMR/SMCA. The external arrays developed in round one proposed an MPA at Reading Rock with the northern boundary between three and four miles north of the northern boundary of the MPA by the same name in the RNCP. The MPA was moved south during the RSG negotiation process to accommodate emerging issues that made the requested MPA site unsuitable. Although some shifts in MPA geographies were subtle, this particular shift in location was more dramatic.

Of the MPAs in the RNCP, six MPAs overlapped in part or completely with all three external arrays. The MPA names are listed in Table 5 in Appendix 17. Nine MPAs in the RNCP did not overlap, entirely or in part, with any of the three arrays. These MPA names are listed in Table 5 in Appendix 17. A more detailed breakdown of which MPAs overlapped with each array is provided in Table 4.

In summary, between forty and ninety percent of the area of MPAs in the RNCP overlapped with a round one array (Appendix 17, Table 1). Although there was a great deal of overlap between the three arrays compared here, only 32% of the overlap area was included in the final proposed MPA network, indicating additional negotiation by the RSG to accommodate interests not considered during the first round of planning (Appendix 17, Table 6). The accommodation of these interests resulted in MPAs that were shifted to locations outside of the original areas proposed by the round one arrays. Over half of the area within MPAs in the RNCP was not included in any of the initial arrays, demonstrating that a great deal of negotiation took place. Of the three groups represented by these three arrays, the Northern Redwoods Oceanic Group (Array D) was accommodated most in the RNCP with ninety percent of the area of MPAs in Array D overlapping MPAs in the RNCP. Although 32% of Array D was not included in the RNCP, this percentage is the lowest overlap of the three arrays considered, as seen in Appendix 17, Table 7. The greater accommodation of Array D is in part due to the greater area placed in MPAs by the initial array, in comparison to the other two arrays. The arrays developed by Albion Harbor Interest Group (Array F) and the MOCA (Array B) overlapped less with the RNCP

than the array developed by the Northern Redwoods Oceanic Group (Array D); almost 60% of the area of MPAs in the RNCP was in places where no MPAs were proposed in arrays B and F.

Methods and Results of Proposal Analysis

Group project members completed a proposal analysis comparing the MPA arrays from the MLPA north coast study region forwarded to the Fish and Game Commission (FGC) to determine how and to what extent each proposal accommodated tribal uses. The proposals included; Revised Round 3 North Coast Regional Stakeholder Group (RSG) MPA Proposal (RNCP) and the Blue Ribbon Task Force (BRFT) Enhanced Compliance Alternative (ECA). For the case study examining the InterTribal Sinkyone Wilderness Council's participation the MLPA process, project members reviewed verbal and written public comment submitted by the Council throughout the process.

Tribal input was incorporated into the RNCP and the ECA proposal in the form of allowed uses intended to accommodate tribes as well as specific intent language. In addition, tribal requests made through public comment and tribal participation on the RSG resulted in the strategic placement of MPAs away from major areas of traditional tribal gathering.

Proposed Uses RNCP: In July 2010, the documents of proposed allowed uses requested by north coast tribes and tribal communities and the aggregated species list created by Bren group project members were submitted to the RSG members in to aid them in accommodating tribal uses when creating MPAs. The proposed tribal uses listed by MPA and the aggregated species lists are included in the Appendix 7: Proposed Uses and Appendix 8: Species List.

Although these documents contained a comprehensive list of species gathered and gear types used by the north coast tribes and tribal communities using the best readily available information, not all the species and gear types were allowed when the Round 3 proposal was created. The MLPA Initiative staff worked with the Department of Fish and Game to identify species that were illegal to take under the Fish and Game Code, endangered or considered species of concern. Species and gear types identified as illegal and removed are identified in the Appendix 11: Recommended Changes to Proposed Uses.

Furthermore, as stated in the document provided by the DFG, several other proposed uses intended to accommodate tribes and tribal uses were removed from the RNCP due to legal, enforcement and regulatory issues. These include:

- Commercial harvest methods that are not legal for recreational take,

- Geological resources such as shells, pebbles, sea salt and driftwood, which are not designated as illegal take unless specifically called out and therefore they do not need to be identified in the proposal,
- Marine mammals, which are managed and protected under federal statute and are not regulated under the MLPA process,
- Some birds and their eggs and feathers, which are regulated under other state or federal laws or managed by the FGC through separate regulatory processes and are therefore exempt from the MLPA process, and
- Fresh water species of plants, reptiles and fish, and terrestrial species for which the MLPA process does not apply.

Therefore, when the RNCP was completed, 61 of the 81 species from the total aggregated list were allowed for take and 20 species were removed because they were considered illegal under Fish and Game Code due to the location, species, or method of take.

The RSG members recognize that the issue of tribal uses within MPAs will need to be addressed at a higher decision-making level and intends to accommodate traditional tribal uses. Within this context, the RNCP attempted to respect and minimize infringement of non-commercial subsistence, traditional uses of tribes and tribal communities by proposing allowed species and gear type for each MPA based on the input received by tribes. Guidance was given to the RSG members to avoid tribal use areas wherever possible and design nearshore ribbon SMCAs to accommodate the uses requested by tribes and tribal communities.

This table shows the number of MPAs that of varying designs that were included in the Regional North Coast Proposal. This proposal contains 11 MPAs.

Design Option	**Number of MPAs**	**List of MPAs**
Nearshore/Offshore MPA cluster	2	Reading Rock SMR/SMCA
Entire SMCA	5	Pyramid Point SMCA, Samoa SMCA, Big Flat SMCA, Vizcaino SMCA, Ten Mile Beach SMCA
Estuaries	3	South Humboldt Bay SMRMA, Big River Estuary SMP and Navarro River Estuary SMRMA
Would not accommodate tribal uses until becomes possible under California law to allow exclusive uses	7	Point St. George Reef Offshore SMCA, South Cape Mendocino SMR, Mattole Canyon SMR, Sea Lion Gulch SMR, Ten Mile SMR,

for tribes and tribal communities		Ten Mile SMRMA and Point Cabrillo SMR
Total # of MPAs/SMRMAs	11	

Intent Language: A motion was also approved by the RSG members requesting the BRTF to strongly urge the DFG and FGC to formally adopt a special category of tribal uses within MPAs in order to accommodate traditional take by tribes and tribal communities and recommend co-management. The RSG members propose that the following language be included in the MPA regulations:

> "All California Indian Tribal traditional, non-commercial fishing, gathering, and harvesting for subsistence, ceremonial or stewardship purposes shall be uses that are exercised by the members of California Indian tribes and tribal communities."

In the meantime, the SMCAs proposed to accommodate tribal uses will be open to all non-commercial users.

Proposed Uses ECA: Twelve of the twenty-one MPAs in the ECA include proposed allowed uses intended to accommodate tribal, traditional gathering. These uses were generated from the proposed uses and the aggregated species list documents developed by group project members. Where proposed uses were specifically called out within an MPA, the specific list was used. There was no specific use information gathered for Mattole Canyon, South Cape Mendocino, and Reading rock; therefore the aggregated species list was applied. Additionally, several species and gear types were removed from by the Department of Fish and Game to include only legal marine uses. As a result, the proposed allowed uses meant to accommodate tribal uses do not represent all the species that would fully encompass traditional tribal harvesting. Further restrictions on proposed allowed uses within MPAs have been made in an effort to raise the conservation value of the ECA. The nearshore/offshore cluster design creates 1000ft wide ribbon SMCAs along the shore open to tribal uses paired with offshore SMCAs. The four offshore MPAs in the ECA have been restricted to only those uses that have a moderate-high or above LOP, which further restricts the uses available to tribes and tribal communities. Lastly, there are five SMRs, one SMRMA, and one SMCA that do no list any proposed allowed uses specifically for tribes and tribal communities.

Intent Language: The BRTF forwarded the following intent language drafted and approved by the NCRSG regarding tribes and tribal communities within MPAs to the FGC:

> 'The NCRSG proposes that the following language be included in the MPA regulations: "All California Indian Tribal traditional, non-commercial fishing, gathering, and harvesting for subsistence, ceremonial or stewardship purposes

shall be uses that are exercised by the members of California Indian tribes and tribal communities."'

This language was included in the description of all the MPAs in the ECA.

Co-management options: The BRTF has proposed that the State seek co-management of each MPA with local tribes and tribal communities. Specific tribes have been linked to different MPAs if they had expressed interest in co-management opportunities during outreach and public comment. For example, the Yurok tribe has been listed as a tribe to seek co-management with for the Reading Rock SMR/SMCA complex.

Motions to address tribal issues: Additionally, the BRTF has forwarded several motions regarding tribal issues with the ECA. The first motion specifically addresses tribal uses and includes recommendations to the Fish and Game Commission for further incorporating tribal uses in the North Coast MPA network. The BRTF, acknowledging the difficulties of incorporating tribal uses in the process, recommends that the FGC create a separate category for tribal uses within regulations when the legal authority to do so becomes available. Tribes and tribal communities have been very vocal about the inappropriateness of including tribal uses under recreational regulations. Secondly they forwarded the following language to be included in any MPAs that propose regulations for tribal uses:

> "Members of California Indian tribes and tribal communities shall be allowed to fish, gather and harvest marine resources for traditional, non-commercial subsistence, ceremonial, religious or stewardship purposes."

Lastly, when the legal authority is available, the BRTF recommends the creation of 1000ft wide ribbon SMCAs to be established adjacent to the four coastal SMRs and Vizcaino SMCA with proposed allowed uses limited to traditional, non-commercial tribal gathering. A second BRTF motion reiterates the need to seek co-management of MPAs with sister agencies, including local tribes and tribal communities. This BRTF motion would create four additional nearshore/offshore ribbon cluster MPAs at South Cape Mendocino SMR, Sea Lion Gulch SMR, Skip Wollenberg/Ten Mile SMR, and Point Cabrillo SMR. The nearshore ribbon would include all traditional, non-commercial tribal uses, resulting in a low LOP designation. The offshore MPAs would remain SMRs with no allowed uses, resulting in very high LOP designations. Additionally, the current regulations within Vizcaino SMCA would be restricted to only traditional tribal harvesting. These changes would further incorporate tribal marine resource use into the north coast proposal, opening coastlines that would have been restricted.

Finally, a third motion, adds eulachon and Pacific lamprey as tribal uses in all estuarine MPAs. The addition of eulachon and Pacific lamprey to all estuarine MPAs would further incorporate tribal gathering. Eulachon and Pacific lamprey have been mentioned many times during the

process as traditionally important subsistence species, and both appear on the aggregate list of tribal species. While it may not be a significant change, adding these two species to South Humboldt Bay and Skip Wollenberg/Ten Mile Estuary dropped the LOP from very high to moderate-high.

Case Study: Incorporating Tribal Requests

Tribal requests about the size, placement and boundaries, and uses allowed within MPAs were communicated as requests made by RSG members and through public comment. Of the 31 RSG members, seven were from the following tribes and tribal communities (NCRSG 2010):

- Smith River Rancheria
- Hopland Band of Pomo
- Yurok
- Noyo River Indian Community
- Laytonville Rancheria
- Elk Valley Rancheria
- Trinidad Rancheria

Tribes and tribal communities that had representation within the RSG benefited by guiding the planning process internally to avoid MPAs near their reservations and areas that they gathered marine resources. Those members from tribes and tribal communities that were not represented through a RSG member worked externally with the process by giving public comment and contributing input to the documents compiled by group project members and made available to the RSG and BRTF members.

In general, tribes and tribal communities who participated in public comment and gave specific details regarding locations to avoid and requested to fish certain species with a specific gear type, received accommodations made by the RSG members. Tribes and tribal communities generally spoke only on behalf of their tribe when making specific requests for location, species and gear types. On the other hand, many representatives and members voiced that they were opposed to any infringement of traditional gathering caused by the MLPA process, and made it clear that they would continue to use marine resources as they have done in the past.

The InterTribal Sinkyone Wilderness Council (ISWC) is an example a tribal coalition that made an impact on the process externally regarding MPA placement. The ISWC is a consortium of 10 federally recognized tribes located near Mendocino County and southern Humboldt County (Public Comments 2/19/10). Although they had no representation on the RSG, members of ISWC were engaged throughout the whole process and consistently gave public testimony as well as submitted written comments. Throughout the process, ISWC gave 23 public testimonies and submitted 41 written comments, a total of 64 comments. From the beginning of the north coast process ISWC contributed to the process including:

- Statements and recommendations dealing with tribal issues to the RSG, SAT and BRTF. Topics include legal, policy, science guidelines, public participation, and traditional ecological use.
- Comments regarding the description of ISWC as well as clarification on terminology in the California Tribes and Tribal Communities Appendix to the MLPA Regional Profile of the North Coast Study Region
- Comments on Proposed MPA Proposals for Round 2
- Comments on Proposed MPA Proposals for Round 3

After the Proposed MPA Proposals for Round 2 came out, ISWC gave written and verbal comment recommending the BRTF to remind the RSG members to avoid tribal traditional, non-commercial use areas as a priority during the creation of Round 3 MPA arrays (Public Comments 7/27/10). While asking for tribal resource use as a separate and distinct category, they also brought forward five instances in which the DFG issued regulation granting special fishing rights to California tribes (Public Comments 7/27/10).

Prior to finalization of Round 3 Proposals, ISWC submitted recommendations and modifications to the members of the RSG, BRTF and SAT. The document contained an explanation of conservation rationale underlying the ISWC's proposal, analysis of legal issues regarding traditional tribal uses, and specific comments and suggestions for revisions (Public Comments 8/18/10). The ISWC made comments on 12 proposed MPAs in the southern bioregion. ISWC discussed these 12 MPAs because they are within ancestral and aboriginal territories of the Council's member tribes (Public Comments 8/18/10).

ISWC also reviewed the Round 3 Draft MPA Proposal and submitted comments and recommendations. In this document, ISWC specified five MPAs that are located near the Council and Tribes of Mendocino and Lake Counties. These MPAs include Sea Lion Gulch SMR, Ten Mile SMR, Point Cabrillo SMR, Vizcaino SMCA, and Ten Mile Estuary SMRMA. ISWC requested for the designation of Tribal-only traditional noncommercial nearshore "ribbons" at Sea Lion Gulch SMR, Ten Mile SMR, Point Cabrillo SMR and Viscaino SMCA which would allow for continued use in these areas for tribes and tribal communities (Public Comments 2/10/10).

Ultimately, ISWC's recommendations for the nearshore "ribbons" at the four specified MPAs were forwarded by the BRTF to the FGC. This shows that despite not having representation within the RSG, ISWC was able to impact the process and successfully get their input into the process. Through a strong presence and willingness to work within the process, ISWC is an example of how tribes and tribal communities were integrated into the process, resulting in a satisfactory short term outcome.

Despite the proposal closely tied with ISWC moving forward to the FGC, they continually emphasize the need for a separate and distinct category for tribes and tribal communities as the underlying issue (Public Comments 2/10/10). ISWC reinforces the idea that tribes and tribal communities do not fit under recreational or commercial user groups and have indigenous conservation practices and are defined by characteristics that no other group shares. ISWC asserts that tribal communities and families self-regulate and follow strict guidelines for gathering and harvesting that ensures long-term sustainability of the marine ecosystems (Public Comments 2/10/10). Furthermore, ISWC also address that the designation of Levels of Protection for accommodating tribal use is inaccurate because traditional tribal non-commercial use of marine resources is extremely low-impact. Although ISWC showed appreciation verbally through public comment regarding the proposal, members of the council still emphasize the need for a long term solution to deal with tribes and tribal communities regarding marine resource use.

Discussion of Results

In the Round 2 network proposals developed by the RSG there were no recreational or commercial uses listed that were specifically intended to accommodate traditional tribal gathering, because information was not available at that time. After the outreach effort, a list of proposed uses was generated by this group project to inform the RSG of tribal marine resource use. As a result, both the RNCP and the ECA proposal included a list of recreational uses intended to incorporate tribal gathering. A clipping of these proposals showing an example of these descriptions can be seen in Appendix 12: Description Excerpt. Because a number of the marine resource uses listed by tribes were found illegal or unenforceable by the DFG or this process, those uses were removed from the RSG and BRTF proposal. Therefore, tribes did not receive all the uses they requested in the Round 3 proposals. This is illustrated by the drop in uses as seen in the maps and tables in Appendix 14: Total Allowed Uses, Appendix 15: Round 2 Maps, Appendix 16: RNCP Maps, and Appendix 18: ECA Maps.

Tribal influence grew throughout the MLPA process, and had a strong influence on the final overall design of the north coast network. The importance of protecting tribal heritage appeared in the public design of the round one arrays. There were eight round one arrays that were developed by the public, in particular fishing and conservation groups. The strong public influence in this first round of planning helped to develop initial proposals that these groups could support within the region. Of these eight possible designs, only two had express input from tribes and tribal communities. Both array B and G listed five north coast tribes that had

contributed information and input during the design process. The importance of maintaining tribal uses was included in the narrative rational of 6 of the 8 proposed arrays. However, despite the public interest, tribal uses were not incorporated into the Round Two network proposals designed by the Regional Stakeholder Group. This was due in large part because information, in the specific manner needed, was not available at the time.
Throughout the entire design process, public input was available at MLPAI meetings, via electronic submission online, and at several public meetings held in the region.

Accommodating tribes and tribal communities within the process became a central issue in the MLPA, from the Regional Stakeholder meetings all the way through the Fish and Game Commission during the final stages of the north coast planning process. A large outreach effort was made to tribes and tribal communities in the north coast to gather information needed to accommodate tribal uses within the proposal design. This effort included mail and email, direct meetings with tribes and tribal communities on their tribal land, and follow-up outreach. Therefore, tribal groups had access to the same input methods as the rest of the public as well as special outreach efforts. As a result, tribal requests were incorporated in all of the MPAs included in the round three network proposal. This was accomplished by creating a unique category for these uses listed as recreational uses intended to accommodate tribal uses and included extensive lists of all the uses that had been requested during outreach efforts. This intent language was forwarded with the assumption that when the legal authority was available to regulated tribal groups separately from recreational, that these uses would be allowed for tribal groups only. This can be seen in the description of MPAs in the NCRSG proposal with less than ten uses combined for recreational and commercial proposed and nearly 100 for tribal groups. When comparing both commercial and recreational uses included in the MPAs, it is clear that there was a strong tribal influence.

Research Question 3: What are the implications of incorporating tribal input for MLPA goals and for tribal groups?

Methods and Results of Analysis of MPA Proposals

Group project members completed an analysis comparing the three proposals from the north coast study region forwarded to the Fish and Game Commission (FGC). The three proposals included: Proposal 0 (Existing MPAs), Revised Round 3 North Coast Regional Stakeholder Group (RSG) MPA Proposal (RNCP) and the Blue Ribbon Task Force (BRTF) Enhanced Compliance Alternative (ECA). All three proposals were analyzed to determine how well they met the science guidelines as a result of incorporating tribal input using the Science Advisory Team (SAT) evaluation methods (ref). For each proposal, group project members compared MPA size and spacing, habitat representation and replication in MPAs, and level of protection (LOP) of each MPA. We also examined the implications of including proposed uses intended to accommodate tribe and tribal communities into a network of proposed MPAs for both the MLPA goals and the tribal groups

This section describes the results of our analysis of MPA proposals forwarded to the FGC. The SAT evaluated all proposals based on how well they met size, spacing, and habitat representation and replication guidelines described in the Master Plan (ref). The minimum guidelines necessary, as well as the preferred guidelines recommended by the SAT, for the protection and conservation of marine species, habitats, and ecosystems were developed using the best available science and can be found in the Master Plan and Draft Evaluation Methods (Draft Methods 2011).

Size and Spacing: Sizing of MPAs is critical in accommodating home range size and the movement of individuals between nearshore and offshore habitats and addresses MLPA goals two and six (as seen in the literature review section). The SAT recommended that an MPA extend from shore to offshore in order to protect the full diversity of species and protect the vertical movement of species. The SAT recommended MPAs of at least 9 square miles to

encompass home ranges of many of species that are likely to benefit from MPAs. The spacing evaluation was conducted to assess the potential for movement of young between adjacent MPAs in a network. The distance between adjacent MPAs is estimated as the distance between two protected habitat replicates with moderate-high or above LOPs within MPAs that met the size requirements. The minimum replicate size was estimated as the amount of habitat of each type within an MPA must be able to accommodate 90% of species.

Habitat Replication and Representation: Consideration of habitat protection addresses MLPA goals 1,2,3,4, and 6. The Master Plan guidelines require three to five replicates of each habitat type in each biogeographical region. There are two biogeographical regions in California, north and south of Point Conception. In order for the protected habitat to count as a replicate, the MPA must meet the minimal size guidelines and the habitat inside must be large enough to protect 90% of associated species, a determination recommended by the SAT. In addition, the SAT recognized regional variation within each of four coastal study regions of California and recommended protecting at least one replicate of each habitat type within each of these "bioregions."

Level of Protection designation: The level of protection (LOP) evaluation approximates the protection afforded to species and habitats within MPAs based on the species and gear type. The assignment of LOP to each species and gear type combination considers ecosystem-wide effects. The assignment of LOP to an MPA assumes that the lowest LOP for any species and gear type combination is the overall LOP for that MPA. This assumption does not take into account cumulative ecological effects of multiple uses. The BRTF determined that the MPAs should be considered in science evaluations of size, spacing, habitat replication only if the LOP is very high, high or moderate-high. LOP designations below moderate-high are not considered in these four SAT evaluations, but they are included in the bioeconomic modeling evaluation and evaluations of potential impacts to commercial and recreational fisheries.

Proposal 0

Overview: Proposal 0 is the current networks of MPAs that exists in the north coast consisting of five MPAs and covering 0.3% of the study region. Within the five MPAs, one is designated as a State Marine Reserve (SMR) and four are State Marine Conservation Areas (SMCAs). The allowed gear types for recreational and commercial take are stated in the Fish and Game Code and Title 14, California Code of Regulations and include; hook and line, spear, trap, hand and others.

Proposed Allowed Uses:

There are 12 recreational and 7 commercial uses allowed within the four SMCAs in this proposal. A list of these uses can be found in Appendix 19: Proposal 0 Allowed Uses.

Size and Spacing: Proposal 0 does not meet the size and spacing guidelines. The largest MPA is Punta Gorda SMR which is 2.07 square miles and is 1.6 miles in along shore span. The four SMCAs range from 0.02 square miles to 0.72 square miles in size and 0.2 to 3.0 miles in length. None of the MPAs in this proposal reach the minimum science guideline of 3 square miles in size.

Habitat Replication and Representation: All of the MPAs in Proposal 0 are so small, they are not considered as habitat replicates under the science guidelines. This proposal only offers minimal protections to 5 of the 10 habitat types that were designated as key habitats for conservation by the SAT. Kelp, offshore hard bottom (300-1000m) and soft bottom (30-100m and 100-3000m), and estuaries aren't protected within the existing MPAs in proposal 0.

The following table shows the percentage of each habitat type that is present within the five MPAs in Proposal 0. The four SMCAs are so small, the percentage represents the combined total of all four MPAs.

	Habitat Representation (% present in MPAs)						
MPAs (#)	beaches	rocky shores	rock 0-30m	rock 30-100m	soft 0-30m	unknown	offshore rock
SMR (1)	0	0	3	1	< 2	< 1	0
SMCA (4)	< 1	5	1	0	< 1	< 1	4

Levels of Protection: Regarding levels of protection (LOP), proposal 0 encompasses one MPA with a very high level of protection, covering 0.2% of the study region and four at low level of protection covering 0.1% of the study region.

Revised North Coast MPA Proposal (RNCP)

Overview: As described above, the Revised North Coast Regional Stakeholder Group MPA Proposal (RNCP) was created during Round 3 of the MPA planning process and was considered representative of the diverse interests of the north coast communities and compromises reached to accommodate these various interests by the Regional Stakeholder Group (RSG) members. However, it should be noted that not all of the members of the RSG supported this proposal. The North Coast MPA Proposal submitted to the BRTF for consideration in October 2010 was revised to account for proposed changes from RSG members and recommendations from DFG to remove illegal and infeasible species from the lists of proposed allowed uses

intended to accommodate tribal groups. The RNCP consisted of 17 coastal MPA clusters and four estuarine MPAs covering 134.23 square miles or 13.1% of the study region. If implemented, the proposal would create six State Marine Reserves (SMR), three State Recreational Management Areas (SMRMA), one State Marine Park (SMP), and seven State Marine Conservation Areas (SMCA). All the MPAs combined covered 13.1% of the north coast study region.

Size and Spacing: Based on the size and spacing guidelines, 11 MPAs in the RNCP met the minimum size guidelines and one MPA, Vizcaino SMCA, met the preferred size guidelines at 18.47 square miles. Five MPAs met the science guidelines for clusters along shore length which was between three to six miles. These five MPAs met both requirements and included Point St. George Reef Offshore SMCA, Samoa SMCA, Mattole Canyon SMR, Vizcaino SMCA and Skip Willonberg/Ten Mile SMR. The RNCP comes close to meeting spacing guidelines for three of the twelve key habitats, including hard bottom (30-100 m), hard bottom (100-3000 m), and soft bottom (30-100 m) at a moderate-high or greater LOP.

Habitat Representation and Replication: This proposal captures 10% or more of 7 out of the 12 habitats, including soft bottom, offshore rocks, canyons, hard bottom, intertidal sand or gravel beach, and intertidal rocky shore. The RNCP contains gaps in replication of key habitats, including hard bottom (0-30 m) in the northern bioregion, beaches, soft bottom (30-100 m), and soft and hard bottom (100-3000 m) and estuarine habitats. Due to the natural distribution of habitats in the north coast, it is not possible to reach guidelines for kelp, hard bottom (100-3000m), and soft bottom (100-3000). In the RNCP, the greatest amount of habitat type conserved was hard bottom habitat greater than 200 meters, which covered 42% of the existing hard bottom habitat (>200 m) in the region, however this only represents 0.03mi of habitat. The percentage appears very high because that habitat is so rare within the region and is represented within the proposal. Limitations in availability of certain habitats and ensuring safe access were two main reasons given by RSG members for the gaps in habitat replication.

This table shows the number of habitat replicates in the Revised North Coast Regional Stakeholder Group MPA Proposal (RNCP). Two levels of protection (LOPs) were included (very high and moderate-high) because, as described above, evaluation of MPAs only occurs for those at or above moderate-high LOP and the RNCP did not include any MPAs at high LOP. The SAT did not evaluate MPAs with LOPs lower than moderate-high for size, spacing, and habitat replication.

RNCP Proposal	**Number of Habitat Replicates**	
Habitat	**LOP: Very High**	**LOP: Moderate-High**

beaches	1	1
rocky shores	3	3
kelp	1	1
hard bottom 0-30m	1	1
hard bottom 30-100m	5	6
hard bottom 100-3000m	1	1
soft bottom 0-30m	3	3
soft bottom 30-100m	3	4
soft bottom 100-3000m	1	2
estuaries	1	1

Intent language: Under California state law, traditional tribal uses are classified as recreational uses. The DFG recognized that this is not an appropriate designation for tribal gathering and needs to change, but it would require a change by the CA legislature. Regional Stakeholders Group (RSG) members recommended using the language "intended to accommodate tribal uses" to identify proposed recreational uses as those intended to accommodate traditional tribal uses, as needed, for each proposed MPA (RNCP). Using the recreational classification for tribal uses creates the opportunity for non-tribal people to engage in the allowed uses intended for tribes. Tribes and tribal communities have expressed concern that this will concentrate non-tribal people in tribal gathering areas, and deplete the marine resources they use. Even if non-tribal people do not concentrate in tribal gathering areas, the SAT must assume that the resources will be used to the greatest extent possible under the law. This means that allowed uses intended to accommodate tribes are assumed to be used to the greatest extent possible by the general public of the north coast. The assumption that every non-tribal person will go and engage in tribal uses is unlikely to actually occur, but it is still a concern for tribal groups.

If implemented, this recommendation would apply to any MPA with the language "intended to accommodate tribal uses" and would allow proposed recreational uses intended to accommodate tribal uses for tribal members only, thus preventing the general public from engaging in those uses. The decrease in the number of people who would be able to engage in allowed uses creates the possibility of providing better protection for marine resources in MPAs while ensuring tribal needs are met. The use of intent language would be an effective strategy to incorporate tribes and tribal communities into the MLPA planning process if the State of California chose to give exclusive use to tribes and tribal communities.

Level of Protection: Seven MPAs had a high LOP covering 51.34 square miles or 5% of the north coast study region. One MPA had a moderate-high LOP covering 9.52 square miles or 0.9% of the study region, two MPAs had moderate-low LOP covering 13.82 square miles or 1.3%, and

seven MPAs had low LOP covering 59.56 square miles or 5.8% of the study region. Nine of the 17 MPAs in the RNCP had LOPs below moderate-high and therefore habitats represented within these MPAs did not count toward replication and spacing. The MPAs with LOPs below moderate-high all allowed numerous recreational uses intended to accommodate tribal traditional gathering, which resulted in lower LOP designations as depicted in Appendix 20: Changes to LOP in RNCP. If uses intended to accommodate tribal gathering were removed from the proposal, the LOP designations for 7 of the 17 MPAs in the proposal would increase to moderate-high or above. Despite the gaps in habitat replication, the RNCP did include a backbone of core MPAs that met or exceeds minimum size guidelines with a moderate-high or above LOP.

The RSG's main reasons for falling short of the science guidelines included: (1) the need to accommodate tribal traditional gathering by allowing recreational uses for all users as constrained by the current state law, (2) potential socioeconomic impacts of certain MPAs on communities utilizing the coast, and (3) acknowledgment that some rare habitats could not be included in MPAs without high socioeconomic impacts.

Blue Ribbon Task Force's Enhanced Compliance Alternative (ECA)

Overview: In previous study regions, the BRTF selected or developed a preferred alternative MPA proposal for each region, as guided by the Master Plan. The BRTF forwarded to the FGC the preferred alternative and other MPA proposals developed by the RSG and selected by the BRTF for further consideration. The preferred alternative must include "recommended no-take areas that encompass a representative variety of marine habitat types and communities across a range of depths" (Master Plan). The preferred alternative also must "avoid activities that upset the natural functions within reserves" (Master Plan). In the north coast region, the BRTF elected not to select or create a preferred alternative. Instead, the BRTF forwarded the RNCP developed by the RSG and they forwarded a modified version of the RNCP (known as the Enhanced Compliance Alternative or ECA) to improve compliance with science guidelines and DFG feasibility. The BRTF kept the same MPAs with the same locations from the RNCP and altered designations and proposed allowed uses within the MPAs to increase the LOP in certain areas (mainly offshore). The BRTF used an onshore/offshore cluster design to create nearshore ribbon SMCAs extending from shore to approximately 1,000 feet offshore to accommodate tribal uses, paired with offshore SMCAs with more restrictive uses to achieve a moderate-high or above LOP. The ECA increased the protection of offshore habitats by restricting the uses that are allowed within the offshore MPAs; however, nearshore habitats were not adequately protected.

Size and Spacing: A large portion of the MPAs in the ECA, like the RNCP, fell within the minimum size range of nine to eighteen square miles. The ECA had 10 MPA clusters within the minimum size range, and five MPA clusters that are considered backbone MPAs. The backbone MPAs protect important habitat at a very high level of protection, meet size requirements and provide the network function of the MLPA. Four MPA clusters exhibited the ribbon design, creating four small nearshore SMCAs with low LOPs paired with four offshore MPAs with moderate-high LOPs. This design split the nearshore (0-30 m) habitats into SMCAs with varying LOPs and thus different conservation potentials. The SAT advised that MPAs should extend from shore to offshore in order to ensure connectivity from shallow and deep habitats. The ribbon design may interfere with this function.

Habitat Representation and Replication: The ECA approached the MPA spacing guidelines, with minimal gaps, for 6 of the 12 key habitats [rocky shores, hard bottom (30-100 m), hard bottom (100-3,000 m), soft bottom (30-100 m), soft bottom (100-3,000 m), and marshes]. As noted above for the RNCP, due to the natural distribution of habitats in the north coast, it is not possible to meet spacing guidelines for kelp, hard bottom (100-3,000 m), and soft bottom (100-3,000 m). Replicates of several other habitats, most notably nearshore habitats including beaches, were not protected in the ECA due to the low LOP in the nearshore ribbon SMCAs. The ECA did not include kelp or hard bottom habitat (0-30 m) within the northern bioregion.

Level of Protection: The ECA contained 21 MPAs covering 13.1% of the north coast study region and, of that, 12.3% of the areas in MPAs is of moderate-high LOP or above. The MPA designations are as follows; 6 SMRs, 11 SMCAs with 6 moderate-high LOP or above, 1 SMP, and 3 SMRMAs with 2 moderate-high LOP or above. With the inclusion of recreational uses intended to accommodation tribal traditional gathering within the network proposal, 5 of the 21 MPAs in the ECA were assigned an LOP below moderate high as shown in Appendix 22: Changes to LOP in ECA.

This table indicates the number of habitat replicates in the ECA. Two levels of protection (LOPs) were included (very high and moderate-high) because the BRTF requested evaluation of all MPAs at or above moderate-high LOP and the ECA did not include any MPAs at high LOP. The SAT did not evaluate MPAs with LOPs lower than moderate-high for size, spacing, and habitat replication.

ECA Proposal	**Number of Habitat Replicates**	
Habitat	**LOP: Very High**	**LOP: Moderate-High**
beaches	1	2

rocky shores	3	4
kelp	1	1
Hard bottom 0-30m	1	1
Hard bottom 30-100m	5	6
Hard bottom 100-3000m	1	1
soft bottom 0-30m	3	4
soft bottom 30-100m	3	7
soft bottom 100-3000m	1	4
estuaries	2	2

There were four nearshore ribbon SMCAs within the ECA. The LOP designations within these nearshore ribbon SMCAs were low due to the inclusion of recreational uses intended to accommodate tribal uses. Thus, these nearshore SMCAs did not contribute to the size, spacing, or habitat replication within the ECA. Offshore SMCAs paired with the nearshore SMCAs offered higher LOP because the uses were restricted to only those with a moderate-high or above LOP. As a result the nearshore-offshore SMCA design split the 0-30 meter habitats between two MPAs with different LOPs. As described above, depth dependence is an important component in MPA design. As a result of the ribbon design, the 0-30 m habitats (hard and soft bottom) and kelp were not replicated sufficiently in the ECA. Additionally, the nearshore habitats, including rocky shores and beaches, were not adequately protected nor did they contribute to the overall goals of the MPA network.

Conclusion: Proposal 0, RNCP, and ECA

These three proposals vary in the degree of habitat replication and representation, the degree to which tribal requests were incorporated, and how well they met the goals of the MLPA. Due to the small size, location and minimal fishing restrictions of the MPAs in Proposal 0, tribes and tribal communities are least affected compared to other proposals, however traditional tribal gathering is not expressly included. Proposal 0 represents the business as usual MPA design. The RNCP and the ECA both use the same list of requested uses from tribes and tribal communities; however, with some minor changes in MPA design, they accommodate these uses very differently. The RNCP is more accommodating of tribal requests by applying the list throughout the entire span of an MPA, while the ECA limits the number of allowed uses in the offshore portions of four MPAs. While both proposals fail to significantly protect nearshore habitats, the ECA does increase the protection to the offshore environments.

This table shows the LOP designations by MPA proposal for the north coast study region. The LOP designations played a key role in SAT evaluations including size, spacing, and habitat replication.

	Level of Protection (LOP)					
	Very High	**High**	**Mod-High**	**Moderate**	**Mod-Low**	**Low**
Proposal 0	0	0	0	0	5	0
RNCP Proposal	7	0	1	0	2	7
ECA Proposal	8	0	6	2	1	4

Implications of accommodating traditional tribal gathering for MLPA goals

Levels of Protection: Levels of protection (LOP) were developed by the SAT to help the BRTF and RSG assess the potential contribution of proposed MPAs to meeting the MLPA goals. Because of the constraints of California state law, it was not possible to accommodate traditional tribal gathering in proposed MPAs for members of tribal groups only. As noted in the literature review section above, recreational uses intended to accommodate traditional tribal gathering were proposed by the RSG to ensure that MPAs did not negatively impact cultural, religious and subsistence activities conducted by tribal groups in the north coast.

There were several implications of incorporating a set of recreational uses open to all users in order to accommodate traditional tribal uses in the RNCP and ECA. The first issue was the LOP designations of proposed MPAs. For the RNCP, both nearshore and offshore habitats were included in SMCAs with low LOPs because of the proposed recreational uses open to all users but intended to accommodate traditional tribal uses. For the ECA, due to the nearshore ribbon SMCAs along the coast, the nearshore habitats were left relatively unprotected while restricted uses in the offshore SMCA increased the LOP to moderate-high. Comparing the two proposals, there are 9 MPAs in the RNCP and 5 MPAs in the ECA that are not evaluated as part of the science evaluations of size, spacing and habitat replication and thus these MPAs did not contribute to the proposals' ability to meet the goals of the MLPA. The loss of these MPAs in these basic evaluations resulted in the size and spacing guidelines not being met. Similarly, the habitat replication and representation for key habitat types was not being met. Both proposals included replicates for 10 key habitats; however the ECA had one additional habitat replicate at a very high LOP and 9 additional habitat replicates at a moderate-high LOP. Additionaly, in both the RNCP and ECA, nearshore habitats were not adequately being protected due to the species and gear types proposed for nearshore MPAs. A discussion of the effectiveness of the LOP evaluation in analyzing tribal uses can be found in Appendix 21: LOP Evaluation.

Additional BRTF recommendations for traditional tribal uses

In addition to the changes described in design of the ECA relative to the RNCP, the BRTF also made a recommendation for how to accommodate traditional tribal uses. The recommendation would significantly alter the ability of either MPA proposal to meet the goals of the MLPA. The recommendation was to create additional nearshore ribbon SMCAs adjacent to all coastal SMRs and Vizcaino SMCA that would be open to traditional tribal gathering only. This change would only take place when a mechanism was created to regulate tribal gathering separately from recreational take. This recommendation would apply to any MPA proposal adopted by the Fish and Game Commission.

If the ECA were adopted by the FGC and the BRTF recommendation were implemented, the resulting network of MPAs would significantly reduce the protection for marine habitats in the north coast relative to the ECA. The ECA includes four SMRs that extend from shore to the three mile state water line. These are the only MPAs that would protect the nearshore habitats at a very high LOP. Aside from Reading Rock SMCA (moderate-high LOP), all other coastal MPAs have moderate or lower LOPs, and therefore would offer little ecosystem protection. The coastal and nearshore habitats are often critical breeding and nursery grounds for a variety of species (Methods). The offshore habitat would remain an SMR and therefore have a very high LOP. Although the resulting SMCAs would only be open to traditional gathering by members of tribes and tribal communities (and no other users), there is currently no way to evaluate the effect on the nearshore habitats. Frequency and intensity of harvest for tribal gathering is simply not known. If the tribal uses were permitted the MPAs that were proposed as SMRs, the resulting SMCAs would mean that the MPA network proposed in the ECA would no longer meet replication or spacing guidelines for nearshore habitats. Additionally, with the addition of the BRTF recommendation for tribal uses, the problem of splitting 0-30m habitats increases and could therefore have a large effect on continuity between coastal and offshore habitats.

Implications to tribal groups of accommodating tribal uses

There are several implications to accommodating tribes and tribal communities by giving them a categorical exemption to engage in particular uses in proposed MPAs. First, if the aggregated list of uses were applied to SMCAs, this would allow all recreational users to harvest species on the list because DFG is unable to restrict access based on race. The resulting opportunity for recreational use could potentially result in increased pressure on marine species that are culturally important to tribes and tribal community members.

Another potential issue that could arise from creating a categorical exemption for tribes is that federally recognized tribes may be the only tribal groups that are able to continue harvesting marine resources. Only federally recognized tribes have received exemptions from the DFG in

the past because tribal members easily can prove their federal status through identification cards, facilitating DFG enforcement. Tribal communities do not have tribal governments with which the federal or California state governments can interact. Tribal communities also lack a formal process of enrollment for members of the community. For these reasons, non-federally recognized tribes may be left out of future DFG exemptions.

A possible strategy for tribal communities may be to work closely with the DFG to draft regulations that are specific to tribal needs, including frequency, intensity, and timing of harvest. For instance a regulation could be proposed for the hand harvest of 10 lbs of bull kelp by hand harvest above the holdfast between the dates of June 1-15. This specificity could effectively create a regulation that accommodates tribal take while restricting other users. This mechanism of specificity worked for the Kashia Pomo in getting approval from the Fish and Game Commission to re-open a section of coastline closed by an MPA in the north central coast study region. Building relationships and trust between the DFG and tribes will be critical in making these types of regulations possible.

The placement of MPAs within tribal territories can have a large potential effect on tribes. Unlike commercial and recreational fishers who can move to other fishing grounds, tribes and tribal communities are tied to their land and have specific territories within the north coast. They are unable to move outside of their ancestral territory to engage in marine resource gathering (is there any ref for this). As a result, placing an MPA that does not accommodate tribal uses could create a disproportionately large burden on the tribe in whose territory the MPA is placed.

Discussion of Results

Incorporating tribal uses within the North Coast MPA proposals had many implications to both the goals of the MLPA and to tribes and tribal communities within the region. Tribes and tribal communities were a key driver in the creation, placement, and designation of the network of MPAs within the north coast. Currently, California state law does not regulate tribes separately and, as a result, their cultural, religious and subsistence uses that require harvest of marine resources are regulated under the recreational category. The attempts made by both the RSG and BRTF to incorporate tribal traditional gathering into MPA proposals for the north coast resulted in weakened proposals that did not fully meet the science guidelines nor accomplish the goals of the MLPA.

Tribes and tribal communities have subsisted on the natural resources of the north coast for thousands of years. They have unique relationships and connections to their homeland and

assert that they harvest in responsible and sustainable manners though there is no scientific documentation of this assertion. One problem for tribes is that they no longer harvest marine resources in isolation. Competition with both recreational and commercial fishermen has increased the pressure on marine resources. While many tribes and tribal communities did participate within the MLPA process, they gave minimal guidance in terms of the proposed uses within MPAs beyond species and gear type and many did not share information that could be incorporated in the planning process. Because they are currently regulated under the recreational category, all other recreational users have access to species intended to accommodate tribes, including many culturally important species. Therefore, there is little protection afforded to these species and the habitats that support them, as well as the potential of increased pressure from other recreational users, in MPAs where tribal uses were accommodated, which could result in the decline or loss of these culturally important species to the tribes.

Conclusion

Tribal groups utilized the avenues for participation available to them to influence the placement and size of MPAs, the uses allowed in MPAs, and the creation of intent language to allow for future tribal group-specific regulations. Changing the size and location of MPAs was accomplished by input from tribal members of the RSG. Changing allowed uses within MPAs was accomplished by input from tribes interacting with MLPA staff and project members. Not every use requested was allowed in the proposal; some were removed due to legality and enforcement issues, and the NCRSG and ECA proposal each accommodated tribal uses to different degrees. Intent language highlights tribe-specific uses for future exemptions or regulation under a separate category. The accommodation of tribes in the MPA proposals resulted in proposals that did not fully meet the goals of the act. An administrative or legal structure that was better able to incorporate tribes may reduce the issues faced by the MLPA Initiative when incorporating tribes into the planning process as a stakeholder group.

Many lessons have been learned through this project, interacting with tribal groups and analyzing the effectiveness and implications of accommodating tribal resource use in the MLPA process. Tribal groups are not a typical stakeholder group due in part to their sovereign status and to their strong cultural and spiritual ties to their ancestral territories. Tribal groups had a strong influence on the design of the north coast MPA proposals. In fact, tribal concerns and tribal rights issues dominated the north coast MPA planning process. The lack of an existing mechanism to address these concerns both within the State and in the MLPAI process resulted in proposals that addressed tribal concerns by accommodating all recreational users at the cost of meeting science guidelines and conservation goals of the MLPA.

Lack of an existing mechanism for addressing tribal needs

The majority of issues involving tribal interests in the north coast MLPA Initiative process arose from the lack of an existing mechanism, both within the law and within the Initiative, to address tribal interests and concerns. The State of California lacks a comprehensive approach to incorporating sovereign tribal nations into state laws, programs, and planning processes. Similarly, outreach and consultation to tribal groups in California did not occur when the MLPA was drafted and enacted. Lastly, there is not an adequate category within California Fish and Game Code to regulate tribal gathering, which is currently regulated under recreational uses.

Both the RSG and BRTF felt they did not have the scope or authority to address tribal issues and therefore each group forwarded intent language along with each proposal. Both groups chose to allow the full scope of tribal gathering, as understood from the lists of proposed uses

gathered during outreach, rather than impinge on traditional tribal rights or wait until there was a legislative change to better address tribal gathering rights.

It is important to note, however, that several species were removed from the initial list of uses proposed by tribal groups as a result of legality and enforceability by the DFG. While the tribal group did not get every use they requested, the majority of their requested uses moved forward to the third round of network planning.

Communication issues

Relationship building, trust, and face-to-face communication are integral in the tribal approach. This was apparent during the tribal outreach and data gathering processes. Even when data were not given during meetings with tribal groups, tribal members expressed appreciation for the meetings and the opportunities to have their questions answered. The MLPAI, while a stakeholder driven process, had public comment during public meetings and a series of public open houses as means of 'face-to-face communication' between the public and the participating Initiative groups. At public meetings, members of the public were given several minutes to speak and have their concerns heard if not addressed in regards to the process. At open houses, the public was invited to review materials, ask questions of staff, gather information, and share their ideas. The face-to-face communication proved essential, since little information on tribal gathering was known prior to Round 2. Tribal members repeatedly stressed the need for communication in public comments, but felt that the public comment forum was an inadequate method for communication. They also requested government-to-government interactions as a means of conducting business. Employing innovative methods for public participation, such as study circles or round table discussions, where tribal members have the time and opportunity to fully express their concerns may be a potential avenue for better incorporating this unique interest group. It is important to have a proactive rather than a reactive mechanism in place to address tribal concerns.

Need for scientific information

A significant sticking point in the process was the lack of relevant information on tribal gathering. Outreach efforts focused on the immediate need of the RSG to determine proposed allowed uses in designing the round three MPA proposal. Prior to this, there was little information available on tribal gathering in the north coast as seen in the lack of proposed allowed uses for tribes in rounds one and two. Not all north coast tribal groups listed in the regional profile agreed to meetings with MLPA contract staff and the Bren group project members, and of the tribes that participated and provided information, that information varied from general comments to very specific input. While a few tribal groups gave specific information regarding uses, only species and gear type information was given. Therefore,

frequency, intensity, amount gathered, and duration of harvesting are not known. This information is critical in order to analyze the environmental impact of tribal gathering should they be regulated separately in the future.

Forward thinking

There are several steps that should be taken in both the MLPA and future state processes to ensure sovereign tribal interests are maintained. First, the nature and extent of state relations with tribal groups – particularly non-federally recognized tribal communities – needs to be defined for this and future processes by the state legislature. Second, a mechanism needs to be created to better evaluate the environmental impacts of tribal gathering. This can be done by seeking and encouraging trust building and information sharing between the DFG and tribal groups. Mechanisms to address these as well as additional concerns raised over the course of this project and process can be found in the Recommendations section.

Recommendations

The regional approach to implementing the MLPA is naturally adaptive, as the lessons learned from past regions inform the processes in future regions. In addition, the iterative nature of the three-round process within each region promotes responsiveness to unanticipated needs that arise. Nonetheless, tribal uses had yet to become a dominant issue before the north coast process. Moreover, structural, legal, and financial constraints prevented conflicts from being effectively handled during the process. Therefore, Group Project members' experience working within the MLPA process can offer critical insight into what issues impacted the role that tribes played in the North Coast, and how these issues should be addressed in the future. While the issue of tribal consultation has been explored in reference to numerous other planning initiatives around the U.S. and the world, experience with the MLPAI offers unique lessons due to the large number of tribes and protected areas involved, challenges encountered specific to marine spatial planning, extensive stakeholder involvement, and legal ambiguity of indigenous rights in California (Singleton 2009).

The following recommendations were developed through consultation with Group Project Client and MLPA staff member Satie Airame; additional MLPA staff, particularly those involved in outreach efforts to the tribes; Group Project members' meetings with tribal groups; attendance at MLPA meetings and discussions with attendees; analysis of public comments made during the MLPA process; and a literature review, including MLPA documents.

This Group Project hopes that these recommendations can offer guidance to the DFG as it continues to work with tribal groups in determining an appropriate method for accommodating their marine resource use in the North Coast. In addition, there is a 5-year review of each regional network within which methods for collecting data on tribal uses—knowledge that is critical to striking a proper balance between accommodating tribes and protecting coastal habitats—can be evaluated and improved upon. Finally, these recommendations target other spatial planning processes involving indigenous groups, as they were written to be broadly applicable across a range of planning approaches.

1. Explicitly incorporate tribal consultation (both formal and informal) and requirements to consider tribal use of natural resources into the law establishing guidelines for spatial planning

Issue: Indigenous people are not a typical stakeholder group and bring unique legal, cultural, and sociopolitical elements to participatory planning processes. However, the special status of native peoples around the world is often poorly understood and inadequately accounted for by those managing initiatives to establish protected areas or a broader spatial plan such as the MLPA (Singleton 2009).

Both the MLPA and master plan fail to address tribes separately from stakeholders (AB 993; DFG Code). The MLPA requires that, "The master plan shall be prepared with the advice, assistance, and involvement of participants in the various fisheries and their representatives, marine conservationists, marine scientists, and other interested persons" (AB 993). The law also states that, "[DFG] and [MLPAI staff]…shall take into account relevant information from local communities, and shall solicit comments and advice for the master plan from interested parties" (AB 993). "Interested persons" or "parties" implies that the onus is on everyone else not explicitly mentioned to involve themselves in the process rather than place responsibility for comprehensive involvement of all groups in the hands of DFG and MLPA staff. The 110-page master plan makes one mention of tribes, stating that the regional profile should include "governance aspects of tribal uses if applicable" (DFG Code 2004). Nowhere does it mention that many California tribes and tribal communities, for instance, rely heavily on marine resources and therefore need to be incorporated into the planning framework.

Recommendation: It is crucial, therefore, that native people are explicitly addressed in all legal documents that guide the implementation of management plans which may impact such indigenous communities. These considerations should include both direct impacts (e.g. restricting their harvest of a natural resource) and indirect ones (e.g. concentrating commercial fishermen in areas that they gather from), and should not omit consideration for non-consumptive cultural, religious, and symbolic uses.

2. The relevant government entity (e.g. national, state, county) involved in planning should issue an official statement declaring its legal authority and stance on indigenous rights

Issue: Throughout the MLPA process and other spatial planning processes in the U.S., tribes argue that they have an inherent right to utilize natural resources even when laws exist that restrict the use of such resources (by all users) (Singleton 2009). Indigenous, or aboriginal, rights are closely tied to the issue of tribal sovereignty, in that tribes' claims to be independent nations are largely based on the idea that they were the original inhabitants of their land and have claims to its resources that pre-date U.S. legal code. Where treaties or similar agreements between tribes and the federal government were established, tribes retain indigenous rights

not specifically ceded (Utter 2001). This precedent was established in the 1905 landmark Supreme Court case *U.S. v Winans* and has generally been upheld in the courts. However, aboriginal rights have historically been extremely difficult for tribes to lay legal claim to without such agreements (Utter 2001). Because treaties between California tribes and the federal government were never ratified, there is a fundamental divergence between tribes and the state on what tribal uses cannot be encroached upon (Field 1999).

Recommendation: Due to the complex nature of state and tribal relations, the state should establish on paper what it has in practice: that tribes may be sovereign and deserving of special status and consideration in natural resource use conflicts, but that they do NOT have an automatic claim to such uses (except those on reservations) that override state government actions. MLPA decision makers attempted to address the unique status of tribal groups through the creation of a second category of recreational users that are intended to accommodate tribes. However, the feasibility of this approach depends on future legal change that would allow the DFG to restrict certain uses only to tribes. Therefore, by eliminating the ambiguous status of aboriginal rights, the state would be able to redirect such issues to the legislature or courts rather than have to inadequately address it in spatial planning processes.

3. Develop a formal state-tribal or DFG-tribal consultation process

Issue: Senate Bill 18 (SB 18) mandated that California establish tribal consultation guidelines for local (cities and counties)-to-tribal interactions, which they did in 2005. However, there is no equivalent state-tribal consultation mandate. It is uncertain whether comprehensive state guidelines, agency-specific guidelines, or a combination of the two would be most effective. Sonke Mastrup, Deputy Director of the DFG, asserted the need for a formal consultation process to be established between the DFG and tribes (BRTF Agenda 2010).

Recommendation: Regardless of the format, such guidelines would undoubtedly have helped emphasize the critical need for outreach earlier on in the MLPA process, as well as helped streamline and structure outreach efforts, particularly for those who lack expertise in such matters.

4. Pursue a hybrid approach to tribal representation within the planning process that acknowledges tribes' reliance on natural resources while recognizing their sovereign status

Issue: Tribal sovereignty differentiates tribes from other stakeholders in that tribes claim an inalienable *right* to utilize marine resources while other groups merely claim an *interest* in

doing so (Singleton 2009). Throughout the MLPA process, tribes resisted being labeled as stakeholders, even though they clearly have a stake in where MPAs are sited and which types of uses are allowed within them. Like commercial and recreational fishermen, tribes are mainly concerned with being able to continue to harvest what they would like and where they would like (even if some of them support the overall mission of the MLPA).

In contrast, state parks are not a typical stakeholder, as they are concerned with ensuring that MPA placement and regulations are consistent with its mission and feasible to enforce. In the North Central Coast, however, state parks were originally on the RSG but were later shifted to the level of the DFG because they were seen as having a more narrow interest that would better be served in an oversight capacity. Providing tribes with a similar role as an advisor whose approval of stakeholder proceedings is sought after would help recognize tribal sovereignty.

Recommendation: Due to the fact that tribes are both users of marine resources as well as sovereign nations, a hybrid approach might best accommodate their unique status. For instance, tribal representatives could remain on the RSG but also meet with the BRTF, DFG, and SAT regularly, both to receive and share information about MPA proposals. This setup would formalize their input as critical to the process progressing, rather than it moving forward as tribes attempt to influence it. Furthermore, institutionalizing such a role for tribes would bring them one step closer to being recognized as possessing co-management authority, however informally, over marine resources. **All of the** MPAs in the two networks that the BRTF forwarded to the FGC contain language proposing that co-management opportunities with particular tribes be explored. This would involve an individual tribe that gathers extensively near the proposed mpa in deciding which uses are recommended to the FGC for that mpa. Creating a system of formalized mpa-specific co-management rights with particular tribes and an informal co-management structure with all of the tribes may help respect tribal sovereignty without requiring major legal changes or sacrificing the conservation objectives of the entire network.

5. Determine how best to represent and structure the variety of tribal interests within the stakeholder process

Issue: Placing 7 tribal members on the 33-person RSG represented substantial progress toward recognizing the critical importance of tribal participation in the MLPA process. In the previous region, the South Coast, there were only 2 tribes on the 64-member RSG. Even though there are more tribes with traditional lands adjacent to the coast in the north coast than the south

coast, additional tribal representation in the north coast reflects the MLPA's staff's desire to better incorporate tribes as much as it does their prominence in this region.

However, the issue of tribal representation on the RSG continued to be an issue throughout the process. At the heart of this conflict is the fact that tribes do not conceive other tribes as fully representing their interests. They may band together when it is advantageous to do so, but they also have separate interests and values that they want formally recognized. Two major tribes in the north coast in particular repeatedly made it known to MLPA staff that they believed it unjust that they failed to receive an NCRSG seat.

Recommendation: Existing alliances between tribes should be taken advantage of to help alleviate this problem. The Intertribal Sinkyone Wilderness Council, for instance, represents 10 tribes but did not receive a seat on the NCRSG. In addition, because it is unrealistic to give every tribe an NCSRSG seat, MLPA staff should seek to design a separate process that would allow tribes to participate in selecting tribal RSG members (although final say would likely continue to rest with MLPA staff). This approach would allow all tribes to take part selecting tribal RSG representatives and increase the likelihood that they would feel as if their interests are well represented. This process would also build relationships among tribes (something that is generally lacking throughout California), and help identify tribal representatives who would represent interests beyond those of their own tribe.

It also might be beneficial to extend these tribal meetings beyond the RSG selection process. Tribes not on the RSG did indeed feel alienated from proceedings, as no formal procedure was in place for keeping all tribes involved. From our analysis of public comments, there is evidence that tribal groups with representation on the RSG submitted proportionally more comments than those without RSG seats. Thus, such a process would encourage sustained cohesion among tribes and promote accountability on the part of tribal RSG members to the rest of the tribes (Konisky & Beierle 2001).

A similar approach was used for commercial fishermen in the south coast, which was successful in promoting unity and cooperation among previously fractious recreational fishing groups. Fishermen on the RSG reported back on meetings to this separate group, which was managed by a professional facilitator, allowing them to stay involved. One drawback to this approach is that it may have led the fishermen on the RSG to compromise less than they would otherwise, due to the pressure of representing a wide variety of fishing interests (Beierle & Konisky 1999).

6. Develop a method of analysis to better reflect the impact of tribal uses, and collect field data on tribal use to support this new approach

Issue: Within the MLPA's LOP analysis, there is no way to quantify differences in *how* a particular species is harvested with a particular gear type. This blurs the distinction between methods of take that use the same gear type in different ways. For instance, several tribes testified in their public comments to practice sustainable harvest methods, such as using rotational harvesting, or removing kelp in such a manner that would allow it to regenerate. There is also the issue of scale—many tribal uses may be practiced by only a few users. However, there is no way to apply this method of analysis without better data on tribal use.

Recommendation: Instituting a long-term monitoring program will allow information on tribal take along with direct measurements of ecosystem characteristics and species data to be collected.

7. Improve the outreach process

Issue: Tribal outreach was more extensive in the North Coast than in other regions. Outreach to tribes began in late August 2009 at a tribal informational session, 6 months before the first RSG meeting. Thereafter, tribes were engaged through the creation of an SAT tribal work group that allowed them to interact with SAT members throughout the process; the placement of 7 tribes on the RSG; permitting individual tribes to compile information they thought relevant to include in the "Tribes and Tribal Community Appendix" in the North Coast Regional Profile; a meeting with the DFG attended by 80 tribe members; our project's work over the summer that consisted of over 30 meetings with 20 tribes; and hundreds of phone calls, emails, and letters, as well as in-person informal conversations, throughout the ongoing process (Summary of Outreach 2011).

While substantial, it is likely that more effective outreach efforts could have built more trust between those working on the MLPA process and tribes. Tribes may have been reluctant to share information with our project and MLPA staff because they did not feel certain that the information would be used respectfully and mindfully of tribal interests. There is undeniably a level of distrust built up over hundreds of years that no outreach could alleviate, but there is certainly room for improvement. If nothing else, a more extensive outreach effort would help differentiate information that is considered absolutely confidential and information that tribes would be happy to share if they trusted project personnel.

Recommendation: While outreach efforts should be context specific, below are two rules of thumb that can help guide further outreach with California tribes as well as indigenous communities elsewhere:

a. The earlier outreach efforts can begin the better—It became evident that there was a mismatch between the pace of the process and the pace with which tribes were able or willing to engage with MLPA staff. Giving the tribes an extended timeline to understand the full extent of the planning process, what information is needed from them, how they can further their interests and protect their confidentiality may create a more participatory and trusting core of tribal representatives that can act as key contacts as the process goes forward. Stronger relationships could lead to better information gathering by, for instance, allowing project staff to make contact with those most knowledgeable about particular resource uses. Earlier outreach would also bring conflicts to light earlier in the planning process when there is greater flexibility. Outreach efforts should be comprehensive, targeting all tribal groups even if some show little interest in the planning process and/or are difficult to establish contacts with.
b. Outreach personnel should be committed to long-term, consistent engagement with tribes and be vested with authority by decision-makers—Tribes typically place great weight on the development of personal relationships. They take pride in their identity and are inextricably linked to the land of their ancestors, creating continuity between generations in time and space that builds close personal bonds (Marashio 1982). At the same time, tribes' long-standing battle to realize their sovereignty fuels their demand to engage top-level government officials in negotiations. Therefore, individuals whom tribes perceive as sufficiently influential should conduct outreach efforts, while at the same time are available to develop close relationships with key tribal contacts. Crucial to building this trust is first developing relationships before explicitly pursuing project-specific goals. Once tribal members trust their outreach contact, then they will be more receptive to information that might otherwise be viewed suspiciously or simply disregarded.

8. Develop a formalized approach to accommodating uses and/or systems of co-management by tribes that are not federally recognized without undermining conservation goals

Issue: Only federally recognized tribes have been included in the exemptions that have been made to DFG code in order to accommodate tribal marine resource use. However the DFG elects to accommodate tribes in the North Coast, it is likely that this standard will be upheld. It is much more straightforward to identify federally recognized tribal members than anyone who associates to varying degrees with particular tribes. Yet by excluding non-federally recognized tribal uses from exemptions, the state is still risking alienating these communities by banning cultural and religious gathering practices that may nonetheless be illegally continued and lack a monitoring component.

Recommendation: One tactic that might prove fruitful in such conflicts is to avoid placing MPAs in areas used by non-federally recognized tribes (to the extent possible) and utilize exemptions for tribes that are federally recognized. This would help account for all tribal gathering while still allowing for MPAs to be established in areas with federally recognized tribes.

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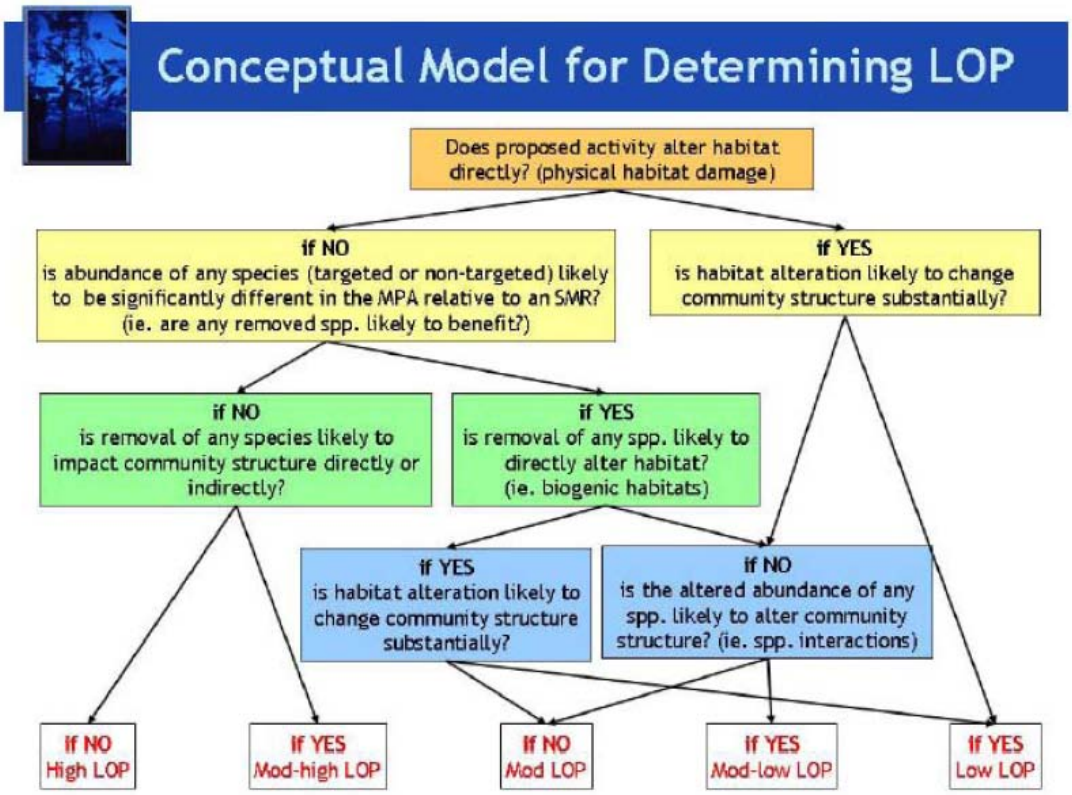
Appendices

A-1: LOP Decision Tree
A-2: Summary Statistics of Outreach Efforts
A-3: Original Data Sheet
A-4: Edited Data Sheet
A-5: Tribal Input Table
A-6: Tribal Input Map
A-7: Proposed Uses
A-8: Species List
A-9: Summary of Input
A-10: Database 1 Assumptions
A-11: Recommended Changes to Proposed Uses
A-12: Description Excerpt
A-13: Database 2 Assumptions
A-14: Total Allowed Uses
A-15: Round 2 Maps
A-16: RNCP Maps
A-17: External Array Tables
A-18: ECA Maps
A-19: Proposal 0 Allowed Uses
A-20: Changes to Levels of Protection in RNCP
A-21: LOP Evaluation
A-22: Changes to Levels of Protection in ECA

A-1: LOP Decision Tree



(MLPA Initiative Staff 2009)

A-2: Summary Statistics of Outreach Efforts

California Marine Life Protection Act Initiative
Summary Statistics of Outreach Effort to North Coast Tribes and Tribal Communities
DRAFT August 18, 2010

This document summarizes the outreach effort of Marine Life Protection Act (MLPA) Initiative staff to north coast tribes and tribal communities from April – July 2010, regarding Round 2 draft marine protected area (MPA) proposals developed for the MLPA North Coast project.

Type of Outreach	**Amount**
Number of hard copy invitations sent by US mail to tribes and tribal communities inviting them to meet with MLPA Initiative staff	32 (letter dated April 2, 2010), 37 (letter dated May 28, 2010)
Number of email invitations sent	All members on the tribal listserve: 22 tribes and tribal communities
Total number of tribes and tribal communities contacted	32
Total number of tribes and tribal communities who met with us	20
Number of in-person meetings with tribes and tribal communities, and the dates of and times spent in each meeting	21 Total Meetings: 5/21: Meeting 1 (2.5hrs), Meeting 2 (3hrs) 6/15: Meeting 3 (4hrs) 6/16: Meeting 4 (2 hrs), Meeting 5 (2.5hrs) 6/28: Meeting 6 (2hrs) 6/29: Meeting 7 (2 hrs) 6/30: Meeting 8 (1 hr) 7/1: Meeting 9 (1hr), Meeting 10 (1.5hrs) 7/6: Meeting 11 (3hrs) 7/7: Meeting 12 (2.5hrs), Meeting 13 (.5 hrs) 7/8: Meeting 14 (2hrs), Meeting 15 (2hrs) 7/9: Meeting 16 (2hrs), Meeting 17 (2hrs) 7/20: Meeting 18 (2 hrs) 7/21: Meeting 19 (1hr) 7/23: Meeting 20 (3hrs), Meeting 21 (2 hrs)
Number of emails and letters to tribes/communities to clarify	139

meeting date, time, or other request	
Number of phone calls to tribes/tribal communities to set up meeting date, time, or other request	141
Additional communication	21 thank you letters

A-3: Original Data Sheet

Marine Life Protection Act Initiative

Data Sheet for Submitting Input from California Tribes and Tribal Communities Regarding Allowed Uses for North Coast Round 2 Draft Marine Protected Areas Proposals

June 7, 2010

The Marine Life Protection Act (MLPA) North Coast Regional Stakeholder Group (NCRSG) has developed four draft marine protected area (MPA) proposals for the MLPA North Coast Study Region (California-Oregon border to Alder Creek near Point Arena). Further information about the MLPA Initiative, including maps and supporting documentation for the four Round 2 draft MPA proposals, are available online at http://www.dfg.ca.gov/mlpa/northcoast.asp or on CD or in print by contacting the MLPA Initiative office (MLPAOffice@resources.ca.gov or 916-654-1885).

To further inform the north coast MPA planning process, the MLPA Initiative is seeking input from California tribes and tribal communities about the Round 2 draft MPA proposals; this input will be used in developing the next and final round of MPA proposals for the north coast. The attached data sheet is provided to help facilitate your tribe or tribal community's input regarding the Round 2 MPA proposals and for suggesting allowed uses in those proposed MPAs.

Confidentiality of Information

To protect confidentiality, information that you share with the MLPA Initiative will be aggregated with all information shared by other north coast California tribes and tribal communities. Before any aggregated information is shared, MLPA Initiative staff will provide you with the opportunity to review your information that was documented to ensure its accuracy. After the input from California tribes and tribal communities has been aggregated to protect confidentiality, you may retain the original data sheets for your records. Information specific to your tribe or tribal community will not be forwarded to the NCRSG, MLPA Master Plan Science Advisory Team, MLPA Blue Ribbon Task Force, or the public unless you specifically request that this information be distributed to these groups.

Submitting Input on the Draft MPA Proposals

You may find it useful to provide input in person by meeting in June or July 2010 with MLPA Initiative Science and Planning Advisor Satie Airamé and a member of the staff of the California Department of Fish and Game to discuss the Round 2 draft MPA proposals. Alternately, you may choose to submit your input directly to Satie Airamé by email or regular mail. As noted above, input submitted directly to Satie Airamé will be aggregated with all input shared by north coast tribes and tribal communities to protect confidentiality.

Contact: Satie Airamé, MLPA Initiative Science and Planning Advisor
Email: airame@msi.ucsb.edu
Phone: 805-893-3387
Mailing Address: Satie Airamé, Marine Science Institute, University of California, Santa Barbara, CA 93106-6150

A-3: Original Data Sheet

General comments about Round 2 draft MPA proposals or the MLPA Initiative may be submitted by email to MLPAcomments@resources.ca.gov or by standard mail to MLPA Initiative, c/o California Natural Resources Agency, 1416 Ninth Street, Suite 1311, Sacramento, CA 95814. Please note that comments submitted by email to MLPAcomments@resources.ca.gov or by mail to the MLPA Initiative in Sacramento are not confidential and are shared with the public.

Where to Find and How to Interpret the Round 2 Draft Marine Protected Area Proposals

Round 2 draft MPA proposals developed by the NCRSG are posted online at:

- http://www.dfg.ca.gov/mlpa/northcoast.asp (MLPA website)
- http://northcoast.marinemap.org/ (MarineMap website)

There are four Round 2 draft MPA proposals (Ruby 1, Ruby 2, Sapphire 1 and Sapphire 2), named for the NCRSG work groups that drafted these proposals. There are multiple, individual MPAs proposed within each of the four Round 2 draft MPA proposals (for example, Pyramid State Marine Conservation Area, Big River Estuary State Marine Park, and Mattole Canyon State Marine Reserve).

Three types of MPAs are considered under the MLPA:

- State marine reserves (SMRs): Prohibit all take
- State marine parks (SMPs): Allow some recreational take
- State marine conservation areas (SMCAs): Allow some commercial and/or recreational take

In addition, two other state managed area classifications are being used by the NCRSG in the north coast:

- State marine recreational management area (SMRMA): Used to allow hunting in an area that would otherwise be an SMR
- Special closure: Used to limit human disturbance of important breeding, roosting or haulout sites for marine birds or mammals

Where take is allowed in an area, the NCRSG must propose a specific list of species that may be gathered or harvested and gear types that may be used in these activities. To review proposed allowed uses for a particular MPA, there is a supporting document (see “description of MPAs”) and maps on the MLPA Initiative website or, in MarineMap, click on the “attributes” of a proposed MPA.

A-3: Original Data Sheet

How to Complete the Attached Data Sheet

The attached data sheet is intended to help facilitate your tribe or tribal community's input on the Round 2 draft MPA proposals; in this data sheet you can identify for each MPA, what uses you would like the NCRSG to consider allowing in its final MPA proposals, including take of biological, geological and other natural resources,.

Step 1: Please identify the MPA that is (or the set of MPAs that are) intended for the proposed allowed uses on this data sheet. Please fill out a separate data sheet for each MPA (or group of MPAs) for which you would like to propose a unique set of allowed uses.

Step 2: Please identify the tribe or tribal community name and contact information (email and/or phone) so that staff can follow up with you, as needed, to confirm your suggestions for allowed uses and to return the original data sheet to you.

Step 3: Please check the species or resources that you would like to allow to be harvested or gathered in the MPA(s) identified in Step 1. Species are identified by common names and photographs or drawings.

Step 4: Please identify the gear type(s) used to harvest or gather each species or resource that you would like to see harvested or gathered in the MPA(s) specified in Steps 1 and 2. Gear type is one of the key elements of regulations for MPAs and the proposed activity cannot be permitted without information about gear type.

Step 5: Please identify the type of take being suggested, including commercial (COM), recreational (REC), subsistence (SUB), cultural (CUL), ceremonial (CER), historical (HIST) or other (OTH) type of take. Other types of take may include bartering, spiritual, health, medicinal, tools, etc.

Step 6 (optional): If appropriate, please identify the season or time of year when the activity occurs. Seasonality may be included in regulations to limit the overall annual effort of the harvest or gathering activity. Season includes summer (SUM), fall (FAL), winter (WIN) and spring (SPR), as well as specific months of the year (Jan, Feb, Mar, etc.).

Step 7 (optional): If known, please describe the level of use on a scale of 1 to 5, where a "1" describes a minimal take of the species in the MPA(s) identified in Step 1 and a "5" describes substantial take of the species. If known, the level of use may help the SAT determine the level of protection for each MPA.

Timeframe for Submitting Comments

Your input will be most helpful if submitted by **July 23, 2010**. If you have questions about or would like to schedule a meeting to discuss the Round 2 draft MPA proposals, please contact Satie Airamé at airame@msi.ucsb.edu or 805-893-3387.

Thank you in advance! Your input is greatly appreciated and will help shape the final NCRSG MPA proposals.

A-3: Original Data Sheet

A-3: Original Data Sheet

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Date:_____

Tribe/Tribal Community Name:_____

Contact Information (Name, Phone, and Email or Mailing Address):_____

_____

MPA Name(s):_____

_____

MPA Proposal (check all that apply) ☐ Ruby 1 ☐ Ruby 2 ☐ Sapphire 1 ☐ Sapphire 2

Species: GROUNDFISH		Gear Type	Type of Take	Season	Level of Use: 1-5
☐ lingcod		☐ spear fishing ☐ hook and line ☐ other gear:			
☐ rockfish (includes many species; photo is one example)		☐ spear fishing ☐ hook and line ☐ other gear:			
☐ Pacific staghorn sculpin :		☐ gear:			
☐ cabezon		☐ hook and line ☐ spear fishing ☐ other gear:			
☐ kelp greenling		☐ spearfishing ☐ hook and line ☐ other gear:			
☐ rock greenling		☐ spearfishing ☐ hook and line ☐ other gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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Species: GROUNDFISH	Gear Type	Type of Take	Season	Level of Use: 1-5
☐ white sturgeon 	☐ hook and line			
☐ green sturgeon 	☐ hook and line			
☐ longjaw mudsucker 	☐ baited trap ☐ other gear:			
☐ other groundfish:	☐ gear:			
☐ other groundfish:	☐ gear:			
☐ other groundfish:	☐ gear:			

Species: EELS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐ Pacific lamprey 	☐ hand ☐ hook ☐ dipnet ☐ spear ☐ bow and arrow ☐ other gear:			
☐ California moray eel 	☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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	Species: EELS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	wolf eel 	☐ gear:			
☐	monkey face prickleback 	☐ gear:			
☐	other eels:	☐ gear:			
☐	other eels:	☐ gear:			
☐	other eels:	☐ gear:			

	Species: FLATFISH	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	California halibut 	☐ hook and line ☐ other gear:			
☐	Pacific halibut 	☐ hook and line ☐ other gear:			
☐	flounder (starry) 	☐ gear:			
☐	sole: (circle all that apply) English sole petrale sole sand sole rex sole dover sole rock sole 	☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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	Species: FLATFISH	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	turbot: (circle all that apply) C-O turbot horny head turbot diamond turbot 	☐ gear:			
☐	Pacific sanddab 	☐ gear:			
☐	other flatfish:	☐ gear:			
☐	other flatfish:	☐ gear:			
☐	other flatfish:	☐ gear:			

	Species: SURFPERCH	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	redtail surfperch 	☐ hook and line from shore ☐ other gear:			
☐	other surfperch including shiner surfperch 	☐ hook and line from shore ☐ hook and line ☐ other gear:			
☐	other surfperch:	☐ gear:			
☐	other surfperch:	☐ gear:			
☐	other surfperch:	☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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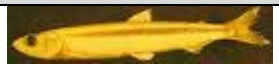
	Species: SMELT	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	surf and night smelt 	☐ dip net			
		☐ cast net			
		☐ Hawaiian-type throw nets			
		☐ other gear:			
☐	eulachon (candle fish) 	☐ dip-net			
		☐ beach net			
☐	other smelt:	☐ gear:			
☐	other smelt:	☐ gear:			
☐	other smelt:	☐ gear:			
☐	other smelt:	☐ gear:			

	Species: COASTAL PELAGIC SPECIES	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	coastal pelagic species: (circle all that apply) northern anchovy Pacific sardine Pacific mackerel jack mackerel market squid	☐ hook and line			
		☐ dip net			
		☐ round-haul			
		☐ hand			
		☐ other gear:			
☐	other coastal pelagics:	☐ gear:			
☐	other coastal pelagics:	☐ gear:			
☐	other coastal pelagics:	☐ gear:			
☐	other coastal pelagics:	☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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	Species: PELAGIC FINFISH	Gear Type	Type of Take	Season	Level of Use
☐	pelagic finfish: (circle all that apply) barracudas billfishes dolphinfish Pacific herring blue shark salmon shark shortfin mako shark thresher sharks swordfish tunas yellowtail **Marlin is not allowed for commercial take*	☐ gear:			
☐	salmon (circle all that apply) Chinook salmon Coho salmon steelhead other salmon 	☐ troll ☐ hook and line ☐ other gear:			
☐	other pelagic finfish:	☐ gear:			
☐	other pelagic finfish:	☐ gear:			

	Species: SKATES, RAYS, & SHARKS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	shark: (circle all that apply) leopard shark California skate big skate bat ray spiny dogfish	☐ spear ☐ harpoon ☐ bow and arrow			
☐	other skates, rays, sharks:	☐ gear:			

*Pelagic Finfish (above) also includes some sharks.

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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	Species: BAIT SPECIES		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	bait species: (circle all that apply) herring topsmelt anchovies shrimp and squid	☐	Hawaiian-type throw net			
☐	other bait species:	☐	gear:			
☐	other bait species:	☐	gear:			

	Species: CLAMS, MUSSELS AND OTHER BIVALVES		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	California mussel 	☐	hand harvest			
		☐	other gear:			
☐	oyster 	☐	hand harvest			
		☐	other gear:			
☐	rock scallop 	☐	hand			
		☐	dive knife			
		☐	abalone iron			
		☐	other gear:			
☐	Pacific and fat gaper clam (gaper clam also called horse clam, horse neck, summer clam and otter clam) 	☐	hand or hand appliances			
☐	Washington clams: (butter or smooth Washington Clam) 	☐	hand or hand appliances			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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	Species: CLAMS, MUSSELS AND OTHER BIVALVES		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	Pacific razor clams 	☐	hand or hand appliances			
☐	other clams: (circle all that apply) geoduck clam heart cockle or nuttall clam Pacific littleneck clam Japanese littleneck clam (*Prothaca*) Eastern soft-shell clam  	☐	hand or hand appliances			
☐	quohog 	☐	hand or hand appliances			
☐	jacknife 	☐	hand or hand appliances			
☐	other clam:	☐	gear:			
☐	other calm:	☐	gear:			
☐	other calm:	☐	gear:			

	Species: BARNACLES		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	acorn barnacle 	☐	gear:			
☐	giant barnacle 	☐	gear:			

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	Species: BARNACLES		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	gooseneck barnacle		☐ gear:			
☐	other barnacles:		☐ gear:			
☐	other barnacles:		☐ gear:			
☐	other barnacles:		☐ gear:			

	Species: SNAILS & ABALONE		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	red abalone		☐ free-diving ☐ other gear:			
☐	black abalone		☐ free-diving ☐ other gear:			
☐	*Nucella*		☐ gear:			
☐	black turban (*Tegula*)		☐ gear:			
☐	brown turban		☐ gear:			
☐	periwinkle		☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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	Species: SNAILS & ABALONE	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	checkered periwinkle 	☐ gear:			
☐	*Olivella* 	☐ gear:			
☐	Chinese hat 	☐ gear:			
☐	other snail:	☐ gear:			
☐	other snail:	☐ gear:			
☐	other snail:	☐ gear:			

	Species: LIMPETS	Gear Type	Type of Take	Season	Level of Use
☐	giant owl limpet 	☐ gear:			
☐	slipper limpet 	☐ gear:			
☐	shield limpet 	☐ gear:			
☐	other limpet:	☐ gear:			
☐	other limpet:	☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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	Species: CHITONS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	gumboot (China slipper) 	☐ gear:			
☐	*Katherina* (Katy) 	☐ gear:			
☐	mossy chiton 	☐ gear:			
☐	other chiton:	☐ gear:			
☐	other chiton:	☐ gear:			
☐	other chiton:	☐ gear:			

	Species: OCTOPUS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	Pacific red octopus 	☐ gear:			
☐	two spot octopus 	☐ gear:			
☐	giant Pacific squid 	☐ gear:			
☐	other octopus:	☐ gear:			
☐	other octopus:	☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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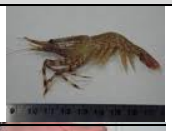
	Species: SHRIMP	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	coonstripe shrimp and spot prawn 	☐ trap ☐ other gear:			
☐	spot prawn 	☐ gear:			
☐	ghost shrimp 	☐ hand harvest ☐ powered equipment			
☐	blue mud shrimp 	☐ hand			
☐	other shrimp:	☐ gear:			
☐	other shrimp:	☐ gear:			

	Species: CRAB	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	Dungeness crab 	☐ trap ☐ diving ☐ hoop net ☐ other gear:			
☐	other crabs: (circle all that apply) yellow crab rock crab slender crab red crab purple shore crab	☐ gear:			
☐	other crab:	☐ gear:			
☐	other crab:	☐ gear:			
☐	other crab:	☐ gear:			

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	Species: URCHIN		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	red sea urchin		☐ diving ☐ other gear:			
☐	purple sea urchin		☐ diving ☐ other gear:			
☐	other urchin:		☐ gear:			
☐	other urchin:		☐ gear:			

	Species: OTHER INVERTEBRATES		Gear Type	Type of Take	Season	Level of Use: 1-5
☐	giant green sea anemone		☐ hand			
☐	California sea cucumber		☐ hand			
☐	sea apple		☐ hand			
☐	dentalium		☐ gear:			
☐	other invertebrate:		☐ gear:			
☐	other invertebrate:		☐ gear:			
☐	other invertebrate:		☐ gear:			

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	Species: SEAWEEDS & PLANTS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	bull kelp 	☐ hand harvest ☐ other gear:			
☐	canopy-forming algae: (circle all that apply) Wakame Ocean Ribbons Kombu Sweet' Kombu Feather Boa Bladder wrack or Rockweed	☐ intertidal hand harvest ☐ other gear:			
☐	sea palm 	☐ commercial intertidal hand harvest ☐ other gear:			
☐	giant kelp 	☐ hand harvest ☐ other gear:			
☐	turf-forming and foliose algae: (circle all that apply) Nori, Laver Sea Lettuce Turkish Towel Mendocino Grapestone 	☐ intertidal hand harvest ☐ other gear:			
☐	eel grass 	☐ hand harvest ☐ other gear:			
☐	surf grass	☐ hand harvest ☐ other gear:			
☐	other algae & plants:	☐ gear:			

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	Species: MAMMALS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	California sea lion	☐ gear:			
☐	stellar sea lion	☐ gear:			
☐	grey whale	☐ gear:			
☐	other mammal:	☐ gear:			
☐	other mammal:	☐ gear:			
☐	other mammal:	☐ gear:			

	Species: FEATHERS	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	feathers: (circle all that apply) Blue Heron duck Osprey Brown Pelican gull (or seagull)	☐ hand			
☐	other feathers:	☐ gear:			
☐	other feathers:	☐ gear:			
☐	other feathers:	☐ gear:			

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	Species: OTHER	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	other:	☐ gear:			
☐	other:	☐ gear:			
☐	other:	☐ gear:			
☐	other:	☐ gear:			
☐	other:	☐ gear:			
☐	other:	☐ gear:			

	GEOLOGICAL RESOURCES	Gear Type	Type of Take	Season	Level of Use: 1-5
☐	shells	☐ hand			
☐	pebbles	☐ hand			
☐	driftwood	☐ hand			
☐	seaglass	☐ hand			
☐	seasalt	☐ hand			
☐	other geological resource:	☐ gear:			
☐	other geological resource:	☐ gear:			
☐	other geological resource:	☐ gear:			
☐	other geological resource:	☐ gear:			
☐	other geological resource:	☐ gear:			

Type of take: COM, REC, SUB, CUL, CER, HIST, OTH (Instructions above define acronyms)
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A-4: Edited Data Sheet

Marine Life Protection Act Initiative

Data Sheet for Submitting Input from California Tribes and Tribal Communities Regarding Allowed Uses for North Coast Round 2 Draft Marine Protected Areas Proposals

June 26, 2010

The Marine Life Protection Act (MLPA) North Coast Regional Stakeholder Group (NCRSG) has developed four draft marine protected area (MPA) proposals for the MLPA North Coast Study Region (California-Oregon border to Alder Creek near Point Arena). Further information about the MLPA Initiative, including maps and supporting documentation for the four Round 2 draft MPA proposals, are available online at http://www.dfg.ca.gov/mlpa/northcoast.asp or on CD or in print by contacting the MLPA Initiative office (MLPAOffice@resources.ca.gov or 916-654-1885).

In recognition that tribes and tribal communities pre-date California's statehood and have lived in concert with the natural environment for thousands of years, the California MLPA Blue Ribbon Task Force (BRTF) urged the NCRSG to propose MPAs that acknowledge and allow tribal activities, while ensuring compliance with science guidelines. Tribal activities shall include traditional, non-commercial, tribal gathering, subsistence, harvesting, ceremonial and stewardship activities. The BRTF requested the California Department of Fish and Game (DFG), in collaboration with the NCRSG, MLPA Master Plan Science Advisory Team (SAT), and MLPA Initiative staff, consult with affected tribes and tribal communities to help ensure the highest possible level of protection for state marine parks or state marine conservation areas designed for tribal resource protection, and that such consultation should include consideration of co-management opportunities. The BRTF motion regarding traditional, non-commercial tribal uses of marine resources in the MLPA north coast study region, adopted May 17, 2010 [Briefing Document A.3], can be accessed in its entirety at the following link: http://www.dfg.ca.gov/mlpa/meeting_052010.asp.

Consistent with this guidance, and to further inform the north coast MPA planning process, the MLPA Initiative is seeking input from California tribes and tribal communities about the Round 2 draft MPA proposals; this input will be used in developing the next and final round of MPA proposals for the north coast. The attached data sheet is provided to help facilitate your tribe or tribal community's input regarding the Round 2 MPA proposals and for suggesting allowed uses in those proposed MPAs.

Confidentiality of Information

To protect confidentiality, information that you share with the MLPA Initiative will be aggregated with all information shared by other north coast California tribes and tribal communities. Before any aggregated information is shared, MLPA Initiative staff will provide you with the opportunity to review your information that was documented to ensure its accuracy. After the input from California tribes and tribal communities has been aggregated to protect confidentiality, you may retain the original data sheets for your records. Information specific to your tribe or tribal community will not be forwarded to the NCRSG, SAT, BRTF, or the public unless you specifically request that this information be distributed to these groups.

Submitting Input on the Draft MPA Proposals

You may find it useful to provide input in person by meeting in June or July 2010 with MLPA Initiative Science and Planning Advisor Satie Airamé and Department of Fish and Game Program Manager Becky Ota or her designee to discuss the Round 2 draft MPA proposals. Alternately, you may choose to submit your input directly to Satie Airamé by email or regular mail. As noted above, input submitted directly to Satie Airamé will be aggregated with all input shared by north coast tribes and tribal communities to protect confidentiality.

Contact: Satie Airamé, MLPA Initiative Science and Planning Advisor
Email: airame@msi.ucsb.edu
Phone: 805-893-3387
Address: Marine Science Institute, University of California, Santa Barbara, CA 93106-6150

General comments about Round 2 draft MPA proposals or the MLPA Initiative may be submitted by email to MLPAcomments@resources.ca.gov or by standard mail to MLPA Initiative, c/o California Natural Resources Agency, 1416 Ninth Street, Suite 1311, Sacramento, CA 95814. Please note that comments submitted by email to MLPAcomments@resources.ca.gov or by mail to the MLPA Initiative in Sacramento are not confidential and are shared with the public.

Where to Find and How to Interpret the Round 2 Draft Marine Protected Area Proposals

Round 2 draft MPA proposals developed by the NCRSG are posted online at:

- http://www.dfg.ca.gov/mlpa/northcoast.asp (MLPA website)
- http://northcoast.marinemap.org/ (MarineMap website)

There are four Round 2 draft MPA proposals (Ruby 1, Ruby 2, Sapphire 1 and Sapphire 2), named for the NCRSG work groups that drafted these proposals. There are multiple, individual MPAs proposed within each of the four Round 2 draft MPA proposals (for example, Pyramid State Marine Conservation Area, Big River Estuary State Marine Park, and Mattole Canyon State Marine Reserve).

Three types of MPAs are considered under the MLPA:

- State marine reserves (SMRs): Prohibit all take
- State marine parks (SMPs): Allow some recreational take
- State marine conservation areas (SMCAs): Allow some commercial and/or recreational take

In addition, two other state managed area classifications are being used by the NCRSG in the north coast:

- State marine recreational management area (SMRMA): Used to allow hunting in an area that would otherwise be an SMR
- Special closure: Used to limit human disturbance of important breeding, roosting or haulout sites for marine birds or mammals

Where take is allowed in an area, the NCRSG must propose a specific list of species that may be gathered or harvested and gear types that may be used in these activities. To review proposed allowed uses for a particular MPA, there is a supporting document (see “description of MPAs”) and maps on the MLPA Initiative website or, in MarineMap, click on the “attributes” of a proposed MPA.

How to Complete the Attached Data Sheet

The attached data sheet is intended to help facilitate your tribe or tribal community's input on the Round 2 draft MPA proposals; in this data sheet you can identify for each MPA, what uses you would like the NCRSG to consider allowing in its final MPA proposals, including take of biological, geological and other natural resources.

Step 1: Please identify the MPA that is (or the set of MPAs that are) intended for the proposed allowed uses on this data sheet. Please fill out a separate data sheet for each MPA (or group of MPAs) for which you would like to propose a unique set of allowed uses.

Step 2: Please identify the tribe or tribal community name and contact information (email and/or phone) so that staff can follow up with you, as needed, to confirm your suggestions for allowed uses and to return the original data sheet to you.

Step 3: Please check the species or resources that you would like to see the NCRSG allow to be gathered or harvested in the MPA(s) identified in Step 1. Species are identified by common names and photographs or drawings.

Step 4: Please identify the gear type(s) used to gather or harvest each species or resource that you would like to see gathered or harvested in the MPA(s) specified in Steps 1 and 2. **Gear type is one of the key elements of regulations for MPAs and the proposed activity cannot be permitted without information about gear type.**

Step 5 (OPTIONAL): If appropriate, you may identify the season or time of year when the activity occurs. Seasonality may be included in regulations to *limit* the overall annual effort of the gathering or harvesting activity. Season includes summer (SUM), fall (FAL), winter (WIN) and spring (SPR), as well as specific months of the year (Jan, Feb, Mar, etc.).

Step 6 (OPTIONAL): If known, you may describe the level of use on a scale of 1 to 5, where a "1" describes a minimal take of the species in the MPA(s) identified in Step 1 and a "5" describes substantial take of the species. If known, the level of use may help the SAT determine the level of protection for each MPA.

Timeframe for Submitting Comments

Your input will be most helpful to the NCRSG if submitted by **July 23, 2010** so the NCRSG may consider your input during their next meeting and work session in Fort Bragg on July 29-30. Additional input may be submitted after that date. However, the NCRSG will complete their final MPA proposals on August 30-31, 2010. The NCRSG will not be able to consider and integrate information provided after that date. If you have questions about or would like to schedule a meeting to discuss the Round 2 draft MPA proposals, please contact Satie Airamé at airame@msi.ucsb.edu or 805-893-3387.

Thank you in advance! Your input is greatly appreciated and will help shape the final Round 3 NCRSG MPA proposals.

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Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

Date: _____

Tribe Name: _____or Tribal Community Name: _____

Contact Information (name, phone, and email or mailing address so staff can contact you if they have questions; personal information will not be shared):

_____

_____

MPA Name(s):_____

MPA Proposal (check all that apply) ☐ Ruby 1 ☐ Ruby 2 ☐ Sapphire 1 ☐ Sapphire 2

				OPTIONAL	
Species: GROUNDFISH			**Gear Type**	**Season**	**Level of Use: 1-5**
☐	lingcod		☐ spear fishing ☐ hook and line ☐ other gear:		
☐	rockfish (includes many species; photo is one example)		☐ spear fishing ☐ hook and line ☐ other gear:		
☐	Pacific staghorn sculpin :		☐ gear:		
☐	cabezon		☐ hook and line ☐ spear fishing ☐ other gear:		
☐	kelp greenling		☐ spear fishing ☐ hook and line ☐ other gear:		
☐	rock greenling		☐ spear fishing ☐ hook and line ☐ other gear:		
☐	white sturgeon		☐ hook and line		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
Species: GROUNDFISH		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	green sturgeon 	☐ hook and line		
☐	longjaw mudsucker 	☐ baited trap ☐ other gear:		
☐	other groundfish:	☐ gear:		
☐	other groundfish:	☐ gear:		
☐	other groundfish:	☐ gear:		

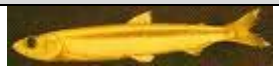
			OPTIONAL	
Species: EELS		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	Pacific lamprey 	☐ hand ☐ hook ☐ dipnet ☐ spear ☐ bow and arrow ☐ other gear:		
☐	California moray eel 	☐ gear:		
☐	wolf eel 	☐ gear:		
☐	monkey face prickleback 	☐ gear:		
☐	other eels:	☐ gear:		
☐	other eels:	☐ gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
Species: FLATFISH		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	California halibut 	☐ hook and line ☐ other gear:		
☐	Pacific halibut 	☐ hook and line ☐ other gear:		
☐	flounder (starry) 	☐ gear:		
☐	sand sole 	☐ gear:		
☐	turbot: (circle all that apply) C-O turbot  horny head turbot  diamond turbot 	☐ gear:		
☐	Pacific sanddab 	☐ gear:		
☐	other flatfish:	☐ gear:		
☐	other flatfish:	☐ gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

				OPTIONAL	
Species: SURFPERCH		**Gear Type**		**Season**	**Level of Use: 1-5**
☐	redtail surfperch 	☐	hook and line from shore		
		☐	other gear:		
☐	other surfperch including shiner surfperch 	☐	hook and line from shore		
		☐	hook and line		
		☐	other gear:		
☐	other surfperch:	☐	gear:		
☐	other surfperch:	☐	gear:		
☐	other surfperch:	☐	gear:		

				OPTIONAL	
Species: SMELT		**Gear Type**		**Season**	**Level of Use: 1-5**
☐	surf and night smelt  	☐	dip net		
		☐	cast net		
		☐	Hawaiian-type throw nets		
		☐	other gear:		
☐	eulachon (candle fish) 	☐	dip-net		
		☐	beach net		
☐	other smelt:	☐	gear:		
☐	other smelt:	☐	gear:		
☐	other smelt:	☐	gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
	Species: COASTAL PELAGIC SPECIES	**Gear Type**	**Season**	**Level of Use: 1-5**
☐	coastal pelagic species: (circle all that apply)	☐ hook and line		
		☐ dip net		
	northern anchovy 	☐ round-haul		
		☐ hand		
	Pacific sardine 	☐ other gear:		
	Pacific mackerel 			
	jack mackerel 			
☐	other coastal pelagics:	☐ gear:		
☐	other coastal pelagics:	☐ gear:		
☐	other coastal pelagics:	☐ gear:		

			OPTIONAL	
	Species: PELAGIC FINFISH	**Gear Type**	**Season**	**Level of Use**
☐	salmon (circle all that apply)	☐ troll		
	Chinook salmon 	☐ hook and line		
		☐ other gear:		
	Coho salmon 			
	steelhead 			
	other salmon: 			

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
	Species: PELAGIC FINFISH	**Gear Type**	**Season**	**Level of Use**
☐	pelagic finfish: (circle all that apply)	☐ gear:		
	barracudas 			
	billfishes 			
	dolphinfish 			
	Pacific herring 			
	blue shark 			
	salmon shark 			
	shortfin mako shark 			
	thresher sharks 			
	swordfish 			
	tunas 			
	yellowtail  **Marlin is not allowed for commercial take*			

		OPTIONAL	

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

	Species: SKATES, RAYS, & SHARKS		Gear Type	Season	Level of Use: 1-5
☐	shark: (circle all that apply) leopard shark  California skate  big skate  bat ray  spiny dogfish 	☐	spear		
		☐	harpoon		
		☐	bow and arrow		
		☐	other gear:		
☐	other skates, rays, sharks:	☐	gear:		
☐	other skates, rays, sharks:	☐	gear:		
☐	other skates, rays, sharks:	☐	gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

				OPTIONAL	
	Species: CLAMS, MUSSELS AND OTHER BIVALVES		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	California mussel		☐ hand harvest		
			☐ other gear:		
☐	oyster		☐ hand harvest		
			☐ other gear:		
☐	rock scallop		☐ hand		
			☐ dive knife		
			☐ abalone iron		
			☐ other gear:		
☐	Pacific and fat gaper clam (gaper clam also called horse clam, horse neck, summer clam and otter clam)		☐ hand or hand appliances		
☐	Washington clams: (butter or smooth Washington Clam)		☐ hand or hand appliances		
☐	Pacific razor clams		☐ hand or hand appliances		
☐	quohog		☐ hand or hand appliances		
☐	jacknife		☐ hand or hand appliances		

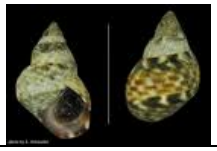
Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
	Species: CLAMS, MUSSELS AND OTHER BIVALVES	**Gear Type**	**Season**	**Level of Use: 1-5**
☐	other clams: (circle all that apply) geoduck clam  heart cockle  nuttall clam  Pacific littleneck clam  Japanese littleneck clam (*Prothaca*)  Eastern soft-shell clam 	☐ hand or hand appliances		
☐	other clam:	☐ gear:		
☐	other clam:	☐ gear:		

			OPTIONAL	
	Species: BARNACLES	**Gear Type**	**Season**	**Level of Use: 1-5**
☐	acorn barnacle 	☐ gear:		
☐	giant barnacle 	☐ gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
Species: BARNACLES		**Gear Type**	**Season**	**Level of Use: 1-5**
☐ gooseneck barnacle		☐ gear:		
☐ other barnacles:		☐ gear:		
☐ other barnacles:		☐ gear:		
☐ other barnacles:		☐ gear:		

			OPTIONAL	
Species: SNAILS & ABALONE		**Gear Type**	**Season**	**Level of Use: 1-5**
☐ red abalone		☐ free-diving ☐ other gear:		
☐ black abalone		☐ free-diving ☐ other gear:		
☐ *Nucella*		☐ gear:		
☐ black turban (*Tegula*)		☐ gear:		
☐ brown turban		☐ gear:		
☐ periwinkle		☐ gear:		
☐ checkered periwinkle		☐ gear:		

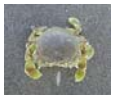
Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
Species: SNAILS & ABALONE		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	*Olivella* 	☐ gear:		
☐	Chinese hat 	☐ gear:		
☐	other abalone:	☐ gear:		
☐	other abalone:	☐ gear:		
☐	other snail:	☐ gear:		
☐	other snail:	☐ gear:		

			OPTIONAL	
Species: LIMPETS		**Gear Type**	**Season**	**Level of Use**
☐	giant owl limpet 	☐ gear:		
☐	slipper limpet 	☐ gear:		
☐	shield limpet 	☐ gear:		
☐	other limpet:	☐ gear:		
☐	other limpet:	☐ gear:		
☐	other limpet:	☐ gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
Species: CHITONS		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	gumboot (China slipper) 	☐ gear:		
☐	*Katherina* (Katy) 	☐ gear:		
☐	mossy chiton 	☐ gear:		
☐	other chiton:	☐ gear:		

			OPTIONAL	
Species: CRAB		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	Dungeness crab 	☐ trap ☐ diving ☐ hoop net ☐ other gear:		
☐	other crabs: (circle all that apply) yellow crab  rock crab  slender crab  red crab  purple shore crab 	☐ gear:		
☐	other crab:	☐ gear:		
☐	other crab:	☐ gear:		

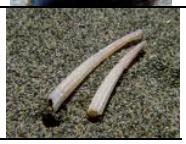
Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
Species: OCTOPUS & SQUID		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	Pacific red octopus 	☐ gear:		
☐	two spot octopus 	☐ gear:		
☐	giant Pacific octopus 	☐ gear:		
☐	market squid 	☐ gear:		
☐	other squid or octopus:	☐ gear:		
☐	other squid or octopus:	☐ gear:		

			OPTIONAL	
Species: SHRIMP		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	coonstripe shrimp and spot prawn 	☐ trap ☐ other gear:		
☐	spot prawn 	☐ gear:		
☐	ghost shrimp 	☐ hand harvest ☐ powered equipment		
☐	blue mud shrimp 	☐ hand		
☐	other shrimp:	☐ gear:		
☐	other shrimp:	☐ gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

				OPTIONAL	
Species: URCHIN			**Gear Type**	**Season**	**Level of Use: 1-5**
☐	red sea urchin 	☐	diving		
		☐	other gear:		
☐	purple sea urchin 	☐	diving		
		☐	other gear:		
☐	other urchin:	☐	gear:		
☐	other urchin:	☐	gear:		

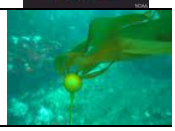
				OPTIONAL	
Species: OTHER INVERTEBRATES			**Gear Type**	**Season**	**Level of Use: 1-5**
☐	giant green sea anemone 	☐	hand		
☐	California sea cucumber 	☐	hand		
☐	sea apple 	☐	hand		
☐	dentalium 	☐	gear:		
☐	other invertebrate:	☐	gear:		
☐	other invertebrate:	☐	gear:		
☐	other invertebrate:	☐	gear:s		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
	Species: MAMMALS	**Gear Type**	**Season**	**Level of Use: 1-5**
☐	California sea lion	☐ gear:		
☐	stellar sea lion	☐ gear:		
☐	grey whale	☐ gear:		
☐	other mammal:	☐ gear:		
☐	other mammal:	☐ gear:		
☐	other mammal:	☐ gear:		

			OPTIONAL	
	Species: SEABIRDS AND SHOREBIRDS	**Gear Type**	**Season**	**Level of Use: 1-5**
☐	seabird eggs	☐ hand harvest		
☐	feathers: (circle all that apply) Blue Heron duck Osprey Eagle Brown Pelican gull (or seagull)	☐ hand		
☐	other feathers:	☐ gear:		
☐	other feathers:	☐ gear:		
☐	other birds:	☐ gear:		
☐	other birds:	☐ gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

				OPTIONAL	
	Species: SEAWEEDS & PLANTS		**Gear Type**	**Season**	**Level of Use: 1-5**
☐	giant kelp		☐ hand harvest ☐ other gear:		
☐	bull kelp		☐ hand harvest ☐ other gear:		
☐	canopy-forming algae: (circle all that apply) wakame		☐ intertidal hand harvest ☐ other gear:		
	ocean ribbons				
	kombu				
	sweet kombu				
	feather boa				
	bladder wrack or rockweed				
	walking-stick				
☐	sea palm		☐ commercial intertidal hand harvest ☐ other gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

			OPTIONAL	
	Species: SEAWEEDS & PLANTS	**Gear Type**	**Season**	**Level of Use: 1-5**
☐	turf-forming and foliose algae: (circle all that apply) nori, laver  sea lettuce  Turkish towel  Mendocino grapestone 	☐ intertidal hand harvest ☐ other gear:		
☐	eel grass 	☐ hand harvest ☐ other gear:		
☐	surf grass 	☐ hand harvest ☐ other gear:		
☐	other algae or plants:	☐ gear:		
☐	other algae or plants:	☐ gear:		
☐	other algae or plants:	☐ gear:		

Instructions: For each proposed MPA (or group of MPAs), what species, and gear types (or gathering or harvesting methods) would you like the North Coast Regional Stakeholder Group to consider allowing? If the activity is seasonal, you may indicate the time of year that the activity is conducted (OPTIONAL). If the level of use is known, you may indicate the level of use on a scale of 1 to 5, where 1 is limited use and 5 is substantial use (OPTIONAL).

				OPTIONAL	
Species: OTHER		**Gear Type**		**Season**	**Level of Use: 1-5**
☐	other:	☐	gear:		
☐	other:	☐	gear:		
☐	other:	☐	gear:		
☐	other:	☐	gear:		
☐	other:	☐	gear:		

				OPTIONAL	
GEOLOGICAL RESOURCES		**Gear Type**		**Season**	**Level of Use: 1-5**
☐	shells	☐	hand		
☐	pebbles	☐	hand		
☐	driftwood	☐	hand		
☐	seaglass	☐	hand		
☐	seasalt	☐	hand		
☐	other geological resource:	☐	gear:		
☐	other geological resource:	☐	gear:		
☐	other geological resource:	☐	gear:		
☐	other geological resource:	☐	gear:		
☐	other geological resource:	☐	gear:		

A-5: Tribal Input Table

These tables detail the types of input received from tribes and tribal communities on the round 2 MPA network proposals.

Proposal: Ruby 1

MPA ID	MPA Name	Type of Input Received
1001462	Big River Estuary SMP	Species/Gear Type
1001257	False Klamath Cove SMCA	General and Individual Comments
1001473	MacKerricher SMCA	Species/Gear Type
1001216	Mattole Canyon SMR	General and Individual Comments
1001466	Navarro River Estuary SMCA	Species/Gear Type
1001517	North Humboldt Bay SMRMA	Species/Gear Type
1001812	Petrolia Lighthouse SMR	General and Individual Comments
1001278	Point Cabrillo SMCA	Species/Gear Type
1001258	Point St. George Reef SMCA	No Input Received
1001249	Pyramid Point SMCA	Species/Gear Type
1001246	Pyramid Point SMR	No Input Received
1001228	Reading Rock Nearshore SMCA	No Input Received
1001227	Reading Rock Offshore SMCA	No Input Received
1001558	Russian Gulch SMCA	Species/Gear Type
1001532	Samoa SMCA	Species/Gear Type
1001215	South Cape Mendocino SMR	General and Individual Comments
1001439	South Humboldt Bay SMRMA	Species/Gear Type
1001441	Stone Lagoon SMRMA	No Input Received
1001295	Ten Mile SMCA	Species/Gear Type
1001273	Ten Mile SMR	General Comment from a Council
1001445	Ten Mile Estuary SMCA	Species/Gear Type
1001559	Van Damme SMCA	Species/Gear Type
1001556	Vizcaino SMCA	Species/Gear Type

Proposal: Ruby 2

MPA ID	MPA Name	Type of Input Received
1001569	Big River Estuary SMP	Species/Gear Type
1001561	Mattole Canyon SMR	General and Individual Comments

MPA ID	MPA Name	Type of Input Received
1001565	Navarro River Estuary SMCA	Species/Gear Type
1001221	Petrolia Lighthouse SMR	General and Individual Comments
1001250	Pyramid Point SMCA	Species/Gear Type
1001251	Pyramid Point SMR	No Input Received
1001566	Reading Rock Nearshore SMCA	No Input Received
1001567	Reading Rock Offshore SMCA	No Input Received
1001560	South Cape Mendocino SMR	General and Individual Comments
1001208	South Humboldt Bay SMRMA	Species/Gear Type
1001563	Ten Mile Estuary SMCA	Species/Gear Type
1001562	Vizcaino SMCA	Species/Gear Type

Proposal: Sapphire 1

MPA ID	MPA Name	Type of Input Received
1001469	Albion River Estuary SMCA	Species/Gear Type
1001360	Big Flat SMCA	Species/Gear Type
1001464	Big River Estuary SMP	Species/Gear Type
1001568	MacKerricher SMCA	Species/Gear Type
1001341	Mattole Canyon Offshore SMR	General and Individual Comments
1001470	Navarro River Estuary SMCA	Species/Gear Type
1001471	North Humboldt Bay SMRMA	Species/Gear Type
1001555	Petrolia Lighthouse SMR	General and Individual Comments
1001534	Point Cabrillo SMCA	Species/Gear Type
1001297	Pyramid Point SMCA	Species/Gear Type
1001296	Pyramid Point SMR	No Input Received
1001338	Reading Rock SMCA	No Input Received
1001337	Reading Rock SMR	No Input Received
1001330	South Cape Mendocino SMR	General and Individual Comments
1001443	South Humboldt Bay SMRMA	Species/Gear Type
1001528	Ten Mile SMCA	Species/Gear Type
1001527	Ten Mile SMR	General Comment from a Council
1001447	Ten Mile Estuary SMCA	Species/Gear Type
1001522	Vizcaino SMCA	Species/Gear Type
1001303	Wilson Rock SMCA	General and Individual Comments

Proposal: Sapphire 2

MPA ID	MPA Name	Type of Input Received
1001310	Big Flat SMCA	Species/Gear Type
1001575	Big River Estuary SMP	Species/Gear Type
1001354	Mattole Canyon Offshore SMR	General and Individual Comments
1001554	Petrolia Lighthouse SMCA	No Input Received
1001570	Point Cabrillo SMCA	Species/Gear Type
1001299	Pyramid Point SMCA	Species/Gear Type
1001545	Reading Rock SMCA	No Input Received
1001331	South Cape Mendocino SMR	General and Individual Comments
1001444	South Humboldt Bay SMRMA	Species/Gear Type
1001573	Ten Mile SMCA	Species/Gear Type
1001572	Ten Mile SMR	General Comment from a Council
1001574	Ten Mile Estuary SMCA	Species/Gear Type
1001526	Vizcaino SMCA	Species/Gear Type
1001300	Wilson Rock SMCA	General and Individual Comments

A-6: Tribal Input Map

This map highlights the types of tribal data received for all round 2 MPAs gathered from outreach meetings with tribal groups:

A-7: Proposed Uses

California Marine Life Protection Act Initiative

Proposed Uses from North Coast Tribes and Tribal Communities for Round 2 Draft MPA Proposals

Input received through August 26, 2010

Marine Life Protection Act (MLPA) Initiative and California Department of Fish and Game staff met with north coast tribes and tribal communities between May, June and July 2010 regarding Round 2 draft marine protected area (MPA) proposals developed for the MLPA North Coast Project; this document identifies proposed uses for Round 2 draft MPA proposals that north coast tribes and tribal communities would like the MLPA North Coast Regional Stakeholder Group (NCRSG) to consider for Round 3 MPA proposals.

Input from tribes and tribal communities was collected from a series of outreach meetings with and public comments made during MLPA Initiative open houses. Input on proposed uses is described for specific MPAs or groups of MPAs from Round 2 draft MPA proposals and is aggregated to protect confidentiality of individuals who contributed. Further, the proposed uses are described by category of species, individual species, and gear type. Additional comments on specific MPAs or groups of MPAs from Round 2 draft MPA proposals also are noted. This document does not contain a comprehensive list of proposed uses; additional input may be provided directly to the NCRSG, MLPA Blue Ribbon Task Force, MLPA Master Plan Science Advisory Team, and/or MLPA Initiative staff.

Several acronyms are used in the following tables:

- SMCA = state marine conservation area
- SMP = state marine park
- SMR = state marine reserve
- SMRMA = state marine recreational management area

Table 1. Proposed uses for Navarro River Estuary SMCA, Albion River Estuary SMCA, and Big River Estuary SMP.

Navarro River Estuary SMCA/ Albion River Estuary SMCA/ Big River Estuary SMP		
Category of Species	**Species**	**Gear Type**
groundfish	lingcod	hook and line, throw line
	rockfish	hook and line
	sculpin	hook and line
	cabezon	hook and line, string of throw lines/hooks
	kelp greenling	hook and line
	rock greenling	hook and line
stickleback	stickleback fish	hook and line
eels	Pacific lamprey	spear, bow and arrow
flatfish	California halibut	hook and line

Navarro River Estuary SMCA/ Albion River Estuary SMCA/ Big River Estuary SMP		
Category of Species	**Species**	**Gear Type**
	Pacific halibut	hook and line
surfperch	redtail surfperch	hook and line from shore, cast net
	other surfperch including shiner surfperch	hook and line from shore, cast net
smelt	surf smelt and night smelt	dip net, cast net, Hawaiian-type throw nets
	eulachon	dip net, beach net
sea trout		string of throw lines/hooks
coastal pelagic species[1]	as listed	dip net, round-haul, hand harvest
pelagic finfish	Pacific herring	dip net, cast net
salmon[2]	as listed	troll, hook and line, gill net, gig, gaff
clams, mussels, and other bivalves	California mussel	hand harvest, hand appliances
	oyster	hand harvest, hand appliances
	rock scallop	hand harvest, dive knife, abalone iron, bar
	Pacific and fat gaper clam	hand or hand appliances
	butter or smooth Washington clams	hand or hand appliances
	Pacific razor clam	hand or hand appliances
	quohog	hand or hand appliances
other clams[3]	as listed	hand or hand appliances
barnacles	gooseneck barnacle	hand or hand appliances
	acorn barnacle	hand or hand appliances
	stalked barnacle	hand or hand appliances
snails and abalone	red abalone	free-diving, hand harvest, abalone iron
	black abalone	hand harvest

[1] Coastal pelagic species include northern anchovy, Pacific sardine, Pacific mackerel, and jack mackerel.

[2] Salmon include Chinook, Coho, steelhead/rainbow trout, cutthroat trout, and other salmon.

[3] Clams include jackknife, geoduck, heart cockle, Nuttall's and other cockles, Pacific littleneck, Japanese littleneck (*Prothaca*), and Eastern soft-shell clams.

Navarro River Estuary SMCA/ Albion River Estuary SMCA/ Big River Estuary SMP		
Category of Species	**Species**	**Gear Type**
	Nucella	hand harvest
	black turban	hand harvest
	brown turban	hand harvest
	periwinkle	hand harvest
	checkered periwinkle	hand harvest
	Olivella	hand harvest
	Chinese hat	hand harvest
limpets	slipper limpet	hand harvest
	shield limpet	hand harvest
	other limpets	hand harvest
chitons	gumboot (China slipper)	hand harvest, abalone iron
	mossy chiton	hand harvest
	woody chiton	hand harvest
crab	Dungeness crab	trap, hoop net
other crabs[4]	as listed	trap, hoop net
	purple shore crab	bait/line and cloth bag
octopus and squid	squid	spear, bow and arrow
	market squid	net
	Pacific red octopus	hand or hand appliances (sharp stick)
	two spot octopus	hand or hand appliances (sharp stick)
	giant Pacific octopus	hand or hand appliances (sharp stick)
shrimp	coonstripe shrimp	trap
	spot prawn	trap
	bay ghost shrimp	cloth bag
urchin	red sea urchin	hand or hand appliances, diving, dive knife, rock pick
	purple sea urchin	hand or hand appliances, diving, dive knife, rock pick

[4] Crabs include yellow, rock, slender, red, and purple shore crabs.

Navarro River Estuary SMCA/ Albion River Estuary SMCA/ Big River Estuary SMP		
Category of Species	**Species**	**Gear Type**
other invertebrates	giant green sea anemone	hand harvest, dive knife, bar, abalone iron
	other anemones	dive knife, bar
	California sea cucumber	hand harvest
	dentalium	hand harvest
seaweed and plants	giant kelp	hand harvest
	bull kelp	hand harvest
	sea palm	commercial intertidal hand harvest, hand harvest, knife
canopy forming algae[5]	as listed	intertidal hand harvest
turf forming and foliose algae[6]	as listed	intertidal hand harvest
seabirds	eggs	hand harvest
feathers[7]	as listed	hand harvest
mammals	sea lions	harpoon, spear, tow lines
	seals	harpoon, spear, tow lines
	whales	harpoon, spear, tow lines
geological resources	shells[8]	hand harvest
	pebbles	hand harvest
	driftwood	hand harvest
	seasalt	hand harvest

Navarro River Estuary SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "The Council supports the second proposal that would prohibit all non-Indian take and allow Tribal uses as defined in the Policy, and provide for co-management by the Tribes."

[5] Canopy forming algae include wakame, ocean ribbons, kombu, sweet kombu, feather boa, bladder wrack or rockweed, and walking-stick.

[6] Turf forming and foliose algae include nori/laver, sea lettuce, Turkish towel, and Mendocino grapestone.

[7] Bird feathers include feathers from Great Blue Heron, duck, osprey, eagle, Brown Pelican, gulls and other shorebirds.

[8] Shells used on cultural items separate from food uses include red abalone, dentilium, Washington clam, *Olivella*.

Big River Estuary SMP
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "The Council favors the use of the wording: "Tribal uses are specifically accommodated, along with certain recreational uses by non-Indians." This wording defines Tribal use as unique, and restricts non-Indian use to the category of "recreational," which is appropriate."
Albion River Estuary SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "As with the other MPAs, state that co-management with the Tribes "shall" be allowed rather than "should" be allowed."

Table 2. Proposed uses for Van Damme SMCA, Russian Gulch SMCA, and Point Cabrillo SMCA.

Van Damme SMCA/ Russian Gulch SMCA/ Point Cabrillo SMCA		
Category of Species	**Species**	**Gear Type**
groundfish	lingcod	hook and line, throw line
	rockfish	hook and line
	sculpin	hook and line
	cabezon	hook and line, string of throw lines/hooks
	kelp greenling	hook and line
	rock greenling	hook and line
stickleback	stickleback fish	hook and line
eels	Pacific lamprey	spear, bow and arrow
flatfish	California halibut	hook and line
	Pacific halibut	hook and line
surfperch	redtail surfperch	hook and line from shore, cast net
	other surfperch including shiner surfperch	hook and line from shore, cast net
smelt	surf smelt and night smelt	dip net, cast net, Hawaiian-type throw nets
	eulachon	dip net, beach net
sea trout		string of throw lines/hooks

Van Damme SMCA/ Russian Gulch SMCA/ Point Cabrillo SMCA		
Category of Species	**Species**	**Gear Type**
coastal pelagic species[9]	as listed	dip net, round-haul, hand harvest
pelagic finfish	Pacific herring	dip net, cast net
salmon[10]	as listed	troll, hook and line, gill net, gig, gaff
clams, mussels, and other bivalves	California mussel	hand harvest, hand appliances
	oyster	hand harvest, hand appliances
	rock scallop	hand harvest, dive knife, abalone iron, bar
	Pacific and fat gaper clam	hand or hand appliances
	butter or smooth Washington clams	hand or hand appliances
	Pacific razor clam	hand or hand appliances
	quohog	hand or hand appliances
other clams[11]	as listed	hand or hand appliances
barnacles	gooseneck barnacle	hand or hand appliances
	acorn barnacle	hand or hand appliances
	stalked barnacle	hand or hand appliances
Snails and abalone	red abalone	free-diving, hand harvest, abalone iron
	black abalone	hand harvest
	Nucella	hand harvest
	black turban	hand harvest
	brown turban	hand harvest
	periwinkle	hand harvest
	checkered periwinkle	hand harvest
	Olivella	hand harvest
	Chinese hat	hand harvest
limpets	slipper limpet	hand harvest
	shield limpet	hand harvest

[9] Coastal pelagic species include northern anchovy, Pacific sardine, Pacific mackerel, and jack mackerel.

[10] Salmon include Chinook, Coho, steelhead/rainbow trout, cutthroat trout, and other salmon.

[11] Clams include jackknife, geoduck, heart cockle, Nuttall's and other cockles, Pacific littleneck, Japanese littleneck (*Prothaca*), and Eastern soft-shell clams.

Van Damme SMCA/ Russian Gulch SMCA/ Point Cabrillo SMCA		
Category of Species	**Species**	**Gear Type**
	other limpets	hand harvest
chitons	gumboot (China slipper)	hand harvest, abalone iron
	mossy chiton	hand harvest
	woody chiton	hand harvest
crab	Dungeness crab	trap, hoop net
other crabs[12]	as listed	trap, hoop net
	purple shore crab	bait/line and cloth bag
octopus and squid	squid	spear, bow and arrow
	market squid	net
	Pacific red octopus	hand or hand appliances (sharp stick)
	two spot octopus	hand or hand appliances (sharp stick)
	giant Pacific octopus	hand or hand appliances (sharp stick)
shrimp	coonstripe shrimp	trap
	spot prawn	trap
	bay ghost shrimp	cloth bag
urchin	red sea urchin	diving, hand or hand appliance, dive knife, rock pick
	purple sea urchin	diving, hand or hand appliance, dive knife, rock pick
other invertebrates	giant green sea anemone	hand harvest, dive knife, bar, abalone iron
	other anemones	dive knife, bar
	California sea cucumber	hand harvest
	dentalium	hand harvest
seabirds	eggs	hand harvest
feathers[13]	as listed	hand harvest
seaweed and plants	giant kelp	hand harvest
	bull kelp	hand harvest

[12] Crabs include yellow, rock, slender, red, and purple shore crabs.

[13] Feathers include feathers from Great Blue Heron, duck, osprey, eagle, Brown Pelican, gulls, and other shorebirds.

Van Damme SMCA/ Russian Gulch SMCA/ Point Cabrillo SMCA		
Category of Species	**Species**	**Gear Type**
	sea palm	commercial intertidal hand harvest, hand harvest, knife
canopy forming algae[14]	as listed	intertidal hand harvest
turf forming and foliose algae[15]	as listed	intertidal hand harvest
mammals	sea lions	harpoon, spear, tow lines
	seals	harpoon, spear, tow lines
	whales	harpoon, spear, tow lines
geological resources	shells[16]	hand harvest
	pebbles	hand harvest
	driftwood	hand harvest
	seasalt	hand harvest

Van Damme SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "The Board is concerned about the apparent restrictions against Tribal uses, and needs further explanation about planned uses and restrictions for this proposed MPA."
Russian Gulch SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "Clarify that the Tribes do not fall under "recreational" and that Tribal uses should be allowed."
Point Cabrillo SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "The Council supports the Sapphire #1 proposal. The Council needs written confirmation that "traditional…activities" means the take of any and all species that are traditionally used by Tribes."

[14] Includes all canopy forming algae listed in the data sheet: wakame, ocean ribbons, kombu, sweet kombu, feather boa, bladder wrack or rockweed, and walking-stick.

[15] Turf forming and foliose algae includes nori/laver, sea lettuce, Turkish towel, and Mendocino grapestone.

[16] Shells that are used on cultural items separate from food uses but are historically as important: red abalone, dentilium, Washington clam, *Olivella*.

Table 3. Proposed uses for MacKerricher SMCA.

MacKerricher SMCA		
Category of Species	**Species**	**Gear Type**
groundfish	lingcod	hook and line, throw line
	rockfish	hook and line
	sculpin	hook and line
	cabezon	hook and line, string of throw lines/hooks
	kelp greenling	hook and line
	rock greenling	hook and line
stickleback	stickleback fish	hook and line
eels	Pacific lamprey	spear, hook, hoop net, bow and arrow
flatfish	California halibut	hook and line
	Pacific halibut	hook and line
surfperch	redtail surfperch	hook and line from shore, dip net, cast net
	other surfperch including shiner surfperch	hook and line from shore, dip net, cast net
smelt	surf smelt and night smelt	dip net, cast net, Hawaiian-type throw nets[17]
	eulachon	dip net, beach net
sea trout		string of throw lines and hooks
coastal pelagic species[18]	as listed	dip net, round-haul, hand harvest
pelagic finfish	Pacific herring	dip net, cast net
salmon[19]	as listed	troll[20], hook and line, gill net, gig, gaff
barnacles	gooseneck barnacle	hand or hand appliances
	acorn barnacle	hand or hand appliances

[17] We also received input requesting that Hawaiian-type throw nets be excluded from the MacKerricher SMCA because of overfishing and the nets restrict smelt spawning. Many of beaches that allow throw nets do not have high smelt runs because the Hawaiian style nets don't allow the fish to lay their eggs in the gravel.

[18] Coastal pelagic species include northern anchovy, Pacific sardine, Pacific mackerel, and jack mackerel.

[19] Salmon include Chinook, Coho, steelhead/rainbow trout, cutthroat trout and other salmon.

[20] We also received input requesting Salmon by troll not be allowed in MacKerricher SMCA because it leads to overfishing. The fish are harvested in large quantities, upsetting the delicate balance of biodiversity.

MacKerricher SMCA		
Category of Species	**Species**	**Gear Type**
	giant barnacle	hand or hand appliances
	stalked barnacle	hand or hand appliances
chitons	gumboot (China slipper)	hand harvest, hand or hand appliances, abalone iron,
	mossy chiton	hand harvest
	woody chiton	hand harvest
clams, mussels, and other bivalves	California mussel	hand harvest, hand appliances
	oyster	hand harvest, hand appliances
	rock scallop	hand harvest, dive knife, abalone iron, bar
	Pacific and fat gaper clam	hand or hand appliances
	butter or smooth Washington clams	hand or hand appliances
	Pacific razor clam	hand or hand appliances
	quohog	hand or hand appliances
	California mussel	hand or hand appliances
	oyster	hand or hand appliances
	Pacific littleneck clam	hand or hand appliances
other clams[21]	as listed	hand or hand appliances
crab	Dungeness crab	trap, hoop net
other crabs[22]	as listed	trap, hoop net
	purple shore crab	bait/line and cloth bag
limpets	all	hand or hand appliances
	shield limpet	hand or hand appliances
	slipper limpet	hand harvest
octopus and squid	squid	spear, bow and arrow
	market squid	net
	Pacific red octopus	hand or hand appliances (sharp stick)

[21] Clams include jackknife, geoduck, heart cockle, Nuttall's and other cockles, Pacific littleneck, Japanese littleneck (*Prothaca*), and Eastern soft-shell clams.

[22] Crabs include yellow, rock, slender, red, and purple shore crabs.

MacKerricher SMCA		
Category of Species	**Species**	**Gear Type**
	two spot octopus	hand or hand appliances (sharp stick)
	giant Pacific octopus	hand or hand appliances (sharp stick)
other invertebrates	giant green sea anemone	hand harvest, dive knife, bar, abalone iron
	other anemones	dive knife, bar
	California sea cucumber	hand harvest
	dentalium	hand harvest
shrimp	coonstripe shrimp	trap
	spot prawn	trap
	bay ghost shrimp	cloth bag
snails and abalone	red abalone	hand or hand appliances, free-diving, abalone iron
	black abalone	hand harvest
	Nucella	hand harvest
	black turban	hand harvest
	brown turban	hand harvest
	periwinkle	hand harvest
	checkered periwinkle	hand harvest
	Chinese hat	hand harvest, hand or hand appliances
	Olivella	hand harvest
	all	hand harvest
urchin	red sea urchin	hand or hand appliances, diving, dive knife, rock pick, hand harvest
	purple sea urchin	hand or hand appliances, diving, dive knife, rock pick, hand harvest
seaweed and plants	bull kelp	hand harvest
	giant kelp	hand harvest
	sea palm	hand harvest, knife
	ice plant	hand harvest
turf forming and foliose algae	sea lettuce	hand harvest

MacKerricher SMCA		
Category of Species	**Species**	**Gear Type**
canopy forming algae[23]	as listed	intertidal hand harvest
turf forming and foliose algae[24]	as listed	intertidal hand harvest
seabirds	eggs	hand harvest
feathers[25]	as listed	hand harvest
	Blue Heron feathers	hand harvest
mammals	sea lions	harpoon, spear, tow lines
	seals	harpoon, spear, tow lines
	whales	harpoon, spear, tow lines
geological resources	shells	hand harvest
	pebbles	hand harvest
	driftwood	hand harvest
	seasalt	hand harvest

MacKerricher SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "As with the other MPAs, this SMCA needs Tribal use wording that is consistent with Tribal use wording in the rest of the MPAs. As with the other MPAs, state that co-management with the Tribes "shall" be allowed rather than "should" be allowed." **Comments from Individuals:** Disallow the take of black abalone for conservation.

Table 4. Proposed uses for Ten Mile SMCA, Ten Mile Estuary SMCA and Vizcaino SMCA.

Ten Mile SMCA/ Ten Mile Estuary SMCA/ Vizcaino SMCA		
Category of Species	**Species**	**Gear Type**
coastal pelagic species[26]	as listed	dip net, round-haul, hand harvest
eels	Pacific lamprey	spear, hook, hoop net, bow and arrow

[23] Canopy forming algae include wakame, ocean ribbons, kombu, sweet kombu, feather boa, bladder wrack or rockweed, and walking-stick.

[24] Turf forming and foliose algae include nori/laver, sea lettuce, Turkish towel, and Mendocino grapestone.

[25] Feathers include feathers from Great Blue Heron, duck, osprey, eagle, Brown Pelican, gulls and other shorebirds.

[26] Coastal pelagic species include northern anchovy, Pacific sardine, Pacific mackerel, and jack mackerel.

Ten Mile SMCA/ Ten Mile Estuary SMCA/ Vizcaino SMCA		
Category of Species	**Species**	**Gear Type**
flatfish	California halibut	hook and line
	Pacific halibut	hook and line
groundfish	cabezon	hook and line
	kelp greenling	hook and line
	lingcod	hook and line, throw line
	rock greenling	hook and line
	rockfish	hook and line
	sculpin	hook and line
pelagic finfish	Pacific herring	dip net, cast net
salmon[27]	as listed	troll, hook and line, gill net, gig, gaff
smelt	eulachon	dip net, beach net
	surf smelt and night smelt	dip net, cast net, Hawaiian-type throw nets,
sea trout		string of throw lines/hooks
stickleback	stickleback fish	hook and line
surfperch	other surfperch including shiner surfperch	hook and line from shore, dip net, cast net
	redtail surfperch	hook and line from shore, dip net, cast net
barnacles	acorn barnacle	hand or hand appliances
	giant barnacle	hand or hand appliances
	gooseneck barnacle	hand or hand appliances
	stalked barnacle	hand or hand appliances
chitons	gumboot (China slipper)	hand harvest, hand appliances, abalone iron
	mossy chiton	hand harvest
	woody chiton	hand harvest
clams, mussels, and other bivalves	butter or smooth Washington clams	hand or hand appliances
	California mussel	hand harvest, hand or hand appliances

[27] Salmon include Chinook, Coho, steelhead/rainbow trout, cutthroat trout,, and other salmon.

Ten Mile SMCA/ Ten Mile Estuary SMCA/ Vizcaino SMCA		
Category of Species	**Species**	**Gear Type**
	oyster	hand harvest, hand or hand appliances
	Pacific and fat gaper clam	hand or hand appliances
	Pacific littleneck clam	hand or hand appliances
	Pacific razor clam	hand or hand appliances
	quohog	hand or hand appliances
	rock scallop	hand harvest, dive knife, abalone iron, bar
other crabs[28]	purple shore crab	bait/line and cloth bag
crab	Dungeness crab	trap, hoop net
limpets	shield limpet	hand or hand appliances
	slipper limpet	hand or hand appliances
	all	hand or hand appliances
octopus and squid	market squid	net
	squid	spear, bow and arrow
	Pacific red octopus	hand or hand appliances (sharp stick)
	two spot octopus	hand or hand appliances (sharp stick)
	giant Pacific octopus	hand or hand appliances (sharp stick)
other clams[29]	as listed	hand or hand appliances
other crabs[30]	as listed	trap, hoop net
other invertebrates	California sea cucumber	hand harvest
	dentalium	hand harvest
	giant green sea anemone	hand harvest, dive knife, bar, abalone iron
	other anemones	dive knife, bar
shrimp	coonstripe shrimp	trap

[28] Crabs include yellow, rock, slender, red, and purple shore crabs.

[29] Clams include jackknife, geoduck, heart cockle, Nuttall's and other cockles, Pacific littleneck, Japanese littleneck (*Prothaca*), and Eastern soft-shell clams.

[30] Crabs include yellow, rock, slender, red, and purple shore crabs.

Ten Mile SMCA/ Ten Mile Estuary SMCA/ Vizcaino SMCA		
Category of Species	**Species**	**Gear Type**
	spot prawn	trap
	bay ghost shrimp	cloth bag
snails and abalone	black turban	hand harvest
	brown turban	hand harvest
	checkered periwinkle	hand harvest
	Chinese hat	hand harvest, hand or hand appliances
	Nucella	hand harvest
	Olivella	hand harvest
	periwinkle	hand harvest
	red abalone	free-diving, abalone iron, hand or hand appliances
	black abalone	hand harvest
	all	hand harvest
urchin	purple sea urchin	hand or hand appliances, diving, dive knife, rock pick, hand harvest
	red sea urchin	hand or hand appliances, diving, dive knife, rock pick, hand harvest, intertidal hand harvest
seaweed and plants	bull kelp	hand harvest
	giant kelp	hand harvest
	ice plant	hand harvest
	sea palm	commercial intertidal hand harvest, hand harvest, knife
turf forming and foliose algae[31]	sea lettuce	hand harvest
	as listed	intertidal hand harvest
seabirds	eggs	hand harvest
feathers[32]	Blue Heron feathers	hand harvest
	as listed	hand harvest
mammals	sea lions	harpoon, spear, tow lines

[31] Includes all turf forming and foliose algae listed in the data sheet: nori/laver, sea lettuce, Turkish towel, and Mendocino grapestone.

[32] Feathers include feathers from Great Blue Heron, duck, osprey, eagle, Brown Pelican, gulls and other shorebirds.

Ten Mile SMCA/ Ten Mile Estuary SMCA/ Vizcaino SMCA		
Category of Species	**Species**	**Gear Type**
	seals	harpoon, spear, tow lines
	whales	harpoon, spear, tow lines
geological resources	driftwood	hand harvest
	pebbles	hand harvest
	seasalt	hand harvest
	shells[33]	hand harvest

Ten Mile SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "As with the other MPAs, this SMCA needs Tribal use wording that is consistent with Tribal use wording in the rest of the MPAs." **Comments from Individuals:** Disallow the take of black abalone for conservation.
Ten Mile SMR
Comments from Councils: "The Board is concerned about the apparent restrictions against Tribal uses and needs further explanation about planned uses and restrictions for this proposed MPA."
Vizcaino SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "The Council wants this MPA to allow for Tribal uses consistent with the MLPAI marine conservation goals and historic Tribal uses, with the ability for the Council to conduct co-management with the state." **Comments from Individuals:** Disallow the take of black abalone for conservation.

Table 5. Proposed uses for Big Flat SMCA.

Big Flat SMCA		
Category of Species	**Species**	**Gear Type**
eels	Pacific lamprey	spear, bow and arrow
groundfish	cabezon	string of throw lines/hooks
	lingcod	hook and line
	rockfish	hook and line

[33] Shells that are used on cultural items separate from food uses but are historically as important: red abalone, dentilium, Washington clam, *Olivella*.

Big Flat SMCA		
Category of Species	**Species**	**Gear Type**
	sculpin	hook and line
pelagic finfish	Pacific herring	dip net, cast net
salmon[34]	as listed	hook and line, gill net, gig, gaff
smelt	eulachon	dip net, beach net
	surf smelt and night smelt	dip net, cast net
sea trout		string of throw lines/hooks
stickleback	stickleback fish	hook and line
surfperch		cast net
barnacles	acorn barnacle	hand or hand appliances
	gooseneck barnacle	hand or hand appliances
	stalked barnacle	hand or hand appliances
chitons	gumboot (China slipper)	hand harvest
	mossy chiton	hand harvest
	woody chiton	hand harvest
clams, mussels, and other bivalves	California mussel	hand or hand appliances
	oyster	hand or hand appliances
	rock scallop	hand or hand appliances
	clams	hand or hand appliances
	jackknife clam	hand or hand appliances
	cockle	hand or hand appliances
other crabs[35]	purple shore crab	bait/line and cloth bag
limpets	shield limpet	hand harvest
	slipper limpet	hand harvest
	other limpet	hand harvest
octopus and squid	squid	spear, bow and arrow
	Pacific red octopus	hand or hand appliances (sharp stick)
	two spot octopus	hand or hand appliances (sharp stick)

[34] Salmon include Chinook, Coho, steelhead/rainbow trout, cutthroat trout, and other salmon.

[35] Crabs include yellow, rock, slender, red, and purple shore crabs.

Big Flat SMCA		
Category of Species	**Species**	**Gear Type**
	giant Pacific octopus	hand or hand appliances (sharp stick)
other invertebrates	giant green sea anemone	dive knife, bar
	other anemones	dive knife, bar
shrimp	bay ghost shrimp	cloth bag
snails and abalone	black turban	hand harvest
	brown turban	hand harvest
	checkered periwinkle	hand harvest
	Olivella	hand harvest
	periwinkle	hand harvest
	red abalone	hand harvest
	black abalone	hand harvest
urchin	purple sea urchin	dive knife, bar
	red sea urchin	dive knife, bar
seaweed and plants	bull kelp	hand harvest
	giant kelp	hand harvest
	sea palm	hand harvest, knife
	seaweeds	hand harvest
seabirds	eggs	hand harvest
feathers[36]	as listed	hand harvest
mammals	sea lions	harpoon, spear, tow lines
	seals	harpoon, spear, tow lines
	whales	harpoon, spear, tow lines
geological resources	driftwood	hand harvest
	pebbles	hand harvest
	seasalt	hand harvest
	shells[37]	hand harvest

[36] Feathers include feathers from Great Blue Heron, duck, osprey, eagle, Brown Pelican, gulls and other shorebirds.

[37] Shells that are used on cultural items separate from food uses but are historically as important: red abalone, dentilium, Washington clam, *Olivella*.

Big Flat SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** "Ask Blue Ribbon Task Force for clarification. The narrative explanation for this SMCA states that "[t]he intent is to prohibit all extraction except tribal uses." The proposed take regulations do not reflect the intent. Obtain clarification from RSG regarding this apparent contradiction." **Comments by Individuals:** This MPA overlaps traditional tribal gathering and spiritual sites. Co-management with tribes is requested for Big Flat SMCA.

Table 6. Comments on Petrolia Lighthouse SMR, Mattole Canyon SMR, and South Cape Mendocino SMR

Petrolia Lighthouse SMR
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Individuals:** Tribal gathering activity in this area is minimal but the proposed MPA overlaps with a tribal spiritual site. Co-management by tribes was suggested for Petrolia Lighthouse SMR.
Mattole Canyon SMR
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Individuals:** This MPA overlaps traditional tribal gathering and spiritual sites. Mattole Canyon is a location where, historically, members of the tribe used ocean canoes to fish for pelagic species. Currently this practice does not occur, but it is being reviewed and the tribe may want to engage in this activity in the future. Co-management by tribes was suggested for Mattole Canyon SMR.
South Cape Mendocino SMR
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Individuals:** Tribal gathering activity in this area is minimal but the proposed MPA overlaps with a tribal spiritual site. Co-management by tribes was suggested for South Cape Mendocino SMR.

Table 7. Proposed uses for South Humboldt Bay SMRMA and North Humboldt Bay SMRMA.

South Humboldt Bay SMRMA/ North Humboldt Bay SMRMA		
Category of Species	**Species**	**Gear Type**
groundfish	white sturgeon	hook and line, sturgeon trap
	green sturgeon	hook and line, sturgeon trap

South Humboldt Bay SMRMA/ North Humboldt Bay SMRMA		
Category of Species	**Species**	**Gear Type**
salmon[38]	as listed	weirs, net, spear
pelagic finfish	blue shark	hook and line, spear, harpoon
sharks, rays, and skates	leopard shark	hook and line, spear, harpoon
clams, mussels, and other bivalves	Pacific and fat gaper clam	hand or hand appliances
	butter or smooth Washington clams	hand or hand appliances
	quohog	hand or hand appliances
feathers	Blue Heron feathers	hand harvest
	duck feathers	hand harvest
	osprey feathers	hand harvest
	eagle feathers	hand harvest
	California Condor[39]	hand harvest
	mud hen feathers	hand harvest
geological resources	driftwood	hand harvest

South Humboldt Bay SMRMA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** This MPA is the least desirable and will have the greatest impact on contemporary tribal subsistence gathering. This MPA is not supported. **Comments from Individuals:** This MPA is directly adjacent to tribal land and would have a large impact on subsistence gathering. This area is traditionally managed regionally with individual families having different territories within the Bay. Placement of an MPA in South Humboldt Bay will result in impacts to these individual families. Co-management by tribes was suggested for this MPA.

[38] Salmon include Chinook, Coho, steelhead, and other salmon.

[39] High importance for regalia

North Humboldt Bay SMRMA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** Of the two SMRMAs proposed in Humboldt Bay, this MPA is more desirable and will have the least impact to modern tribal gathering. **Comments from Individuals:** Co-management by tribes was suggested for this MPA.

Table 8. Proposed uses for Samoa SMCA.

Samoa SMCA		
Category of Species	**Species**	**Gear Type**
coastal pelagic species[40]	as listed	dip net, throw net
eels	Pacific lamprey	hook, two pronged spear, basket eel trap
flatfish	California halibut	hook and line, net
	flounder (starry)	hook and line, net
	Pacific halibut	hook and line, net
	sand sole	hook and line, net
groundfish	cabezon	spear, hook and line, toggle harpoon, net
	green sturgeon	hook and line, sturgeon trap, spear, toggle harpoon, net
	kelp greenling	spear, hook and line, toggle harpoon, net
	lingcod	spear, hook and line, toggle harpoon, net
	rock greenling	spear, hook and line, toggle harpoon, net
	rockfish	spear, hook and line, toggle harpoon, net
	white sturgeon	hook and line, sturgeon trap, spear, toggle harpoon, net
pelagic finfish[41]	as listed	hook and line, harpoon, spear

[40] Coastal pelagic species include northern anchovy, Pacific sardine, Pacific mackerel, and jack mackerel.

[41] Pelagic finfish include barracudas, billfishes, dolphinfish, Pacific herring, blue shark, salmon shark, shortfin mako shark, thresher sharks, swordfish, tunas, and yellowtail.

Samoa SMCA		
Category of Species	**Species**	**Gear Type**
salmon[42]	as listed	spear, toggle harpoon, net, weirs
shark[43]	as listed	Spear, harpoon, hook and line
smelt	eulachon	dip net, throw net
	surf and night smelt	dip net, throw net
surfperch	other surfperch including shiner surfperch	hook and line from shore, dip net, throw net
	redtail surfperch	hook and line from shore, dip net, throw net
turbot	Pacific sanddab	hook and line, net
	sand sole	hook and line, net
clams, mussels, and other bivalves	butter or smooth Washington clams	hand or hand appliances
	Pacific razor clam	hand or hand appliances
crab	Dungeness crab	trap, hoop net
other clams	heart cockle	hand or hand appliances
	Nuttall's cockle	hand or hand appliances
	Pacific littleneck clam	hand or hand appliances
snails and abalone	*Olivella*[44]	hand or hand appliances
feathers	Blue Heron	hand harvest
	California Condor[45]	hand harvest
	cormorants	hand harvest
	duck	hand harvest
	eagle	hand harvest
	osprey	hand harvest
geological resources	pebbles[46]	hand harvest
	shells[47]	hand harvest

[42] Salmon include Chinook, Coho, steelhead, and other salmon.

[43] Sharks include leopard shark, California skate, big skate, bat ray, and spiny dogfish.

[44] High importance for regalia

[45] High importance for regalia

[46] Franciscan chert used as tool stone

Samoa SMCA		
Category of Species	**Species**	**Gear Type**
mammals	California sea lion[48]	toggle harpoon, spear
	Stellar sea lion[49]	toggle harpoon, spear
	grey whale[50]	hand or hand appliances

Samoa SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Councils:** The placement of an MPA in this area would be a great impact on contemporary tribal subsistence gathering. Gathering of shells is becoming more important as the interest, from youth, in traditional dance and regalia expand.

Table 9. Proposed uses for False Klamath Cove SMCA (also known as Wilson Rock *SMCA*).

False Klamath Cove SMCA (Wilson Rock SMCA)
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Individuals:** Co-management was proposed for this MPA; in particular, self monitoring of tribal community members was a method that was suggested.

Table 10. Proposed uses for Pyramid Point SMCA.

Pyramid Point SMCA		
Category of Species	**Species**	**Gear Type**
finfish	all	dip net, beach net, hook and line from shore hook and line from shore
invertebrates	all	hand harvest
clams, mussels, and other bivalves	all	hand harvest

[47] Including *Olivella* and small clams (Nuttall's cockle); collecting of shells important because younger generation is starting to practice traditions.

[48] Historical use, tusks used for medical and ceremonial regalia

[49] Historical use, tusks used for medical and ceremonial regalia

[50] Historical use, scavenged when washed up on beach

Pyramid Point SMCA		
Category of Species	**Species**	**Gear Type**
other invertebrates	giant green sea anemone	hand harvest
urchin	all	hand harvest
marine aquatic plants	all	hand harvest
geological resources	driftwood	no gear type specified
geological resources	shells	hand harvest

Pyramid Point SMCA
General Comments: This MPA overlaps with an area of traditional tribal gathering. **Comments from Individuals:** The take of geological resources should be allowed within the conservation area.

A-8: Species List

California Marine Life Protection Act Initiative

Draft List of Species Gathered by North Coast Tribes and Tribal Communities

July 29, 2010 Draft

This document contains a list of species that are gathered by tribes and tribal communities in the Marine Life Protection Act (MLPA) North Coast Study Region; this list has been compiled using information from two primary sources, including the *Regional Profile for the North Coast Study Region* as well as input gathered during meetings with tribes and tribal communities. Not all tribes and tribal communities that use marine natural resources in the MLPA North Coast Study Region submitted input to the regional profile and/or during outreach. Therefore, the list of species is considered the best readily available information but may not be a complete list of species gathered by all north coast tribes and tribal communities.

Additional information is welcomed from north coast tribes and tribal communities and may be shared in a number of ways. One option available is to submit input on species gathered by north coast tribes and tribal communities to MLPAcomments@resources.ca.gov or directly to the MLPA Initiative staff, as appropriate. Another option is to work directly with members of the MLPA North Coast Regional Stakeholder Group.

The list of species gathered by north coast tribes and tribal communities was not created by MLPA Initiative staff nor does it reflect the views or opinions of the California Department of Fish and Game, California Department of Parks and Recreation, or MLPA Initiative.

Species Gathered by North Coast Tribes and Tribal Communities

Fish

anadromous fish
bullhead
coastal pelagic species (northern anchovy, Pacific sardine, Pacific mackerel, jack mackerel)
eel (Pacific lamprey, California moray, wolf)
flatfish (California halibut, Pacific halibut, diamond turbot, C-O turbot, horny head turbot, Pacific sanddab, sand sole, starry flounder)
groundfish (lingcod, rockfish, bocaccio, sculpin, cabezon, greenling, rock greenling, kelp greenling)
Pacific herring
pelagic finfish (billfishes, barracudas, dolphinfish, swordfish)
perch
salmon (Chinook, Coho, ney-puy, other)
sea trout (Chiradae)
sharks (blue, leopard salmon, shortfin, mako, spiny dogfish, thresher)
skates and rays (bat ray, big skate, California skate)
smelt [surf fish, night fish, eulachon (candlefish)]
stickleback fish
sturgeon (white, green)
sucker fish
surfperch (redtail, several including shiner)
trout (steelhead, cutthroat, rainbow)
tunas
yellowtail

Invertebrates

abalone (red, black)
anemone (several, giant green)
barnacles (acorn, giant, gooseneck, stalked)
china hats
chitons [gumboot (China slipper), Katy (*Katherina*), mossy, woody]
clams [Pacific and fat gaper, Nuttall's cockle, heart cockle, rock cockle, butter, jackknife, horseneck, Washington, razor, quohog, geoduck, freshwater, littleneck (*Prothaca*), softshell]
crabs (Dungeness, yellow, rock, slender, red, purple shore)

Invertebrates (continued)

Crawfish
dentilium (terk-term)
limpets (giant owl limpet, slipper, shield. other)
mussel, California
octopus (Pacific red, two-spot, giant Pacific)
oyster, rock
sand flea
scallop, rock
sea cucumber (California sea cucumber, sea apple)
shells
shrimp (bay ghost, coonstripe shrimp, spot prawn)
snails (*Nucella*, *Tegula,* black turbin, brown turbin, periwinkle, checkered periwinkle, *Olivella*)
squid, market
urchin (several, purple, red

Seaweeds and Plants

canopy-forming algae (wakame, ocean ribbons, kombu, sweet kombu, feather boa, bladder wrack or rockweed)
driftwood
eelgrass
ice plant
kelp (bull, giant)
sea palm
turf-forming and foliose algae (nori, laver, sea lettuce, Turkish towel, walking-stick, Mendocino grapestone)

Birds

feathers
eggs
bittern
Brown Pelican
California Condor
Common Murre
cormorants
ducks (several)
eagle
fulmars
geese
grebes (Pied-billed, Western)
gulls
hawk (Red-tailed)
heron (Great Blue)
mud hen
osprey
Red Tailed Hawk
shearwaters
shorebirds (sandpipers)

Mammals

sea lion (California, Stellar)
sea otter
seal (northern fur, harbor)
whale (grey)

Other

turtle (several)

Geological Resources

chert
driftwood
fish bone
pebbles
shells
sea salt
seaglass
seatite

California Marine Life Protection Act Initiative

Summary of Input from North Coast Tribes and Tribal Communities Regarding the MLPA North Coast Project

Input submitted through August 25, 2010

Marine Life Protection Act (MLPA) Initiative and California Department of Fish and Game staff met with north coast tribes and tribal communities between May 20 and July 23, 2010 regarding Round 2 draft marine protected area (MPA) proposals developed for the MLPA North Coast Project; this document summarizes key themes that emerged from these meetings. The input from tribes and tribal communities was collected and synthesized from a series of outreach meetings with north coast tribes and tribal communities, public comments expressed at MLPA Initiative open houses, and submissions from tribes and tribal communities for the north coast regional profile, Appendix E. This document does not contain a comprehensive list of comments, but rather an overview of major ideas expressed. This summary is being provided to the MLPA North Coast Regional Stakeholder Group (NCRSG), MLPA Blue Ribbon Task Force (BRTF), and MLPA Master Plan Science Advisory Team (SAT) to help inform the development and evaluation of Round 3 MPA proposals.

Background

MLPA Initiative and California Department of Fish and Game staff engaged in meetings with north coast tribes and tribal communities to respond to questions about the MLPA Initiative and gather input on Round 2 draft MPA proposals, proposed allowed uses and proposed special closures in the MLPA North Coast Study Region.

The goals of meetings were to:

- Increase awareness of the MLPA Initiative among north coast tribes and tribal communities;
- Review Round 2 draft MPA proposals, proposed uses and special closures;
- Identify any proposed MPAs that overlap traditional tribal gathering areas and invite tribes and tribal communities to identify any proposed uses that they would like the NCRSG to consider for Round 3 MPA proposals; and
- Communicate opportunities for north coast tribes and tribal communities to provide input and become more engaged in the MLPA Initiative North Coast Project.

Key Themes

Below is a summary of key themes that emerged from meetings with north coast tribes and tribal communities. While the key themes are not tallied to represent the actual number of such responses received, each theme is representative of comments heard throughout the meetings. This document contains a few modifications based on additional input received since the original version was made available on July 29, 2010.

General Comments about the MLPA and MLPA Initiative. Regarding the MLPA, tribes and tribal communities were concerned about the lack of consultation that occurred when the law

was drafted and do not believe that the law should apply to them. Members of tribes and tribal communities noted that each tribe is a distinct, independent nation that merits consultation and representation within the MLPA planning process, and only having seven tribal representatives on the NCRSG is insufficient at representing the interests of all tribes in the north coast study region. In addition, some members of tribes and tribal communities believe that there should be tribal representation on all of the MLPA initiative planning groups, including not only the NCRSG, but also the SAT and BRTF. It was also expressed that the "western" standards under which the MLPA Initiative operates fail to address the needs of tribes and tribal communities in a culturally sensitive manner. Specific aspects of the planning process that tribes were concerned about include rigid timelines, initial disregard for including information about north coast tribes in the regional profile, and the invasive manner of data collection. Some tribes chose not to participate in the data collection process because they did not feel they needed to provide information to a law that should not apply to them. Tribes also chose not to share information because they were concerned with maintaining the confidentiality of their sacred sites and gathering methods, and they felt uncertain in how the data would be used in the future. Lastly, number of members of tribes and tribal communities expressed their concerns about the difficulty in managing large amounts of information produced by the MLPA Initiative, while simultaneously trying to handle other tribal business.

Sovereign Rights. Tribes and tribal communities consistently expressed that they never ceded to the State of California their sovereign and aboriginal rights to gather natural resources and therefore should not be subjected to California state laws and regulations. It was noted that tribal members and tribal governments are unique, distinct, political entities that have certain rights under federal law and, as a result, are under a unique legal classification that should have been exempted when the MLPA was drafted. Tribal members believe that the MLPA does not recognize the sovereign standing of federally recognized tribes in California and that aboriginal rights to gather are fundamental rights in which the California State Legislature has no authority to interfere.

Co-management, Enforcement, Monitoring and Education. There was significant interest from tribes and tribal communities in establishing co-management plans with the California Department of Fish and Game. As part of these co-management agreements, tribes and tribal communities expressed the desire to create their own management plans and be given the authority to regulate their own members. Since some members of tribes and tribal communities spend significant amounts of time on the coast, they believe that they can best participate in coastal management through direct monitoring and enforcement. There also was interest in establishing cross jurisdictional authority with tribal officers for monitoring the coast. In addition, members of tribes and tribal communities emphasized the importance of educating users about sustainable harvesting techniques and expressed the desire to conduct some of this education. One person expressed the idea of developing a mandatory education program on sustainable harvesting that would be given to users prior to any licensing or permitting.

Aspects of Traditional Tribal Gathering. It was clearly stated by a number of tribal members that "tribes will continue to gather as they have gathered since time immemorial." Tribes and tribal communities expressed that traditional tribal gathering generally occurs within or adjacent to current or historical tribal lands and specific areas are used by individual families or

family members so that an MPA placed in one location may unfairly displace members of one family or tribe but not others. Additionally it was noted that an individual tribal member may have unique knowledge of a gathering area that is not widely shared with other members of the same or other tribes. Further, within these gathering areas, tribes and tribal communities noted that they shift their effort from place to place to account for variation in the abundance and types of resources gathered each year, depending on what is available or how the ocean changes. Traditional tribal gathering was described as having minimal impact, with tribal members taking only what they need and gathering in a manner that is sustainable to the resource. Tribes also believe that their extensive historic use of marine natural resources makes them an essential part of the marine ecosystem within the north coast study region and helps to maintain the natural balance of that system. Members of tribes and tribal communities expressed that their long relationships with the coast and ocean give them a great wealth of knowledge about the local ecosystem and they believe that their input should be incorporated when trying to better manage the coast and ocean.

Significance of Cultural, Spiritual and Subsistence Gathering. It was expressed that implementation of no-take marine reserves poses a threat to the cultural and religious freedom, health, well-being, and the cultural identity of tribal members who require access to and use of coastal and marine areas to harvest and gather. Members of tribes and tribal communities noted that it is important for them to be able to access the coast to preserve and continue their traditional ways of life. Tribal members strongly emphasized the need to be distinguished as separate from recreational users, who are perceived to take resources for sport. Tribes and tribal communities indicated that they gather for subsistence and medicinal purposes, limiting their gathering to what is needed for their families and communities, e.g., gathering for widows, elderly, handicapped, and children. They expressed a concern that losing this opportunity will have an impact on their health and survival.

Concerns about Ecosystem Health. Members of tribes and tribal communities expressed concern about a number of other aspects of ocean health, including the unsustainable resource use by other users (particularly scraping algae off rocks so that it does not regenerate), water quality, climate change impacts, and oil drilling along the coast.

A-10: Database 1 Assumptions

A database was created for the tribal information that was gathered on the Round 2 North Coast MPA proposals. Input varied from specific species and gear-type combinations to broad categories such as finfish or invertebrates with associated gear-types. In order to create unique identifiers for each proposed use, codes were developed based on species and gear-type combinations, for example the code for salmon by hook and line from shore would be "salmhklfs."

When a broad category of species, such as invertebrates, was requested by a variety of gear types, each individual species of invertebrate with the associated gear type was coded in the database. Therefore every species and gear-type combination was assigned a unique code.

The species that were included in the broad categories were those listed on the datasheets used for outreach which in turn was based on Department of Fish and Game (DFG) definitions, such as for coastal pelagic finfish or canopy forming algae.

The following group definitions were used from the DFG:
Coastal Pelagic species: northern anchovy, Pacific sardine, Pacific mackerel, and jack mackerel
Pelagic finfish: barracudas, billfishes, dolphinfish, Pacific herring, blue shark, salmon shark, shortfin mako shark, thresher shark, swordfish, tunas, yellowtail
Canopy forming algae: wakame, ocean ribbons, kombu, sweet kombu, feather boa kelp, bladder wrack or rock weed, and walking-stick
Turf-forming and foliose algae: nori, sea lettuce, Turkish towel, and Mendocino grapestone

When the broad category of finfish was called out during tribal outreach, all fish on the datasheet were assumed to be included in this category, including flatfish, coastal pelagic finfish, and pelagic finfish. The only exception to this assumption occurred when the hook and line from shore gear-type was applied to Finfish. In this case, several of the pelagic finfish species were excluded due to the assumption that these species could not be caught from an angler fishing from shore. The following pelagic finfish species were excluded: billfishes, dolphin fish, Pacific herring, swordfish, tuna, and yellowtail.

Gear Type Assumptions:
In order to eliminate potential double counting of uses (species and gear type combinations), DFG definitions for specific gear types were used to remove redundancies. For example, the harvest of red urchin by hand, knife, and bar was recorded during outreach efforts. This could

be considered three separate uses; however, the DFG regulates all of these gear types under hand. Therefore, we combined all three gear types under hand, creating only one use.

Definitions:
Hook and line includes trolling (when both are listed), throw line, and hand line

Hand harvest includes all hand appliances such as abalone iron, knife, bar, sharp stick, and rock pick

Bay Ghost Shrimp by bait and cloth bag changed to Hand harvest

Seaweeds and Marine plants: all hand harvest

The Department of Fish and Game identified several species and gear types that were illegal or not relevant to the marine environment. While these species were removed during later analysis, they remain in this database, as this database reflects tribal requests gathered.

A-11: Recommended Changes to Proposed Uses

California Marine Life Protection Act Initiative

Recommended Changes to the Proposed Uses Intended to Accommodate Tribes and Tribal Communities in the Round 3 NCRSG MPA Proposal

Revised October 22, 2010

For the Marine Life Protection Act (MLPA) North Coast Study Region, a single marine protected area (MPA) proposal has been developed by the MLPA North Coast Regional Stakeholder Group (NCRSG) in Round 3 of the MPA planning process. The MPA proposal includes a number of individual MPAs that were identified to accommodate tribal uses. At the NCRSG's request, MLPA Initiative staff worked with the California Department of Fish and Game (DFG) to identify an initial list of legally appropriate species and gear types that should be included in the proposed allowed uses for each MPA based on Round 2 input from north coast tribes and tribal communities. This initial list of species and gear types was incorporated into the Round 3 NCRSG MPA Proposal's "Proposed Allowed Uses (Take Regulations)".

In an effort to move the MPA proposal forward for evaluation, the initial list was compiled and given only a preliminary review. Staff later conducted a more thorough review with input from DFG enforcement to ensure all legally appropriate species and gear types were included; Tables 1 and 2 include recommended changes to the proposed uses in the Round 3 NCRSG MPA Proposal based on this review. Integrating the recommended changes would require updating proposed allowed uses (Table 1) and the supporting appendix, Appendix 1 (Table 2) found in the description of MPAs document.

Information on the Round 3 NCRSG MPA Proposal, including the description of MPAs document, is available at http://www.dfg.ca.gov/mlpa/mpaproposals_nc.asp. Acronyms used in tables 1 and 2 include SMCA (state marine conservation area), SMP (state marine park), SMR (state marine reserve) and SMRMA (state marine recreational management area).

Table 1. Recommended Changes to Proposed Allowed Uses Identified in the Round 3 NCRSG MPA Proposal

Species	Proposed Change	Proposed MPAs
Anchovy	Remove, "including anchovy" from pelagic finfish reference by hook and line	Samoa SMCA
Barracuda, billfishes	Remove reference of, "barracuda" and "billfishes (4 species)" from SPEARFISHING list	Samoa SMCA
Bay and ghost shrimp	Change any reference from "bay ghost shrimp" by hand to "bay and ghost shrimp" by hand.	Big Flat SMCA, Vizcaino SMCA, Ten Mile Beach SMCA, Big River Estuary SMP, Navarro River Estuary SMRMA
Bay and ghost shrimp	For the reference of coonstripe shrimp by trap, add "bay shrimp and "ghost shrimp" so that the proposed allowed uses read, "coonstripe shrimp, bay shrimp, ghost shrimp and spot prawn (TRAP)."	Reading Rock SMCA
Clams	For the reference of "clams" by hand, add "and cockles"	Big Flat SMCA
Clams	For the reference of clams by hand, change to "clams (3 species) and cockles (2 species),"	Samoa SMCA

Species	Proposed Change	Proposed MPAs
Clams	For the reference of clams by hand, add "(4 species)"	South Humboldt Bay SMRMA
Clams	For the reference of "clams" by hand, modify to read, "clams (11 species) and cockles (2 species),"	Vizcaino SMCA, Ten Mile Beach SMCA
Clams	For the reference of "clams" by hand, modify to read, "clams (10 species) and cockles (2 species),"	Big River Estuary SMP and Navarro River Estuary SMRMA
Crabs	For the reference of "other crabs" by hand, trap or hoop net, change to “other crabs (yellow, rock, red, slender and purple shore),”	Reading Rock SMCA
Crabs	For the reference of "rock crabs" and "shore crabs" by hand, trap or hoop net, change to “other crabs (yellow, rock, red, slender and purple shore),”	Vizcaino SMCA, Ten Mile Beach SMCA, Big River Estuary SMP and Navarro River Estuary SMRMA
Greenling	Remove the reference of, "greenling"	Big Flat SMCA (by hook and line)
Greenling	Modify the proposed allowed uses to read, "greenling (2 species)…"	Reading Rock SMCA (under hook and line and spearfishing), Samoa SMCA (under hook and line and spearfishing), Vizcaino SMCA (hook and line), Big River Estuary SMP (hook and line), Navarro River Estuary SMRMA (hook and line)
Limpets	For the reference of limpets by hand, change “… limpets (3 species)” to “… limpets (4 species)”	Reading Rock SMCA
Limpets	For the reference of limpets by hand, change “… limpets (2 species)” to “… limpets (3 species)”	Big Flat SMCA
Longsaw mudsucker	Remove the reference of, "longsaw mudsucker (TRAP);"	Reading Rock SMCA
Mackerel	For the reference of mackerel by hook and line, add “(2 species),”	Reading Rock SMCA
Octopus	For the reference of octopus by hand, change to, "octopus (3 species),"	Reading Rock SMCA, Vizcaino SMCA, Ten Mile Beach SMCA, Big Flat SMCA, Big River Estuary SMP, Navarro River Estuary SMRMA
Redtail surfperch and other surfperch	Remove "redtail surfperch, other surfperch," from (HOOK AND LINE) and add new bullet, "redtail surfperch and other surfperch (HOOK AND LINE FROM SHORE);"	Reading Rock SMCA, Samoa SMCA, Vizcaino SMCA, Ten Mile Beach SMCA, Big River Estuary SMP and Navarro River Estuary SMRMA
Rockfish	For the reference of rockfish by spearfishing, amend to read, “rockfish (including bocaccio),”	Reading Rock SMCA

Species	Proposed Change	Proposed MPAs
Rockfish	For the reference of rockfishes by hook and line, remove the "-es" from "rockfishes" to read "rockfish"	Vizcaino SMCA, Ten Mile Beach SMCA
Sharks, skates and rays	For reference to sharks, skates and rays by hook and line, spear or harpoon, modify list to read, "sharks (7 species), ray, and skates (2 species)…"	Reading Rock SMCA (all methods listed)
Sharks, skates and rays	For reference to sharks, skates and rays by hook and line, spear or harpoon, modify list to read, "sharks (2 species), ray, and skates (2 species)"	Samoa SMCA (all methods listed)

Table 2. Recommended Changes to Appendix 1, which lists the specific species and gear types not included in the proposed allowed uses in the Round 3 NCRSG MPA Proposal

Species	Change	Appendix List
Eelgrass and surfgrass	Add, "Eelgrass and surfgrass by any method"	List 1
Reptiles	Need to add the reference of "reptiles" to the following statement, "Fresh water species of plants, fish and reptiles (MLPA does not apply to fresh water species)."	List 2
Sea salt	Need to add "sea salt" to the following statement, "Geological resources such as shells, pebbles, sea salt and driftwood (the California Fish and Game Commission does not prohibit the take of geological resources in state marine conservation areas unless specifically called out)"	List 2
Bay and ghost shrimps	Change any reference from "bay ghost shrimp" to "bay and ghost shrimp"	List 3
Trout	Add "steelhead rainbow trout"	List 1
Snails	Add "some snails (*Nucella*, periwinkle, checkered periwinkle, *Olivella*) by hand"	List 1
Sturgeon	Add "white sturgeon by troll, trap, spear, toggle harpoon, or net"	List 1
Pelagic finfish	Add "pelagic finfish by harpoon"	List 1
Redtail perch	Add "redtail perch by dip net or throw net"	List 1
Turtles	Add "Sea turtles by any method"	List 1

A-12: Description Excerpt

California MLPA North Coast Study Region
Description of Marine Protected Areas in the Revised Round 3 NCRSG MPA Proposal
November 16, 2010

MPA Name	MPA ID	Bio-region	MPA Boundaries (Exact or Approximate)	Designation	Preliminary Level of Protection**	Proposed Allowed Uses (Take Regulations)	Other Proposed Regulations
Samoa SMCA	1005229	Northern	North Boundary: North latitude 40 55.000 to the extent of state waters West Boundary: The state waters boundary South Boundary: North latitude 40 52.000 to the extent of state waters East Boundary: Mean high tide line	SMCA	Moderate low	The take of all living marine resources is prohibited except: 1. The commercial take of salmon (TROLL); Dungeness crab (TRAP); and surf and night smelt (DIP NET OR CAST NET). 2. The recreational take of salmon (TROLL); Dungeness crab (TRAP, HOOP NET OR DIVING); surf and night smelt (DIP NET OR CAST NET). 3. The recreational take, intended to accommodate tribal uses, of: • rockfish, cabezon, lingcod, greenling (2 species), California halibut, flatfishes (5 species), white sturgeon, sharks (2 species), ray and skates (2 species), pelagic finfish, and Pacific lamprey (HOOK AND LINE);	Recommend that Department of Fish and Game explore co-management opportunities with the Wiyot Tribe.

A-13: Database 2 Assumptions

Assumptions Made for Proposed Uses

Revised North Coast Regional Stakeholder Proposal (RNCP) Pyramid Point SMCA: Since larger categories of species were proposed in the take regulations for this MPA, but the exact species were not listed in "Appendix 7: Proposed Uses", the aggregated list of species "Appendix 8: Species List" was applied. If any of the species and gear type combinations in "Appendix 8: Species List" were determined illegal by the Department of Fish and Game (DFG), they were excluded. Below are the species that were included in the database for proposed uses with larger categories in the RNCP Pyramid Point SMCA.

Finfish by hook and line from shore only

coastal pelagic species : northern anchovy, Pacific sardine, Pacific mackerel, jack mackerel
flatfish: California halibut, Pacific halibut, diamond turbot, C-O turbot, horny head turbot, Pacific sanddab, sand sole, starry flounder
groundfish: lingcod, rockfish, bocaccio, sculpin, cabezon, rock greenling, kelp greenling)
Pacific herring
pelagic finfish: billfishes, barracudas, dolphinfish, swordfish
salmon: Chinook, Coho, other
sharks : blue shark, leopard salmon, shortfin mako, spiny dogfish, thresher, salmon shark
skates and rays: bat ray, big skate, California skate
smelt: surf fish, night fish, eulachon (candlefish)
stickleback fish
sucker fish
surfperch: redtail, shiner, other
trout: cutthroat, sea trout
tunas
white sturgeon
yellowtail

Marine invertebrates (includes clams, mussels, other bivalves, sea urchins) by hand

abalone: red
clams: Pacific and fat gaper, Nuttall's cockle, heart cockle, rock cockle, butter, jackknife, horseneck, Washington, razor, quohog, geoduck, , littleneck (*Prothaca*), eastern softshell)
mussel, California
oyster: rock
scallop: rock

urchin: purple, red

Marine aquatic plants (except for sea palm) by hand
canopy-forming algae: wakame, ocean ribbons, kombu, sweet kombu, feather boa, bladder wrack
kelp: bull, giant
turf-forming and foliose algae: nori, sea lettuce,Turkish towel, walking-stick, Mendocino grapestone

In the Enhanced Compliance Alternative MPA Proposal (ECA), the addition of recreational take of "pelagic finfish except salmon by spearfishing" was included in a number of the MPAs. The species that were listed in the database to represent this group of pelagic finfish include: barracuda, billfishes, blue shark, dolphinfish, jack mackerel, northern anchovy, Pacific herring, Pacific mackerel, Pacific sardine, salmon shark, shortfin mako shark, swordfishes, thresher sharks, tuna, and yellowtail

RNCP Samoa SMCA: Four species of flatfish were listed for Samoa SMCA because a fifth species was not to be found listed in "Appendix 7: Proposed Uses".

Assumptions in Determining Levels of Protection
The levels of protection (LOP) for the proposed species and gear types were assigned by the Science Advisory Team (SAT) and are summarized in table 3-1 of the *Draft Methods Used to Evaluate Marine Protected Area Proposals in the MLPA North Coast Study Region*, revised on November 17, 2010 (Master Plan SAT). When this table was found to be incomplete, the following assumptions were made in creating the databases.

Pelagic finfish by "hook and line from shore" was "hook and line in waters less than 50 meters" and therefore assigned a moderate LOP.

In the RNCP, since trolling for salmon was proposed in Reading Rock SMCA, Big Flat SMCA, Vizcaino SCMA, and Samoa SMCA, and this included trolling in waters less than 50 m depth, the more conservative LOP was used, and salmon by troll was given a moderate high LOP for all user groups.

In the ECA, the nearshore ribbon SMCAs for Big Flat, Samoa, and Vizcaino and Reading Rock were all given a moderate high LOP for salmon by troll, but the offshore SMCAs for Big Flat, Samoa and Vizcaino were given a high LOP for salmon by troll.

For the following species, the LOP for “hook and line from shore” was the same for “hook” and “hook and line”, when not specified otherwise: bat ray, big skate, bocaccio, cabezon, California halibut, California skate, c-o turbot, cutthroat trout, diamond turbot, eulachon, greenling, horny head turbot, kelp greenling, leopard shark, lingcod, night smelt, Pacific halibut, Pacific herring, Pacific sanddab, rock greenling, rockfish, sand sol, sculpin, sea trout, shiner surfperch, spiny dogfish, starry flounder, stickleback fish, sucker fish, surf smelt, and white sturgeon.

For the bay shrimp and ghost shrimp, take by trap was given a moderate LOP.

For blue shark, salmon shark, thresher shark and mako shark, take by bow and arrow, harpoon, and spear was given a moderate-high LOP for non-estuarine waters and a moderate-low LOP for estuarine waters.

For coonstripe shrimp and spot prawn, take by hand was assigned a low LOP.

For eulachon, a high LOP was given for “hook and line from shore.”

Night smelt and surf smelt by “hook and line from shore” was assigned a moderate-high LOP.

Pacific halibut by spearfishing was assigned a moderate-high LOP consistent with California halibut by spearfishing.

Pacific herring by spearfishing was assigned a high LOP consistent with other pelagic finfish by spearfishing.

Pacific lamprey by spearfishing was assigned a high LOP consistent with Pacific lamprey by spear.

Purple urchin, red abalone, and rock scallop take by hand was given a low LOP

Moderate-low LOP was assigned to sculpin by castnet and dipnet.

Take of stickleback fish and sucker fish by “hook and line” and “hook and line from shore” were assigned moderate LOP.

Surf smelt by beachnet was assigned a moderate-high LOP.

Topsmelt by cast net and dipnet were given a moderate-high LOPs.

Blue shark, salmon shark, shortfin mako shark, and thresher shark by harpoon were excluded from the database since the DFG determined that pelagic finfish by harpoon is illegal.

DFG determined that take of salmon by trolling, and hook and line are not legal take and, therefore, these uses were excluded from Navarro River Estuary and Big River Estuary.

Other Assumptions

All of Humboldt Bay, including South Humboldt Bay SMRMA, is considered estuarine waters.

A-14: Total Allowed Uses

Total allowed uses requested by tribal groups during tribal outreach for each round 2 MPA proposal:

Ruby 1

MPA_ID	MPA Name	Total Tribal Uses
1001462	Big River Estuary SMP	159
1001257	False Klamath Cove SMCA	104
1001473	MacKerricher SMCA	166
1001216	Mattole Canyon SMR	0
1001466	Navarro River Estuary SMCA	159
1001517	North Humboldt Bay SMRMA	41
1001812	Petrolia Lighthouse SMR	0
1001278	Point Cabrillo SMCA	159
1001258	Point St. George Reef SMCA	0
1001249	Pyramid Point SMCA	114
1001246	Pyramid Point SMR	114
1001228	Reading Rock Nearshore SMCA	0
1001227	Reading Rock Offshore SMCA	0
1001558	Russian Gulch SMCA	159
1001532	Samoa SMCA	158
1001215	South Cape Mendocino SMR	0
1001439	South Humboldt Bay SMRMA	41
1001441	Stone Lagoon SMRMA	0
1001295	Ten Mile SMCA	166
1001273	Ten Mile SMR	108
1001445	Ten Mile Estuary SMCA	166
1001559	Van Damme SMCA	159
1001556	Vizcaino SMCA	173

Ruby 2

MPA ID	MPA Name	Total Tribal Uses
1001569	Big River Estuary SMP	159
1001561	Mattole Canyon SMR	0
1001565	Navarro River Estuary SMCA	159

MPA ID	MPA Name	Total Tribal Uses
1001221	Petrolia Lighthouse SMR	0
1001250	Pyramid Point SMCA	114
1001251	Pyramid Point SMR	114
1001566	Reading Rock Nearshore SMCA	0
1001567	Reading Rock Offshore SMCA	0
1001560	South Cape Mendocino SMR	0
1001208	South Humboldt Bay SMRMA	40
1001563	Ten Mile Estuary SMCA	166
1001562	Vizcaino SMCA	167

Sapphire 1

MPA ID	MPA Name	Total Tribal Uses
1001469	Albion River Estuary SMCA	159
1001360	Big Flat SMCA	106
1001464	Big River Estuary SMP	159
1001568	MacKerricher SMCA	166
1001341	Mattole Canyon Offshore SMR	0
1001470	Navarro River Estuary SMCA	159
1001471	North Humboldt Bay SMRMA	41
1001555	Petrolia Lighthouse SMR	0
1001534	Point Cabrillo SMCA	159
1001297	Pyramid Point SMCA	114
1001296	Pyramid Point SMR	114
1001338	Reading Rock SMCA	0
1001337	Reading Rock SMR	0
1001330	South Cape Mendocino SMR	0
1001443	South Humboldt Bay SMRMA	41
1001528	Ten Mile SMCA	166
1001527	Ten Mile SMR	108
1001447	Ten Mile Estuary SMCA	166
1001522	Vizcaino SMCA	167
1001303	Wilson Rock SMCA	101

Sapphire 2

MPA ID	MPA Name	Total Tribal Uses
1001310	Big Flat SMCA	105
1001575	Big River Estuary SMP	159
1001354	Mattole Canyon Offshore SMR	0
1001554	Petrolia Lighthouse SMCA	0
1001570	Point Cabrillo SMCA	159
1001299	Pyramid Point SMCA	114
1001545	Reading Rock SMCA	0
1001331	South Cape Mendocino SMR	0
1001444	South Humboldt Bay SMRMA	41
1001573	Ten Mile SMCA	166
1001572	Ten Mile SMR	108
1001574	Ten Mile Estuary SMCA	166
1001526	Vizcaino SMCA	167
1001300	Wilson Rock SMCA	99

RNCP total allowed uses intended to accommodate traditional tribal gathering within each MPA:

MPA ID	MPA Name	MPA Designation	Total Tribal Uses
1005234	Big Flat	SMCA	58
1005240	Big River Estuary	SMP	82
1005232	Mattole Canyon	SMR	0
1005241	Navarro River Estuary	SMRMA	82
1005239	Point Cabrillo	SMR	0
1005226	Point St. George Reef Offshore	SMCA	0
1005225	Pyramid Point	SMCA	95
1005227	Reading Rock	SMR	0
1005228	Reading Rock	SMCA	188
1005229	Samoa	SMCA	71
1005233	Sea Lion Gulch	SMR	0
1005236	Skip Wollenberg/Ten Mile	SMR	0
1005237	Skip Wollenberg/Ten Mile Beach	SMCA	87
1005238	Skip Wollenberg/Ten Mile Estuary	SMRMA	0
1005231	South Cape Mendocino	SMR	0

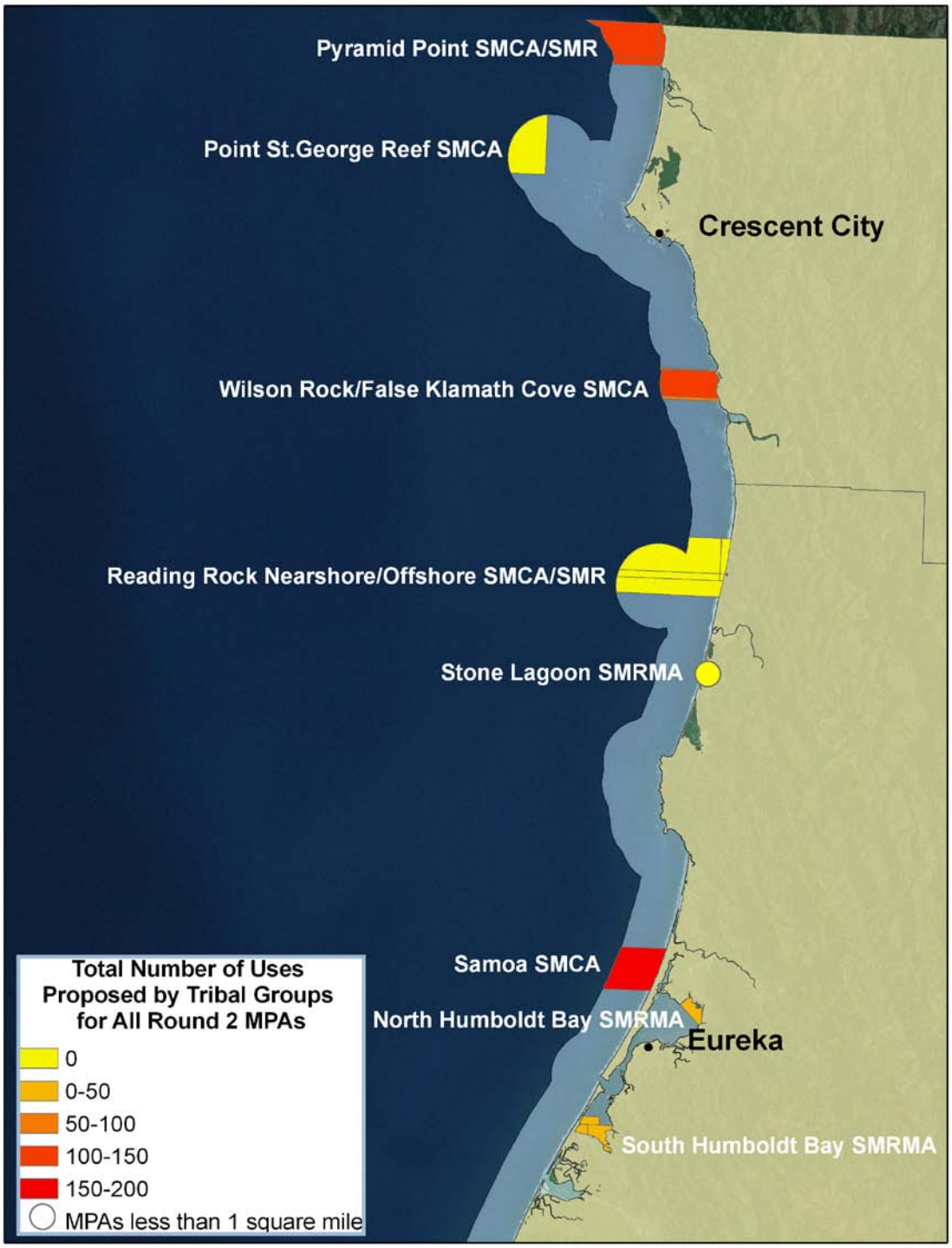
MPA ID	MPA Name	MPA Designation	Total Tribal Uses
1005230	South Humboldt Bay	SMRMA	9
1005235	Vizcaino	SMCA	84

ECA total allowed uses intended to accommodate traditional tribal gathering within each MPA:

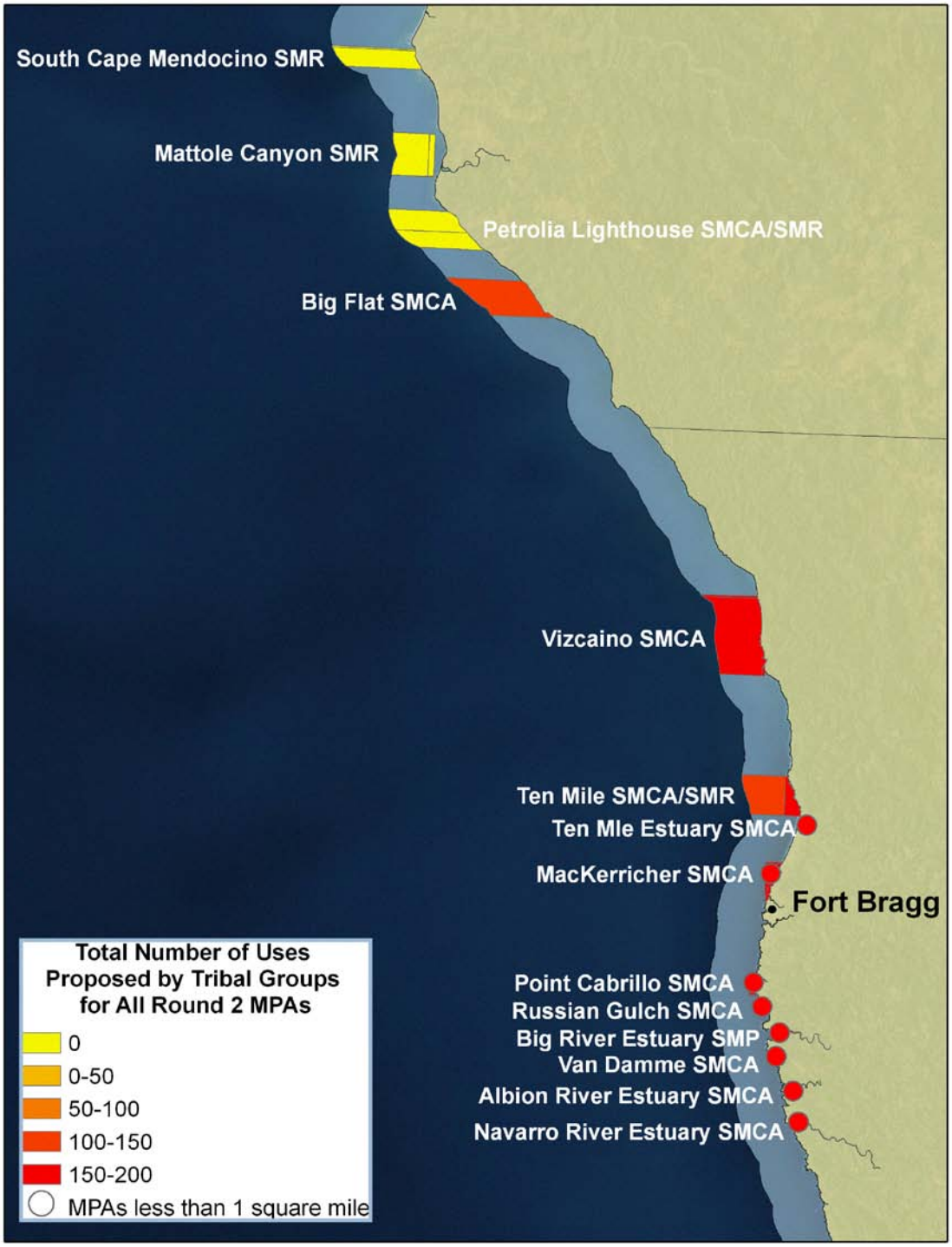
MPA ID	MPA Name	MPA Designation	Total Tribal Uses
1005213	Big Flat Nearshore	SMCA	58
1005212	Big Flat Offshore	SMCA	8
1005221	Big River Estuary	SMP	15
1005209	Mattole Canyon	SMR	0
1005222	Navarro River Estuary	SMRMA	17
1005220	Point Cabrillo	SMR	0
1005201	Point St. George Reef Offshore	SMCA	0
1005200	Pyramid Point Nearshore	SMCA	95
1005199	Pyramid Point Offshore	SMCA	6
1005202	Reading Rock	SMR	0
1005203	Reading Rock	SMCA	77
1005205	Samoa Nearshore	SMCA	78
1005204	Samoa Offshore	SMCA	37
1005210	Sea Lion Gulch	SMR	0
1005216	Skip Wollenberg/Ten Mile	SMR	0
1005218	Skip Wollenberg/Ten Mile Beach	SMCA	88
1005219	Skip Wollenberg/Ten Mile Estuary	SMRMA	0
1005207	South Cape Mendocino	SMR	0
1005206	South Humboldt Bay	SMRMA	0
1005215	Vizcaino Nearshore	SMCA	85
1005214	Vizcaino Offshore	SMCA	21

A-15: Round 2 Maps

Total number of allowed uses requested by tribal groups for all round 2 MPAs in the north half of the north coast study region:

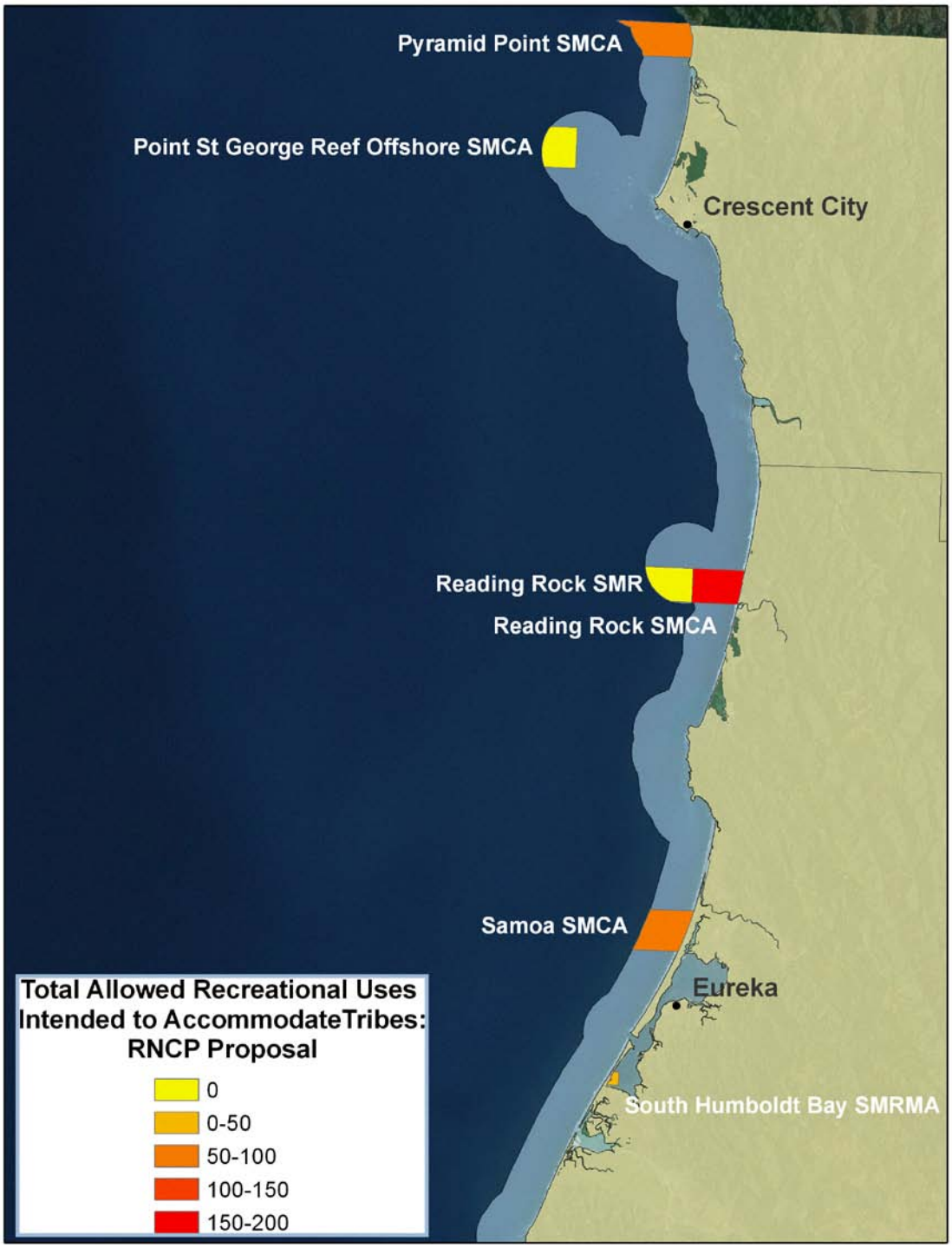


Total number of allowed uses requested by tribal groups for all round 2 MPAs in the south half of the north coast study region:

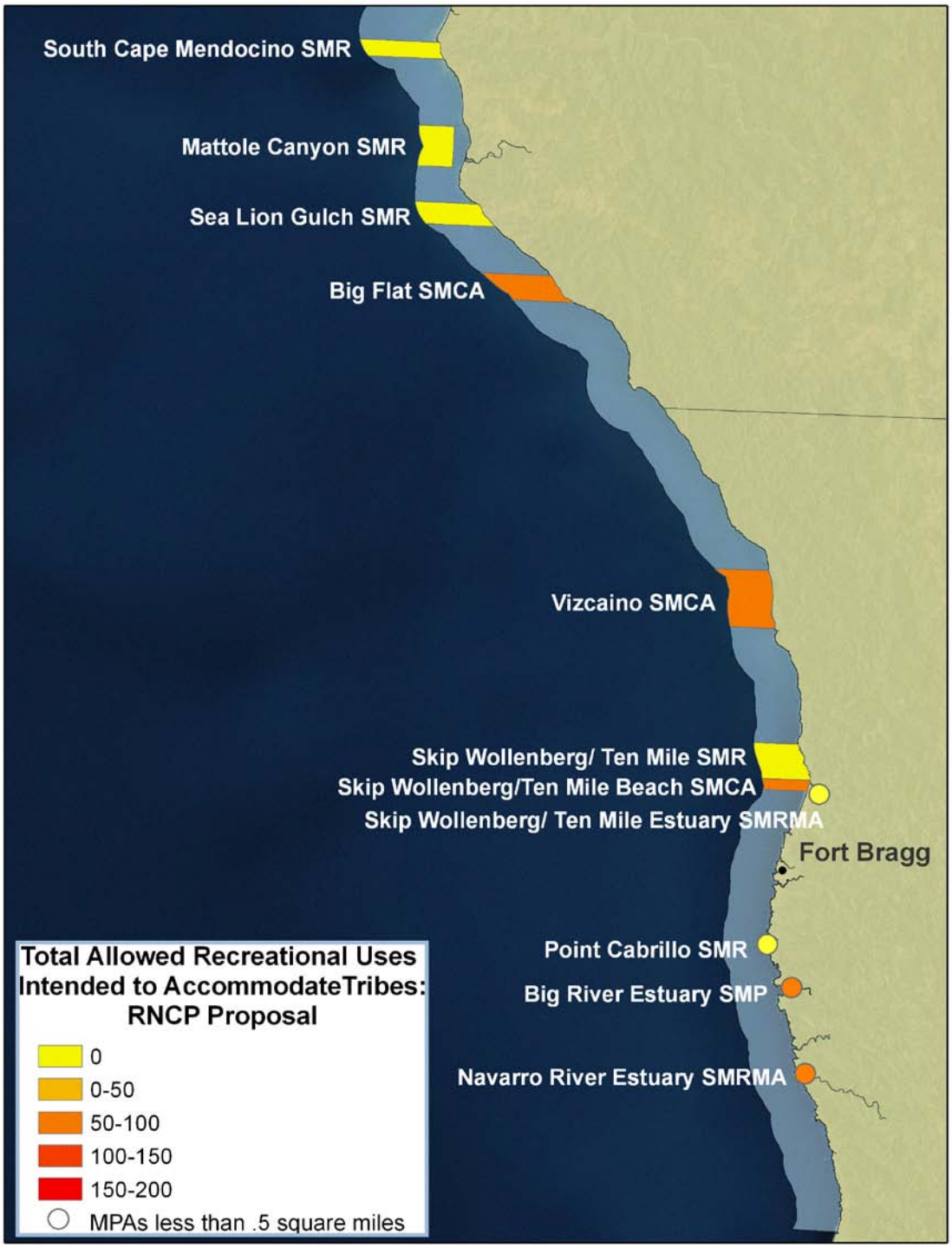


A-16: RNCP Maps

Total allowed recreation uses intended to accommodate tribes in the RNCP in the northern half of the north coast study region:



Total allowed recreation uses intended to accommodate tribes in the RNCP in the southern half of the north coast study region:



A-17: External Array Tables

Table 1: Area of MPAs in arrays included in RNCP

Array Name	Area of overlap between RNCP and each array (sq mi)	Amount of RNCP that overlaps with each array
Array B	55.01	40.97%
Array D	121.68	90.64%
Array F	54.79	40.81%

Table 2: Area of MPAs in RNCP not included in arrays

Array Name	Area of RNCP not overlapping with each array (sq mi)	Amount of RNCP not overlapping with each array
Array B	79.2	59.03%
Array D	12.6	9.36%
Array F	79.7	59.19%

Table 3: Amount of area within MPAs in each array that overlaps with the other two arrays

Array B	88.29%
Array D	43.63%
Array F	86.56%

Table 4: MPAs in the RNCP that were included, in part or in whole, in round one arrays*

Array B	Array D	Array F
Pyramid Point SMCA	Pyramid Point SMCA	Pyramid Point SMCA
	Reading Rock SMR	
South Humboldt Bay SMRMA	South Humboldt Bay SMRMA	South Humboldt Bay SMRMA
Mattole Canyon SMR	Mattole Canyon SMR	Mattole Canyon SMR
Skip Wollenberg/Ten Mile Estuary SMRMA	Skip Wollenberg/Ten Mile Estuary SMRMA	Skip Wollenberg/Ten Mile Estuary SMRMA
Skip Wollenberg/Ten Mile Beach SMCA		Skip Wollenberg/Ten Mile Beach SMCA
Skip Wollenberg/Ten Mile SMR		Skip Wollenberg/Ten Mile SMR
	Big Flat SMCA	
	Vizcaino SMCA	
Point Cabrillo SMR	Point Cabrillo SMR	Point Cabrillo SMR
	Big River Estuary SMP	
Navarro River Estuary SMRMA	Navarro River Estuary SMP	Navarro River Estuary SMRMA

*The configuration or shape of the MPA may have changed since the Round 1 Arrays were proposed, but if any of the initial area proposed exists in the RNCP, the MPA is listed here. MPAs with portions of their area found within a Round 1 Array, and portions that were only found in the RNCP will be listed in table four and the right column of table five.

Table 5

Portions of MPAs in the RNCP included in all three arrays*	**Portions of MPAs in the RNCP not included in any of the three arrays***
Pyramid Point SMCA	Point St. George Reef Offshore SMCA
South Humboldt Bay SMRMA	Reading Rock SMCA
Mattole Canyon SMR	Samoa SMCA
Skip Wollenberg/Ten Mile Estuary SMRMA	South Cape Mendocino SMR
Point Cabrillo SMR	Sea Lion Gulch SMR
Navarro River Estuary SMRMA	Reading Rock SMR
	Skip Wollenberg/Ten Mile Beach SMCA
	Skip Wollenberg/Ten Mile SMR
	South Humboldt Bay SMRMA

*The configuration or shape of the MPA may have changed since the Round 1 Arrays were proposed, but if any of the initial area proposed is not in the RNCP, the MPA is listed under the right column here. Similarly, if any of the initial area proposed exists in all three arrays and the RNCP, the MPA is listed in the left column of table 5. MPAs with portions of their area within a Round 1 Array and portions that were only found in the RNCP will be listed in table four and the right column of table five.

Table 6

Square miles of overlap between Arrays B, D, and F	78
Square miles of overlap between Arrays B, D, F, used in the RNCP	25
Amount of overlapping area between the three arrays used in the RNCP	32%
Amount of RNCP comprised of overlapping area between the three arrays	19%

Table 7: Area of arrays that was or was not included in the RNCP

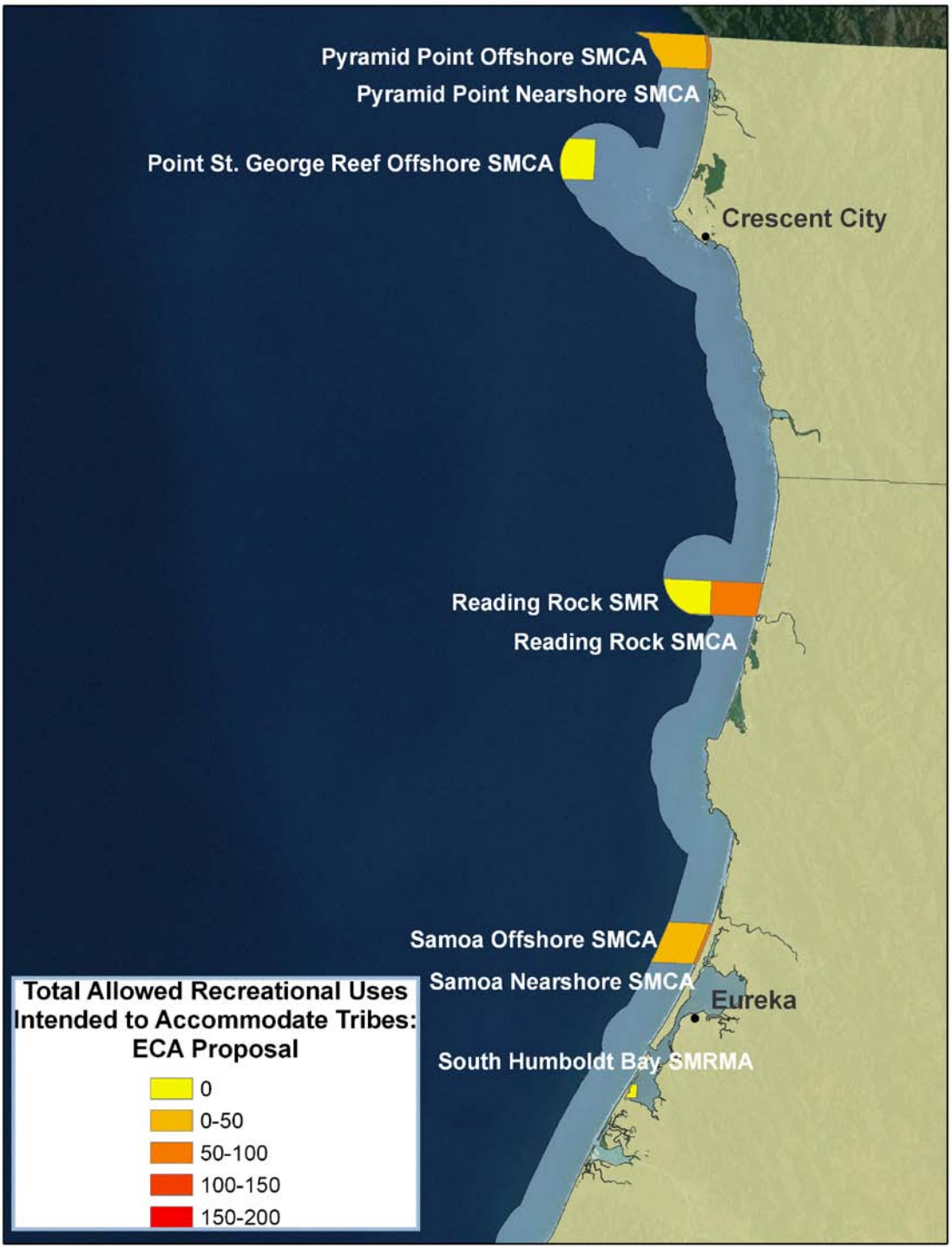
Array Name	**Amount of array area included in RNCP***	**Amount of Array area not included in RNCP****
Array B	62%	38%
Array D	68%	32%
Array F	61%	39%

* Calculated as (Array area included in the RNCP/Total Array Area x 100)

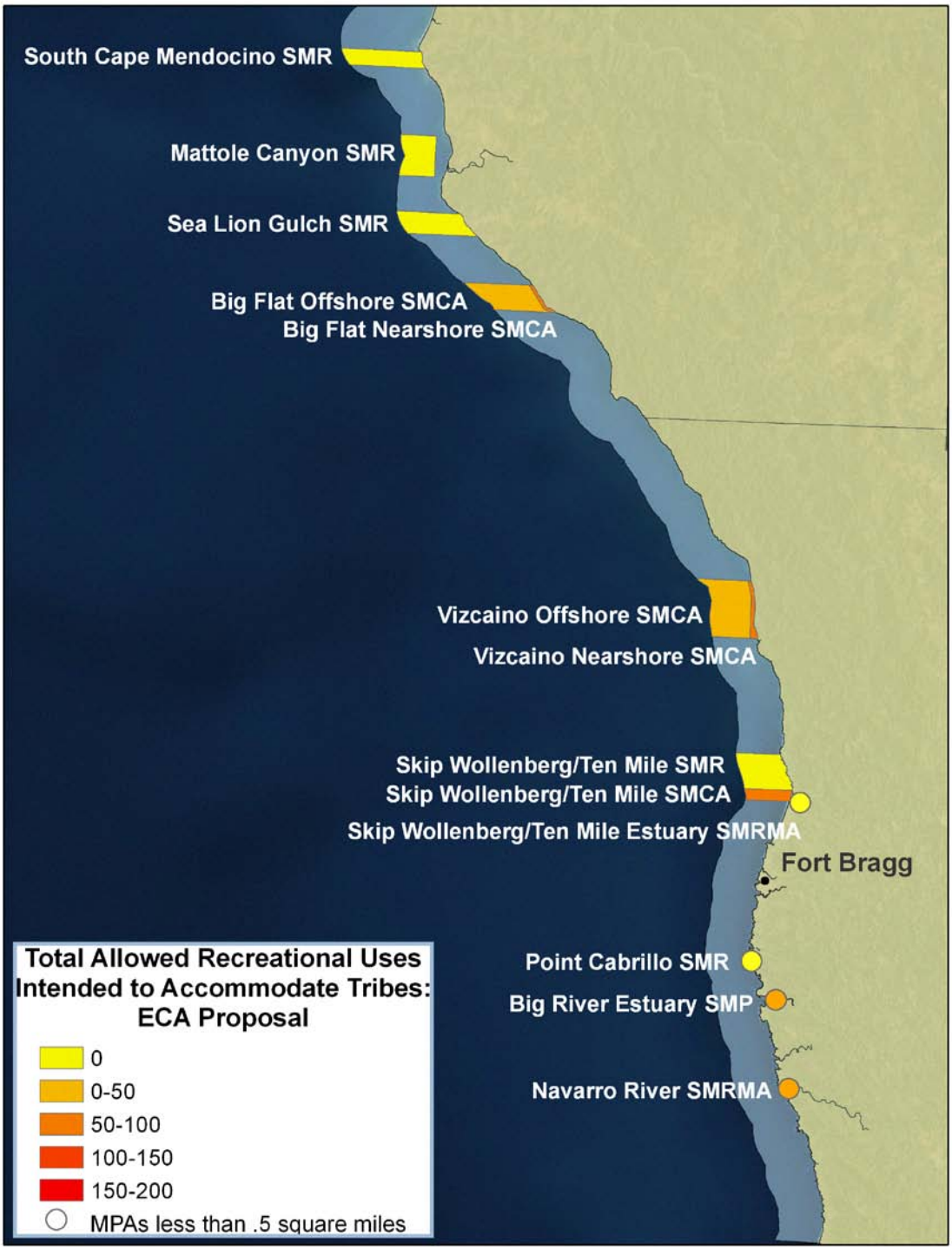
**Calculated as (Array area not included in the RNCP/Total Array Area x 100)

A-18: ECA Maps

Total allowed recreation uses intended to accommodate tribes in the BRTF ECA proposal in the north half of the north coast study region:



Total allowed recreation uses intended to accommodate tribes in the BRTF ECA proposal in the south half of the north coast study region:



A-19: Proposal 0 Allowed Uses

The following are species that allowed for commercial and/or recreational take within the four SMCA in Proposal 0. Proposal 0 represents the MPAs already present in the north coast study region prior to the MLPA. This was one of three proposals that were forwarded to the Fish and Game Commission for consideration.

Allowed recreational take of species in SMCAs include:

- finfish
- red abalone
- chitons
- crabs
- ghost shrimp
- clams
- cockles
- rock scallops
- native oysters
- lobster
- sea urchins
- mussels and marine worms except that no worms may be taken in any mussel bed unless taken incidentally to the take of mussels

Allowed commercial take of species in SMCAs include:

- finfish
- crabs
- ghost shrimp
- marine aquatic plants
- jackknife clams
- sea urchins
- squid
- worms, except that no worms may be taken in any mussel bed, nor may any person pick up, remove, detach from the substrate any other organisms, or break up, move, or destroy any rocks or other substrate or surfaces to which organisms are attached.

A-20: Changes to Levels of Protection in RNCP

The following table depicts the change in LOP as a result of including traditional tribal gathering in the RNCP. With the inclusion of tribal uses, nine of the 17 MPAs show a decrease in the level of protection assigned by the SAT to moderate-low or low, and therefore do not contribute to the meeting the science guidelines.

MPA Name	MPA Designation	LOP Commercial and Recreational Uses	Change	LOP including Tribal Uses
Big Flat	SMCA	Moderate High	↓	Low
Big River Estuary	SMP	Moderate	↓	Low
Mattole Canyon	SMR	Very High	No change	Very High
Navarro River Estuary	SMRMA	Moderate	↓	Low
Point Cabrillo	SMR	Very High	No change	Very High
Point St. George Reef Offshore	SMCA	Very High	No change	Very High
Pyramid Point	SMCA	Moderate High	↓	Low
Reading Rock	SMCA	Moderate High	↓	Low
Reading Rock	SMR	Very High	No change	Very High
Samoa	SMCA	Moderate High	↓	Moderate Low
Sea Lion Gulch	SMR	Very High	No change	Very High
Skip Wollenberg/Ten Mile	SMR	Very High	No change	Very High
Skip Wollenberg/Ten Mile Beach	SMCA	Moderate High	↓	Low
Skip Wollenberg/Ten Mile Estuary	SMRMA	Very High	No change	Very High
South Cape Mendocino	SMR	Very High	No change	Very High
South Humboldt Bay	SMRMA	Very High	↓	Moderate Low
Vizcaino	SMCA	Moderate High	↓	Low

A-21: LOP Evaluation

The Marine Life Protection Act mandates the development of a network of marine protected areas along the California coast based on the best available science. The MLPA further specifies that proposed MPAs be evaluated on their potential to meet the goals of the act, such as conservation of critical species and habitats (CDFG 2004). The Levels of Protection (LOP) evaluation was designed by the MLPA Master Plan Science Advisory team (SAT) as a means to evaluate the conservation potential of a range of MPAs. There is a large degree of flexibility built into the design process; with four different MPA classifications as well as an infinite array of possible allowed uses, both recreational and commercial, that could be allowed within proposed MPAs. The flexibility in the design of marine protected area designations and allowed activities means a variety of MPAs can be designed with varying activities and effects on the environment. The LOP evaluation simplifies this variation by addressing only the proposed allowed uses, specifically the species and gear types, to determine the conservation value or level of protection accorded to the environment within each MPA.

Levels of protection are determined using both direct and indirect effects of the manner of take for a given species. Direct effects include impacts of gear on the substrate and/or direct impacts of removing target and non-target species (California 2010). Indirect effects include ecosystem-wide effects of the removal of targets species (California 2010). There are several assumptions that are used in the LOP evaluations.

Assumptions:

1. There is no appreciable take aside from permitted scientific take for restoration and monitoring within state marine reserves (SMRs). Levels of protection for each activity (species and gear type) are based on differences observed from a SMR.
2. Activities that alter habitat will have large impacts on the ecosystem
3. Any activity occurs locally to the maximum extent possible under the law, i.e. allowable under current state and federal regulations.
4. An unharvested system is a marine reserve that is successful in eliminating fishing and other extractive uses within the MPA.
5. The proposed activity is occurring in isolation from other activities (without cumulative effects of multiple allowed activities). This assumption was based upon limitations in the SAT's ability to assess the cumulative impacts of multiple activities.
6. The lowest level of protection assigned to a species within an MPA will be assigned to the MPA as a whole.

The level of protection for each proposed allowed use is determine by running it through the LOP decision tree that evaluates the use based on both direct and indirect effects associated with that use. A conceptual model of the LOP decision tree can be found in Appendix 1. The levels of protection vary from very high (only given to State Marine Reserves, SMR) which indicate a low environmental impact to

low which indicates a high environmental impact. Below is a table defining the levels of protection designations.

Level of Protection	MPA Designation	Allowed Uses	Description of uses
Very High	SMR only	No allowed uses	• no take of any kind allowed
High	SMCA & SMP	Recreational/Commercial	• does not directly alter habitat • no substantial difference relative to SMR in species abundance or community structure
Moderate -High	SMCA & SMP	Recreational/Commercial	• does not directly alter habitat • may be differences in abundance and community structure relative to SMR, hard to distinguish from natural variation
Moderate	SMCA & SMP	Recreational/Commercial	• likely to alter habitat and abundance • unlikely to affect community structure
Moderate -Low	SMCA & SMP	Recreational/Commercial	• likely to alter habitat, • significant difference in abundance • community effects based on species interaction
Low	SMCA & SMP	Recreational/Commercial	• likely to substantially alter habitat leading to significant alterations in community structure

There have been several criticisms of the SAT evaluation for determining the level of protection within MPAs particularly with regards to traditional tribal gathering. One tribe in particular feels that this evaluation places a high burden of proof on tribes to show that their harvest methods are sustainable. We will address these major criticisms with regards to the LOP evaluation below.

The first major criticism is that the LOP evaluations do not acknowledge or recognize the importance of level of take (Yurok packet). The levels of protections evaluation works under the assumption that there will be maximum use under the law. This assumption neither reflects access to resources nor harvesting methods practiced by tribes and tribal communities in the North Coast. The geography of the North Coast is dominated by sheer cliffs and headlands with minimal access to the ocean in many places (MLPAI 2010). For example, of the 50 miles of coastline in Yurok territory, there are only 10 access points for vehicles and 6 for foot traffic (Yurok packet). Weather is another dominant controller of the level of access to resources, often restricting the number of fishing days during the year by a third or more (Regional Profile). While access might be restricted now, the SAT evaluations are meant to evaluate the future conservation potential of MPAs. Technology has the potential to increase access by creating safer means to fish during inclement weather or opening previously inaccessible stretches of coastline.

Tribes represent a small percentage of the population in the North Coast; 6.5%, 7.2%, 5.8% in Humboldt, Del Norte, and Mendocino counties respectively (US Census). Tribes and tribal communities traditionally

have had specific hunting grounds, only fishing within their tribal territory. Likewise, there are strong tribal lessons regarding what, when, why, where, and how to gather as well as who can gather (Appendix E). These tribal rules prescribe when and how marine resources are taken, including species, amounts, methods of gathering, time of year, time of day, specific locations, and the current health and density of the species to be gathered(Appendix E). One such example is the method of rotational harvesting. Specific areas are left alone for several years or seasons to increase the health and abundance of plant and animal habitats and populations. Archeological research by Whitaker (2008) provides evidence that rotational harvesting occurred historically at Punta Gorda Rockshelter, near Fort Bragg in the North Coast Study Region. Shell lengths found in the middens support the conclusion that patches within mussel beds were strip harvested every two years (Whitaker 2008). While this method did not confer the greatest amount of protein per mussel to harvesters, it appears to maximize the long-term sustainability of the mussel beds. Frequent harvesting of a mussel bed have been shown to increase the overall productivity and health of mussel populations (Yamada and Peters 1988). This idea of guardianship over their tribal lands and resources requires careful management and conservation by current generations for the future (Turner *et al* 2000). The SAT LOP evaluation's assumption of maximum use under the law means the evaluation gives an indication of the worst case scenario. While many of the uses intended for traditional tribal gathering may truly be utilized by tribes only, as the law is written any recreational users have the right to gather those species. The current legislation does not allow for tribes to be represented separately, therefore, the current LOP evaluation may be a more accurate version of conservation value. However, should tribal uses be regulated under a separate category in the future, using populations size may give a good proxy for the conservation value of MPAs as only a portion of tribal individuals harvest.

There may be some potential benefits to regulating tribes and evaluating traditional tribal uses separately. There have been several studies that have shown that small groups of artisanal fishermen can have a large effect on species (Hawkins and Roberts 2004, Coblentz 1997, Campbell and Pardede 2006). However, other studies have shown no significant negative effects from traditional gathering (Dalzell 1998, Whitaker *et al* 2008). Jennings et al (1996) showed that the MPAs in the Seychelles that allowed for artisanal fishing had significantly lower populations of three important fisheries species, but higher species abundances when compared to open access areas. In their 2008 review of current literature, Lester and Halpern showed that partially protected areas confer some environmental benefits over open access areas, but the results were not significant. No-take reserves were found to show the greatest benefits and yield significantly higher densities of organisms (Lester and Halpern 2008). While some studies have shown that small groups can have a large effect on species, the effects of tribal harvest in the North Coast are not known. Tribes and tribal communities have expressed a strong cultural and spiritual connection to the land which is reflected in their management of resources for thousands of years (Turner *et al* 2000). This strong connection to the land may not be reflected in the previous studies of artisanal fishing communities. Joint studies between tribes and tribal communities and western scientists on the effect of traditional tribal gathering methods on marine ecosystems are strongly needed. It is this type of information that would allow the SAT to evaluate tribal uses as a separate category should this change be made in legislation.

Another major criticism of the LOP evaluation is the lack of distinction between gear type and the true method of take for proposed uses. The gear types for all proposed allowed uses are based on the how DFG regulates those uses, and may not reflect the true method of take. An example of this problem is reflected in the harvesting of seaweed, particularly canopy forming kelp, in the North Coast. Tribes and tribal communities have articulated that the traditional method for harvesting seaweed is by cutting the seaweed above the holdfast, allowing the 'root' system to remain in the environment and encourage re-growth (Yurok Packet). This has been a common practice with commercial kelp harvesters throughout California. The top several feet of the kelp fronds are removed and grow back quickly over time (Barilotti *et al* 1985). A second harvesting method observed by other user groups is to completely scrape the seaweed from the rocks, removing the entire plant from the system (Yurok Packet). Both methods of harvest would be would be classified as hand harvest, however they have strikingly different effects within the marine ecosystem. This distinction is not captured by the current LOP evaluations. A simple solution would be for harvesting methods to be described in as much detail as possible. The Department of Fish and Game has encouraged tribes and tribal communities to be as detailed as possible with potential use regulations in MPAs. Giving more detail would both allow the SAT to better evaluate the actual ecological impact of a given use as well as restrict the more deleterious methods from within an MPA.

A final criticism addresses the assumption that all activities occur in isolation without cumulative effects of multiple allowed uses. As stated, the SAT understands that, in reality, there are cumulative environmental effects; however the model as it was designed does not thoroughly address this (California 2010). The structure and function of marine ecosystems varies in both space and time, and understanding all the biotic and abiotic factors and linkages would be nearly impossible, particularly within one evaluation model. The argument that was brought forth highlights the well known trophic interaction between sea otters, urchins, and kelp (Yurok Packet). In particular, the assertion is made that restricting the harvest of urchins will harm the kelp forest habitat. Many studies have highlighted the effect of removing sea otters from the natural ecosystem (Estes and Palmisano 1974, Estes *et al* 1978, Estes and Duggins 1995). In the absence of sea otter populations, urchin densities increase and kelp cover decreases (Estes *et al* 1978). Recent studies have shown that intense fishing pressure has led to trophic cascades in many marine ecosystems throughout the world (Pinnegar *et al* 2000, Shears and Babcock 2002). The ecosystems that we observed today and perceive as natural are the result of hundreds of years of fishing. The target species for most fisheries are the large-bodied, top level predators in these ecosystems (Shears and Babcock 2002). These same species serve as the same top-down functional control of ecosystems observed in the sea otter-urchin-kelp cascade. Further studies show that marine reserves have the potential to restore trophic interactions that have been lost due to fishing pressure (Pinnegar *et al* 2000, Shears and Babcock 2002, Babcock *et al* 1999, Guidetti 2006). Shears and Babcock (2002) investigated the predatory role of several species in two reserves in Australia on urchin populations. They showed that populations of spiny lobster as well as several species of predatory fish increased within the reserve relative to open access areas, leading to a significantly lower urchin population as well as a significantly higher kelp density. While the LOP evaluation does not directly measure the cumulative impacts of multiple allowed uses, it does take into consideration indirect effects on community structure and ecosystem function in assigning levels of protection to each

proposed use. The removal of species that have low mobility or a strong functional role in the ecosystem, such as forming biogenic habitats, are assigned lower levels of protection, indicating higher ecosystem wide consequences for the loss of those species. Because the evaluation does not take into account accumulation effects, the levels of protection are conservative estimates of the actual impact of activities. Increasing the scope of the evaluations could lead to more precise estimates of conservation potential, but would be incredibly data and time intensive, and would be subject to more uncertainty.

The SAT Level of Protection evaluation is a simplified method for evaluating the current and future conservation potential of MPAs. While this manner of evaluation has its limitations in accurately representing realistic take, its strength lies in its simplicity. The Department of Fish and Game has been regulating the take of marine species since its inception, using species specific gear regulations. The LOP evaluation cuts through current and future uncertainty of population size, access, and technology advancement to strictly look at the effects on species based on ecological information. How does the gear type affect the habitat of a given species? How do the ecological characteristics of a species make it vulnerable to removal from the system? And how is the ecosystem able to recover from removal of certain species? These are the fundamental questions that are being asked. While, tribal take may be unique in many ways, species are still being removed from the environment, and that does have an impact. Tribal gatherers are no longer harvesting in isolation from the greater population. While their methods may not have changed, the pressure on marine species has increased to the point where many fisheries have or are in danger of collapse. It is the job of the SAT to evaluate the proposals that are given to them on conservation value and how well they meet the guidelines and goals of the act. This type of evaluation encourages limited numbers of proposed uses and shifts the burden of maintaining conservation value to those designing the MPAs. It is in the best interest of those designing MPAs to determine which uses should be allowed, for example which species are truly found within the boundaries of an MPA, and to be very specific with proposed gear regulations.

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A-22: Changes to Levels of Protection in ECA

The following table depicts the change in levels of Protection (LOP) as a result of including traditional tribal gathering in the ECA. With the inclusion of tribal uses, 5 of the 21 MPAs show a decrease in the level of protection assigned by the SAT to moderate-low or low. These MPAs are no longer evaluated by the SAT as a result of the lower LOP and do not contribute to meeting the science guidelines. Because of the ribbon design restricting the offshore MPAs to moderate-high or above LOPs, more MPAs contribute to the overall proposal in the ECA.

MPA Name	MPA Designation	LOP Commercial and Recreational Uses	Change	LOP including Tribal Uses
Big Flat Nearshore	SMCA	Moderate High	↓	Low
Big Flat Offshore	SMCA	Moderate High	No change	Moderate High
Big River Estuary	SMP	Moderate	No change	Moderate
Mattole Canyon	SMR	Very High	No change	Very High
Navarro River Estuary	SMRMA	Moderate	No change	Moderate
Point Cabrillo	SMR	Very High	No change	Very High
Point St. George Reef Offshore	SMCA	Moderate High	No change	Moderate High
Pyramid Point Nearshore	SMCA	Moderate High	↓	Low
Pyramid Point Offshore	SMCA	Moderate High	No change	Moderate High
Reading Rock	SMCA	Moderate High	No change	Moderate High
Reading Rock	SMR	Very High	No change	Very High
Samoa Nearshore	SMCA	Moderate High	↓	Moderate Low
Samoa Offshore	SMCA	Moderate High	No change	Moderate High
Sea Lion Gulch	SMR	Very High	No change	Very High
Skip Wollenberg/Ten Mile	SMR	Very High	No change	Very High

Skip Wollenberg/Ten Mile Beach	SMCA	Moderate High	↓	Low
Skip Wollenberg/Ten Mile Estuary	SMRMA	Very High	No change	Very High
South Cape Mendocino	SMR	Very High	No change	Very High
South Humboldt Bay	SMRMA	Very High	No change	Very High
Vizcaino Nearshore	SMCA	Moderate High	↓	Low
Vizcaino Offshore	SMCA	Moderate High	No change	Moderate High