

# Summary Report

## Stakeholder Assessment

### to Inform North Coast MPA Monitoring Planning Process

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#### ABOUT THIS DOCUMENT

This document was prepared by Kearns & West, a neutral facilitation firm, and Strategic Earth Consulting, a communications firm, for the California Ocean Science Trust's MPA Monitoring Enterprise program, to inform the design of a community-focused process to develop a North Coast MPA Monitoring Plan.

#### EXECUTIVE SUMMARY

This summary report contains key findings and process recommendations stemming from a stakeholder assessment process conducted in June-July 2012 involving 35 diverse members of the North Coast community interested in marine protected area (MPA) monitoring. This report derives primarily from formal interviews conducted with individuals who served on the California Marine Life Protection Act (MLPA) North Coast Regional Stakeholder Group (NCRSG). This report is also informed by additional introductory conversations with members of North Coast tribes and tribal communities, as well as other North Coast community members and leaders.

The assessment had three main purposes, which were to inform:

- 1) the initial development of the North Coast MPA Monitoring Plan;
- 2) the design of the first steps in monitoring - the North Coast MPA Baseline Program; and
- 3) a tribal and community engagement approach to support the North Coast MPA Monitoring Plan development process.

Respondents articulated a variety of recommendations related to these purposes, the most common of which covered the following topics:

*The initial development of the North Coast MPA Monitoring Plan:* Community members advised collaboration with local scientists and experts in order to establish an effective monitoring program to produce scientific and regionally-informed ecological and socioeconomic data to assess MPA effectiveness.

*The importance of baseline monitoring:* Community members want to know the starting conditions of the North Coast ocean environment in order to understand how those conditions may change in response to MPA implementation. Respondents consistently mentioned the unique aspects of marine and coastal ecosystems on the North Coast and therefore recommended that the North Coast not be "lumped in" with the entire California coastline. Rocky bottom habitat, rockfish, kelp, mussels, urchin and abalone were mentioned as important habitat and species to monitor.

*A community engagement approach to support the MPA monitoring plan development process:* Respondents broadly advocated keeping the Monitoring Enterprise's initial outreach and

engagement efforts in the North Coast informal, personal, and focused on building relationships and trust. Several respondents suggested that events should be well advertised with sufficient notice, and should be held at times that are respectful of people's schedules. These respondents suggested avoiding replicating elements of the outreach approach used by the MLPA Initiative in the MPA planning process (e.g., PowerPoint presentations, formal public comment periods).

*A tribal engagement approach in partnership with the Monitoring Enterprise:* Tribal and non-tribal community members alike stated that engaging tribal governments in conversations early in the process is crucial to the establishment of trust necessary for developing lasting partnerships.

#### Outline of Assessment Report

This assessment report is organized into the following sections:

- Section I: Introduction
- Section II: Overview of community member interests
- Section III: Community member advice on North Coast MPA Monitoring Plan development
- Section IV: Community member perspectives on challenges and keys to success
- Section V: Community member advice on Baseline Monitoring design
- Section VI: Tribal engagement feedback
- Section VII: Community involvement process recommendations

## **I. Introduction**

In June and July 2012, Kearns & West conducted confidential interviews with 19 former members of the Marine Life Protection Act (MLPA) North Coast Regional Stakeholder Group (NCRSG) representing a broad diversity of fishing, conservation, recreational, business, research, and tribal interests and perspectives. All of the former members of the NCRSG were invited to participate in the stakeholder interviews. Complementing these efforts, Strategic Earth Consulting conducted a series of introductory phone calls with tribal representatives and 16 other North Coast community members and leaders, including local elected officials. The primary purpose of the interviews and conversations was to gain information to inform the development of the North Coast MPA monitoring plan, the design of the baseline monitoring program, an approach for tribal engagement, and a community-focused process to support these efforts. A copy of the formal interview questions is attached as Appendix A.

## **II. Overview of Community Member Interests**

The respondents represented a wide variety of interests and perspectives with respect to ocean uses in the North Coast study region. When asked to describe their interests in MPA monitoring in the North Coast, common themes emerged. Consistently, respondents expressed a strong interest in having the economic benefits of monitoring (e.g., funding for conducting baseline monitoring) be received by North Coast community members. They believe that collaboration with local scientists and experts will improve MPA monitoring. Many expressed interest in understanding how local ecosystem attributes, including fish size and fish abundance, may change as a result of MPA implementation.

## **III. Community Member Advice on North Coast MPA Monitoring Plan Development**

Respondents were asked three questions pertaining to development of a North Coast MPA Monitoring Plan:

1. When developing MPAs for the North Coast:
  - a. What information did you find most useful (and why)?
  - b. What information was lacking?
2. The monitoring plan will be designed to provide information that resource managers and decision-makers can use to make well-informed decisions during future MPA reviews. What information will be most useful for resource managers, decision-makers, and others interested in MPA effectiveness?
3. What in your view are the most important questions for MPA monitoring to answer?

Respondents mentioned the importance of producing scientifically-rigorous, regionally-informed data that documents changes occurring inside versus outside the MPAs and evaluates the effectiveness of the MPAs in increasing fish size, abundance, and diversity. Respondents generally advocated that monitoring to be conducted, to the greatest extent possible, by local scientists and experts and placed great emphasis on the need to include local knowledge, including traditional ecological knowledge (TEK), in all aspects of monitoring.

In considering the above questions, respondents offered the following comments and recommended priorities to inform development of the North Coast MPA Monitoring Plan:

Reflections on information that was important to inform the North Coast MPA planning process

- Having access to accurate habitat data was useful for developing MPA proposals. Hard bottom habitat data (rocky shore, shallow rock, and deep rock) were most frequently mentioned as important information, since these habitats support the largest diversity of species.
- Socioeconomic data were important for understanding the potential impacts of MPAs on coastal communities.
- The amount of information and data available was seen as overwhelming.
- While scientific data was important, local knowledge and anecdotal data contributed by local experts was also very important.
- There was a shortage of cultural information, particularly regarding tribal customs and traditional resource use.

Recommendations for developing the MPA monitoring plan

Respondents provided a variety of suggestions to inform the development of the MPA monitoring plan for the North Coast region. In particular, fishermen were interested in having monitoring address key species of commercial or recreational value, such as urchins, abalone, Dungeness crab, rockfish, and kelp, while many other respondents mentioned the importance of monitoring potential socioeconomic effects. An expanded list of monitoring plan recommendations is included as Appendix B.

Questions the monitoring plan should answer

When asked to identify the most important questions for the monitoring plan to answer, several common themes emerged, including:

- How effective will the MPAs be? In particular, will there be an increase in fish populations, fish size, and biodiversity?
- How will the ecology of the MPAs compare to non-MPA areas?
  - Will there be an increase in fish populations in non-MPA areas?
  - Will species change locations?
  - Will there be a significant effort shift of consumptive human uses?
- What will the long-term effects of the MPAs be, including socioeconomic effects and impacts on coastal communities?
- How effective will enforcement of the MPAs be?

An expanded list of key questions for monitoring to answer is listed in Appendix C.

#### **IV. Community Member Perspectives on Challenges and Keys to Success**

Respondents provided their perspectives on the challenges in and keys to success for developing and implementing the North Coast MPA Monitoring Plan. Generally, these fell into three main categories: funding for monitoring and the economic impact on North Coast communities, community engagement in and support for monitoring, and unpredictable oceanographic and weather conditions. Key comments are listed below.

### Funding and the economy

- Funds to establish baseline data and to support consistent and long-term monitoring are integral to success. Several respondents expressed concern that consistent public funding will not be available to support long-term monitoring.
- Private funding for long-term MPA monitoring may result in increased resistance toward and diminished trust in the MPA monitoring program.
- Due to challenges currently facing the North Coast economy, it is important that any economic benefits associated with MPA monitoring remain in the region.

### Community engagement and support

- Transparency is fundamental to the success of the MPA monitoring planning process. Once monitoring is underway, monitoring results need to be communicated often and in common terms. Many of the respondents drew explicit attention to the North Coast MPA Baseline Program Request for Proposals (RFP) process and indicated that this process was currently poorly understood and as such did not have significant buy-in from North Coast community members.
- There is a common concern that monitoring will be conducted by scientists based outside the region, thereby decreasing opportunities for local involvement. Many respondents indicated a strong desire to see local scientists and experts involved in the monitoring, and indicated that this will result in local community members having greater trust in the accuracy and validity of the information produced. There was also strong interest in ensuring that information collected be accessible to the region in an effort to build local capacity.
- There is concern that the public will not be heard throughout this process, or that the input they provide will not be considered and/or integrated in development of the North Coast MPA Monitoring Plan. Some respondents mentioned the importance of on-going outreach to ensure that a variety of viewpoints are considered.

### Weather and oceanographic conditions

- Weather and oceanographic conditions on the North Coast make it difficult to schedule and collect data in the region, therefore careful consideration will need to be given to the development of appropriate protocols.
- Nearshore conditions are often turbid, with low visibility, and may pose challenges for monitoring.
- The remoteness of some MPAs will make it difficult to monitor them on a routine basis.

## **V. Community Member Advice on North Coast MPA Baseline Program Design**

Interview questions about the North Coast MPA Baseline Program focused on soliciting information about priority monitoring metrics and expected changes to coastal and marine ecosystems, including consumptive and non-consumptive uses, that may occur in response to the implementation of MPAs. North Coast community members were supportive of baseline monitoring that documents existing conditions in the North Coast ocean environment and provides information on potential changes following the implementation of the MPAs.. Respondents pointed out that conditions and ecosystems in the North Coast region are unique

and therefore should not be “lumped in” with the entire California coastline. The following section highlights key themes heard, while a complete list of answers received is in Appendix D.

What are key habitats and ecosystems on which monitoring should focus?

Respondents consistently noted that rocky bottom habitat at all depths is a priority for monitoring. These areas provide habitat for economically important species such as rockfish, urchin, and abalone.

What are key species on which monitoring should focus?

Economically important species were most often mentioned as priorities for monitoring. Many respondents recommended that baseline monitoring focus on monitoring rockfish and abalone size, abundance, and distribution. Urchin, salmon, and Dungeness crab were also commonly described as high-value fisheries.

What changes in ecology are expected within the first five years of monitoring?

A majority of respondents observed that the effects of MPA implementation will likely occur over the longer term, beyond the first five years following implementation. Many respondents noted that they hope to see larger fish sizes and populations within the MPAs, but they believe that monitoring will not be easy to implement based on ocean conditions and unpredictable weather in the region, and therefore these ecological changes may be difficult to detect. Several respondents also noted that the ecological health of some areas outside of the MPAs could decrease due to increased human use associated with effort shift from the areas that became MPAs.

What are priority human uses, both consumptive and non-consumptive, that should be monitored?

Most respondents emphasized the need for monitoring consumptive uses, although a few described the importance of monitoring non-consumptive uses as well. Respondents consistently expressed concern about effort shift within the region and the potential negative impact on species and ecosystems outside of the MPAs. Recreational and commercial fishing, particularly abalone diving, spear-fishing, kayak angling, and kelp harvesting, were mentioned as key consumptive uses that should be monitored in the North Coast region.

On which consumptive and non-consumptive human uses should monitoring focus within the first five years following implementation of MPAs?

In addition to monitoring recreational and commercial fishing, many respondents were interested in understanding potential changes in other socioeconomic factors, including changes in traditional cultural resource use.

What changes in human uses, both consumptive and non-consumptive, are expected within the first five years of monitoring?

Respondents noted that changes to patterns of human use are likely to be greater than changes in marine and coastal ecosystems within the first five years of monitoring. Respondents commonly pointed to effort shift as the likely cause of changes in fishing patterns and to the local communities supported by fishing.

## **VI. Tribal Engagement Feedback**

Many tribal and non-tribal respondents alike stressed the importance of reaching out early to and working consistently with North Coast tribes and tribal communities. These respondents also noted that each tribal government will have different interests with regard to MPA

monitoring and co-management, and development of an approach for engagement that reflects these differences was encouraged

Three main points emerged from respondents representing tribal interests:

1. Respondents strongly recommended that initial conversations be convened by working through existing intertribal organizations. Several recommended working with the Northern California Tribal Chairmen's Association to reach out to and coordinate with the coastal tribes in Humboldt and Del Norte Counties, and the InterTribal Sinkyone Wilderness Council for tribes in Mendocino County. Following these broader introductions, the Monitoring Enterprise was encouraged to hold in-person conversations with individual tribal governments.
2. Tribal representatives expressed interest in co-management, although it was recognized that co-management is under the purview of the California Department of Fish and Game (DFG) and not the Monitoring Enterprise. These respondents emphasized that tribes want to be equal partners in the monitoring process and in managing the MPAs. Respondents also noted that while tribes have collaborated with DFG and other state agencies on many issues in the past, it will be important for the Monitoring Enterprise (as a program of the independent non-governmental California Ocean Science Trust) to establish itself and form relationships separate from DFG.
3. Several respondents expressed a strong interest in the inclusion of traditional ecological knowledge (TEK) as an integral part of monitoring. There was concern expressed regarding the distinction – or separation – between “western” science and “tribal” science, and many tribes and tribal communities are interested in participating in all aspects of monitoring. These respondents expressed interest in forming a partnership with the Monitoring Enterprise and beginning to break down distinctions between different forms of science.

## **VII. Community Engagement Process Recommendations**

Respondents were asked to provide feedback on a proposed two-phased approach for community engagement in the development the North Coast MPA Monitoring Plan:

- Phase 1: The first phase would focus on learning about key interests and views on MPA monitoring from North Coast community members, introducing the Monitoring Enterprise to North Coast communities, building relationships, receiving information to guide development of the Baseline Monitoring Program, and informing future monitoring planning activities. Phase 1 would be conducted throughout the summer of 2012, during which Monitoring Enterprise staff would reach out to local communities, governments, scientists, community leaders, and tribes and tribal communities. In August 2012, the Monitoring Enterprise would convene a suite of evening community events in major locations such as Fort Bragg, Eureka/Arcata, and Crescent City in order to meet and hold initial conversations with community members.
- Phase 2. The second phase would focus on continuing to gather input on MPA monitoring priorities to inform the development of the North Coast MPA Monitoring Plan. Beginning in fall 2012, the Monitoring Enterprise would hold conversations to ensure that the North Coast MPA Monitoring Plan reflects community priorities, is responsive to management needs, and is scientifically rigorous. The process design for this second phase would be informed by the information gathered during Phase 1 and would include opportunities for community input and engagement. Ultimately, a draft of the North Coast

MPA Monitoring Plan would be released for public comment, likely in spring 2013. The plan would then be revised in consideration of comments received and submitted to the California Fish and Game Commission for possible adoption.

In their responses, respondents generally supported the proposed approach and provided specific feedback on how to most effectively engage the North Coast community. The most prominent feedback was to keep the initial Phase 1 events very informal to encourage in-depth discussions, sharing of interests, and relationship building. More formal events with PowerPoint presentations, agenda items, and public comment periods (such as those common during the MPA planning process) were often viewed as stifling the free flow of information and were not seen as conducive to building relationships.

Respondents provided the following additional recommendations and comments regarding community engagement:

- A short presentation during which Monitoring Enterprise staff introduces themselves and the organization's mission would be useful.
- The scheduling and duration of the gatherings should be respectful of people's time. Respondents generally supported early evening events.
- Utilize local papers and radio spots to advertise, and provide plenty of advanced notice.
- Engage with tribes and tribal communities early on, if not first, in the process.
- Ensure that community outreach and engagement discussions include baseline and long-term MPA monitoring and information about the North Coast MPA Baseline Program, including the Request for Proposals (RFP).
- Include smaller communities that are also very interested in MPA monitoring, but who are not close to Fort Bragg, Eureka, or Crescent City. Respondents mentioned Petrolia and Shelter Cove in particular.
- Ensure that outreach efforts also include elected officials, fishermen (commercial and recreational), harbor district representatives, scientists and local experts, and those who represent other local economic interests.

## **APPENDIX A: Interview Questions**

### Background and Interests

1. What is your organizational affiliation, your role in your organization, and your relation to marine resources?
2. What are your interests regarding MPA monitoring on the North Coast? [Why is it important to you?]
3. Have you been involved in MPA monitoring or other marine monitoring efforts in the past?

### Input to Inform the Monitoring Approach

4. When developing MPAs for the North Coast:
  - a. What information did you find most useful (and why)?
  - b. What information was lacking?
5. The monitoring plan will be designed to provide information that resource managers and decision-makers can use to make well-informed decisions during future MPA reviews. What information will be most useful for resource managers, decision-makers, and others interested in MPA effectiveness?
6. What in your view are the three most important questions for MPA monitoring to answer?
7. What do you expect to be the Monitoring Enterprise's major challenges and/or keys to success in designing a monitoring plan to fit this region? Consider both marine issues and broader social/community or policy issues that may affect monitoring plan development, including the community engagement process.

### Input to Inform Tribal Engagement (For Tribal and Tribal Community Members)

8. Are you the most appropriate person to liaise with on behalf of your tribe/tribal community?
9. Do you know if your tribe/tribal community is interested in learning about the Monitoring Enterprise's efforts to develop a monitoring plan in the North Coast region?
  - a. If so, what is the most appropriate way to initiate a dialogue with your tribe/tribal community?
  - b. If no, is there a reason?
10. Do you have recommendations for how the Monitoring Enterprise can engage with your tribe/tribal community? In particular:
  - a. Is there a preferred way to share information with your tribe/tribal community (e.g. phone, email, in person)?
  - b. Are there others we should speak with (e.g. individual, tribal council, committee, etc.)?
11. The Monitoring Enterprise anticipates using an integrated approach to developing the North Coast MPA Monitoring Plan and looks forward to partnering with tribes and tribal communities to develop the plan. Are there any specific monitoring interests or priorities

that have been identified to date by your tribe/tribal community? (This question may not be easily answered as the former NCRSG member may not have permission to speak on this topic/on behalf of the tribe/tribal community).

#### Input to Inform the Baseline Program Design

12. What ecosystems, or habitats, are especially important in the North Coast region for monitoring to assess?
13. Are there particular species (e.g., those that are ecologically or economically important) that should be monitored in the first 5 years following MPA implementation?
14. The MPA monitoring framework includes consideration of human uses (both consumptive and non-consumptive) as part of monitoring. What types of activities should monitoring pay close attention to in this region?
15. Are there particular human uses (both consumptive and non-consumptive) that should be monitored in the first 5 years following MPA implementation?
16. What changes do you expect to see in the ecology (e.g., species and ecosystems) in the North Coast region in the first 5 years after the MPAs take effect?
17. What changes do you expect to see in human uses (both consumptive and non-consumptive) in the North Coast region in the first 5 years after the MPAs take effect?

#### Input to Inform the Community Engagement Process

As I mentioned, we are assisting the Monitoring Enterprise to develop a community engagement process to inform the development of the North Coast MPA Monitoring Plan. As part of these efforts, we are reaching out to a broad array of organizations and individuals with interests in MPA monitoring on the North Coast, including former members of the MLPA Initiative NCRSG.

Introduction: As currently envisions, the Monitoring Enterprise's community involvement approach will consist of several key components:

**Phase 1: Introductions and information exchange.** This phase is focused on learning about key interests and views on MPA monitoring from members of the North Coast community, introducing the Monitoring Enterprise to North Coast communities, building relationships, providing information to guide development of the baseline program, and informing future monitoring planning activities (Phase 2).

- Throughout the summer, Monitoring Enterprise staff will be reaching out to local communities, governments, scientists, stakeholders, and tribes and tribal communities.
- The Monitoring Enterprise will convene a suite of evening community workshops the week of August 13. We anticipate workshops will take place in Fort Bragg, Eureka/Arcata, and Crescent City.

**Phase 2: Input on monitoring priorities and planning.**

- a. This fall, the Monitoring Enterprise will continue the monitoring planning process to complete development of a North Coast MPA Monitoring Plan that reflects community priorities, is responsive to management needs and incorporates best available science. The process design for this second phase will be informed by the information gathered during Phase 1 and will include opportunities for public input and engagement.
- b. Ultimately, a draft of the North Coast MPA Monitoring Plan will be released for public comment. The plan will then be revised in consideration of comments received and

submitted to the California Fish and Game Commission, for possible adoption as an appendix to the MLPA Master Plan.

18. Do you have any comments, concerns, or recommendations regarding the proposed community engagement process outlined above?

a. For tribal representatives: what, in addition to the outlined process

19. What other interested organizations or individuals should we be sure to include in this monitoring planning process?

Other questions

20. Is there anything else you would like to add?

## **APPENDIX B: Expanded List of MPA Monitoring Approach Recommendations**

- The North Coast community members want to show that the North Coast is unique. A systematic comparison (quantifiable) across regions would be important to do.
- Baseline data on the species of interest would be very useful. Diversity, population, size, location, etc. For each MPA, there is a target species to monitor.
- It will be very important to have information/data for MPA areas and non-MPA areas.
- The most beneficial information would be to show the sustainability of the catch by sport and commercial fishermen.
- Fisheries stock information is the most useful to obtain through monitoring, including near shore species and rockfish species.
- Consider how effective each MPA is while also considering how the MPA's are functioning as a network.
- How are the MPA's that have been implemented performing?
- The monitoring information obtained needs to prove why the MPA's are needed. A longer fishing season and increasing fish populations would prove their effectiveness.
- If the MPA's are healthy, there may be overflow into non-MPA areas. Fishermen will want to take advantage of that.
- It will be important to track individual species' health.
- It will be very important to know how the MPAs affect species on the list of species developed by the MLPA Science Advisory Team (SAT).
- Find out where people come from to make use of the North Coast's ocean resources and what the take is.
- There needs to be a balance of information between scientific data and cultural data.
- Economic data would be useful.

### **APPENDIX C: Expanded List of Questions the Monitoring Plan Should Answer**

- Are the MPAs effective in preserving and enhancing coastal resources along California's coast?
- How do they impact local fisheries? Will certain species be favored over others? Do they yield larger biomass?
- How do they fit in within the statewide network regarding performance and the targeted species? How are the MPA's functioning as a network?
- What is the impact on species inside and outside of the MPAs?
- Is there a spillover effect?
- What are the effects on abalone considering the effort shift?
- Public awareness – does the public know and understand MPA monitoring?
- How is the monitoring process beneficial in the long run to what's going on off our coast?
- How will the habitats change? Or will they change?
- What is the diversity of species and habitats within each MPA? What are they attempting to capture with the MPA? And are they capturing that?
- How are the MPAs being enforced (not just considering law enforcement, but community enforcement)? When will and how will the community buy-in?
- Can the entire MPA network, in design and community engagement, be used for other areas of the coast north and south of California (i.e. the California/Mexico border, Oregon/California border)?
- What is the long term effect on the coastal community and the community response to the MPA? What are the socioeconomic impacts of the MPAs?
- What effects are expected at Pyramid Point?
- Will recreational and commercial fishermen (including from Oregon) be pushed into tribal waters?
- What are the effects of special closures on species (e.g., increases in abundance)?
- What are the current conditions of the ecosystem?

## **APPENDIX D: Expanded List of Baseline Monitoring Recommendations**

### Habitats/Ecosystems to monitor

- Rocky bottom habitat at all depths
- Rocky intertidal
- Fishery stocks in general
- Shallow rocky reefs with kelp etc
- Shallow water
- Deep water
- Near-shore rock
- MPA monitoring should pay attention to all areas
- Estuaries

### Species to monitor

- Rockfish
- Dungeness Crab
- Cabezon
- Lingcod
- Rock cod
- Yellowtail
- Blue rock fish
- Canary rockfish
- Abalone
- Urchins
- Sea otters
- Halibut
- Kelp
- Steelhead
- Salmonids
- Marine mammals and seabirds
- Sea palms
- Eelgrass
- Bird populations
- Marine mammal haul-outs

### What changes in ecology are expected within the first 5 years of monitoring?

- Not much change is expected in the short term; effects will be longer term

- Larger fish
- Change in fish populations
- Special closures should result in increased local populations
- Oceanographic conditions should continue to change, but these will not be caused by the MPAs

Consumptive and Non-consumptive Human Uses - what should be monitored?

- Effort shift
- Recreational and commercial fishing
  - Abalone diving
  - Spear-fishing
  - Kelp harvesting
- Angling
- Kayaking
- Non-extractive diving activities
- Tribal (traditional, ceremonial) uses (although it is recognized that tribal uses do not fall in the 'consumptive uses category')
- How people respond to special closures

Consumptive and Non-consumptive Human Uses - what should be monitored within the first 5 years of monitoring?

- Recreational and commercial fishing
  - Abalone diving
  - Spear-fishing
  - Kelp harvesting
  - Seaweed collection
  - Mussel collection
  - Crab
  - Salmon
- Socio-economic and cultural changes
- No particular activities are more important than others
- Tribal take
  - What is being taken at the beach, not by boat
- Tribes will be interested in doing monitoring around traditional gathering and the impact on conservation/preservation

What changes in human use (both consumptive and non-consumptive) are expected within the first 5 years of monitoring?

- Minimal changes

- Increases in commercial fishing (especially salmon)
- Decreases in fishing due to fishermen having to change locations
- Increases in non-consumptive uses such as whale watching and kayaking
- Effort shift
  - Human awareness will increase
  - Diving and fishing efforts
  - Seaweed industry
- Amount of fishing will decrease
- Increased amount of fines (people will not know where to go)
- Impact on Oregon fisheries