March 18, 2011

Dear Interested Parties:

The Washington Department of Fish and Wildlife (WDFW) has published a Final Environmental Impact Statement (FEIS) titled: **Puget Sound Rockfish Conservation Plan (PSRCP)**. The original plan was revised following an initial period of public comments. The revised plan expanded the geographical coverage of the original plan to include the waters between Cape Flattery and the Sekiu River in the Strait of Juan de Fuca. This change was made in response to initial public comments. With consideration of all comments received WDFW has prepared this Final Environmental Impact Statement (DEIS) in compliance with the State Environmental Policy Act (SEPA) and other relevant state laws and regulations.

MAJOR CONCLUSIONS
This is a phased non-project review proposal. The goal of the PSRCP is to restore and protect our natural heritage of Puget Sound rockfish populations. To attain this goal, the Washington Department of Fish and Wildlife has developed a range of policies, strategies, and actions that will help restore and maintain rockfish abundance, distribution, diversity, and long-term productivity in their natural habitats. The plan also offers a framework for state rockfish managers to follow in developing detailed regulations, establishing priorities, and providing guidelines for the development of additional plans with co-managers.

AREAS OF CONTROVERSY AND UNCERTAINTY
The PSRCP proposes eight categories of actions. The most controversial categories are:

1. Fishery management- the PSRCP proposes a strategy which could reduce fishing opportunities for rockfish and other species.

2. Habitat restoration enhancement- the PSRCP proposes a strategy to consider restoration of degraded rockfish habitat. This strategy could have adverse impacts on other animals.

3. Hatchery production of rockfish- the PSRCP proposes development of hatchery production that could be used to restore rockfish population. The plan does not propose a hatchery program that would be used to sustain fisheries for rockfish at levels higher than can be supported naturally.

Based on consideration of comments received from agencies and interested parties during public review of the draft document, WDFW has prepared and is distributing this Final Environmental Impact Statement (FEIS). WDFW believes this FEIS will assist decision makers to identify the key environmental issues, and options associated with this action.

Sincerely,

Teresa A. Eturaspe

Teresa A. Eturaspe
SEPA/NEPA Coordinator
Agency Responsible Official
Protection Division, Habitat Program

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FINAL

Environmental Impact Statement
for the
Puget Sound Rockfish Conservation Plan
Including Preferred Range of Actions





LEAD AGENCY

Washington Department of Fish and Wildlife
Fish Program
Olympia, WA

MARCH 2011

COVER PHOTOS: Clockwise from upper right: blue rockfish, China rockfish, quillback rockfish, canary rockfish, and tiger rockfish. Photos taken by Janna Nichols and used with permission.

Note: This plan includes all species of rockfish found in Puget Sound and includes but is not limited to the single species *Sebastes emphaeus,* which is called “Puget Sound rockfish”.

Title: Puget Sound Rockfish Conservation Plan (PSRCP) and Final Environmental Impact Statement (FEIS).

Description: This is a phased non-project review proposal. Phased review allows agencies and the public to focus on issues that are ready for decision and excludes from consideration issues already decided or not yet ready. To ensure healthy stocks of rockfish populations in Puget Sound, the Washington Department of Fish and Wildlife (WDFW) proposes a PSRCP that includes policies, strategies, and actions that will help restore and maintain rockfish abundance, distribution, diversity, and long-term productivity in their natural habitats. The plan also offers a framework for state rockfish managers to follow in developing detailed regulations, establishing priorities, and providing guidelines for the development of additional plans with tribal co-managers.

The original draft EIS was issued in October 2009 for public review. Public comments received during the review process included requests to extend the geographical scope of the area covered by the Plan. As a result, a revised draft EIS was issued in May 2010. The revised draft EIS extended the area covered by the Plan to the far western end of the Strait of Juan de Fuca at Cape Flattery and incorporated some of the public comments made during the first review period.

This is the FINAL EIS for the Puget Sound Rockfish Conservation Plan (PSRCP) and reflects the original work as well as comments received during the SEPA process.

Location: Puget Sound, including Hood Canal, the San Juan Islands, and the Straits of Juan de Fuca and Georgia (Thurston, Pierce, King, Snohomish, Skagit, Whatcom, Island, San Juan, Mason, Jefferson, and Clallam Counties).

Proponent and Lead Agency:

Washington Department of Fish and Wildlife (WDFW)
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Permits and Licenses Required: None required.

Authors and Principle Contributors:

Washington Department of Fish and Wildlife

Greg Bargmann, Wayne Palsson, Craig Burley, Darren Friedel, and Theresa Tsou.

Citizen Advisory Group:

In December 2009, Director Philip Anderson appointed a group of citizen's to assist in the development of the final PSRCP. The names and affiliations of members are shown in Appendix 1 of this document.

DEIS Comment Period:

There were two time periods for public comments: October 19, 2009 to January 4, 2010 and April 6 to May 21, 2010.

Meetings for Public Participation:

Public meetings for discussion of this Plan and EIS were held at the following locations and dates:

Place Mill Creek Office WDFW 16018 Mill Creek Blvd, Mill Creek
Date October 29, 2009
Time 7:00 pm to 9:00 pm

Place Commons Room University of Washington, Friday Harbor
Date November 2, 2009
Time 12:00 to 2:00 pm

Place Room 172 Natural Resources Building, 1111 Washington Street, Olympia
Date November 4, 2009
Time 7:00 pm to 9:00 pm

Place: Raven Room Skookum Inc, 385 Benedict St, Port Townsend
Date: November 6, 2009
Time: 4:00 to 6:00 pm

Place: Bremerton City Hall 345 6th Street, Bellingham
Date: November 30, 2009
Time: 7:00pm to 9:00 pm

Place: Seattle Aquarium 1483 Alaskan Way, Seattle
Date: December 2, 2010
Time: 7:00pm to 9:00 pm

Place: Skagit Valley College, Angst Hall, 2405 East College Way, Mr. Vernon
Date: December 3, 2010
Time: 7:00pm to 9:00 pm

Place: Community Meeting Room, Port Angeles Public Library, 2210 South Peabody Street: Port Angeles, Washington
Date: April 21, 2010
Time: 6:00 p.m. to 8:00 p.m.

Date Issued: The Final EIS is available for review and download beginning March 18, 2011, on WDFW's website at**:** http://www.wdfw.wa.gov/licensing/sepa/sepa_comment_docs.html

Date of Next Action and Subsequent Environmental Reviews:

The Final Environmental Impact Statement (FEIS) is a phased non-project action. The PSRCP will be provided to the Director of the Washington Department of Fish and Wildlife (WDFW) for action in 2011. Future phased agency actions are anticipated as detailed regulations and actions are developed.

Background Data and Materials Referenced in the FEIS are Available at:

Washington Department of Fish and Wildlife**,** Fish Program, Natural Resources Building, 6th Floor, 600 Capital Way North, Olympia, WA 98501-1091. The complete text of the public comments can be viewed at: http://www.wdfw.wa.gov/licensing/sepa/sepa_comment_docs.html

Distribution List:

Notice of the availability of this FEIS is posted on the WDFW SEPA website: http://www.wdfw.wa.gov/licensing/sepa/sepa_comment_docs.html
Copies have been sent to all local government planning departments (city and county); affected Tribes; all state and federal agencies with jurisdiction; selected environmental organizations, and interested parties.

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Table of Contents

List of Tables

List of Figures

Chapter 1. Executive Summary

1.1 State Environmental Policy Act Process Overview

1.1.1 Introduction

The Washington Department of Fish and Wildlife (WDFW) recognizes the importance of the State Environmental Policy Act (SEPA) in the process of adopting the Puget Sound Rockfish Conservation Plan (PSRCP- Appendix 1). Puget Sound is considered as those inland marine waters of Washington east of Cape Flattery. The environmental impact statement (EIS) process provides opportunities for other agencies, stakeholders, tribal governments, and the public to participate in developing and analyzing information. This process, as detailed in WAC197-11, helps ensure that WDFW understands the environmental consequences of its decisions and considers mitigation of probable significant adverse environmental impacts when making decisions. The EIS process includes:

- Scoping;
- Preparing a draft EIS (DEIS), which analyzes the probable impacts of a proposal and reasonable alternatives;
- Issuing a DEIS for review and public comment;
- Preparing a final EIS (FEIS), which includes analyzing and responding to comments received on the DEIS;
- Issuing a FEIS; and
- Using the FEIS in decision-making.

State Environmental Policy Act processes have been used to ensure public input into policy development. Key steps in the policy development process have been:

1. A Scoping notice was sent to approximately 110 individuals and interested groups in August 2008;
2. A draft EIS and Plan were issued in October 2009, for a period of public review including a series of public workshops. As a result of public comments made during that review, the geographical scope of the Plan was increased and a revised DEIS developed; and
3. To provide opportunities for additional public comments, the initial public comment period was extended and additional public meetings were held. A revised DEIS was issued on April 6, 2010 and an additional public meeting was held and an additional 30 day comment period was opened.

1.1.2 Alternatives

Considering the current and anticipated factors affecting the rockfish resource, the PSRCP consists of a set of strategies to address WDFW's mandate to conserve rockfish populations while secondarily providing opportunities to view rockfish in their natural setting and providing sustainable fishing opportunities where appropriate. This FEIS focused on analyzing a range of reasonable alternatives to assess their risk of

possible significant impact to elements of the environment and to identify mitigation measures that would avoid or minimize related adverse environmental impacts.

Alternative strategies are one of the required components of an EIS. They present meaningful options for the Department to consider in managing rockfish in Puget Sound. Policy proposals to be considered by WDFW are presented in the set of reasonable alternatives categorized in Table 3 and described in Chapter 3 of this FEIS. These alternatives present policy choices consistent with the purpose and need of the PSRCP as described in section 1.2 and relate each choice to the environmental impacts identified in this FEIS in Chapter 3. This process used the environmental checklist called for in WAC 197-11-444, and provided in WAC 197-11-960, as the basis for determining any potential environmental impacts resulting from the approval and implementation of the PSRCP non-project action.

The alternatives incorporate information gathered and issues raised through the SEPA scoping process. The specific alternatives discussed in Chapter 3 for the eight policy subject areas can be grouped across a spectrum from most conservative for rockfish to least conservative into four generalized alternatives (Table 3):

1) The **most-conservative** alternative seeks to provide maximum efforts to accelerate the rate of rebuilding populations to healthy levels of abundance. This could require significant reductions in fishing opportunities for other species including salmon, lingcod, and halibut. Research efforts would be increased, as would outreach and education efforts. Habitat protection and restoration efforts would increase. Significant efforts to develop rockfish culture and development of the use of artificial habits would be considered.

2) The **conservative** alternative seeks to provide increased rates of rockfish rebuilding and maintenance of healthy populations while providing limited fisheries for rockfish. Research, habitat protection, habitat restoration, and public education would be increased beyond present levels of effort. This alternative would require limited effort to develop the use of rockfish culture or artificial habitat in rockfish management.

3) The **status quo (**no action) alternative seeks to maintain our current approach and emphasis of achieving balance in conservation and utilization needs.

4) The **least-conservative** alternative addresses the feasibility of increasing harvest opportunity while preserving rockfish stocks. Emphasis would be placed on maintaining or increasing fishing opportunities for rockfish and other species. This alternative is predicted to increase the time and decrease the probability of meeting conservation and recovery objectives, when compared to the other alternatives.

A summary of each alternative, across all of the policy categories, is provided in Chapter 3.

1.1.3 Non-Project Proposal

The PSRCP is considered to be a “non-project action” under SEPA (WAC 197-11-442). Non-project actions include the adoption of plans, policies, programs, or regulations containing standards that will guide future actions. The probable significant adverse environmental impacts analyzed in a non-project EIS are those impacts foreseeable at this stage, before specific project actions are planned. If more specific actions are needed in the future, management decisions will be guided by the policies developed during this process.

1.1.4 Scoping

Scoping initiates public involvement in the SEPA process. Its three purposes are to:

- Narrow the focus of the EIS to significant environmental issues;
- Eliminate insignificant impact issues or those not directly related to the proposal; and
- Help identify reasonable alternatives, consistent with the purpose and need of the proposed action, to be analyzed in the EIS.

The scoping process alerts the public, the project proponent, and the lead agency to areas of concern and potential controversy early in the process. Here, WDFW is both the project proponent and the lead agency. The SEPA process for the PSRCP was formally initiated in 2008 with the publication of the Scoping Notice. In addition to the formal scoping process, Department staff met with tribal co-managers in May 2008 and October 2009 to discuss rockfish conservation strategies.

1.1.5 Next Steps

Public comments made during the DEIS process have been reviewed and responded to in the FEIS. The FEIS includes the necessary information to allow the director of WDFW to decide which policies will be adopted in the PSRCP. Upon approval of the PSRCP and FEIS, WDFW will have updated working policies to guide management of rockfish throughout Puget Sound. More specific actions will be taken following adoption of the PSRCP and FEIS.

1.2 Purpose and Need for the Non-Project Action

1.2.1 Purpose

Consistent with the Scoping Document, the purpose of the PSRCP is to restore and protect our natural heritage of Puget Sound rockfish populations. Increases in the abundance, distribution, diversity, and productivity of rockfish will help restore the Puget Sound ecosystem, provide opportunities to view rockfish in the marine environment, and, when appropriate, provide sustainable fishing opportunities.

The rockfish conservation plan is needed in order to protect and restore the diversity and long-term productivity of rockfish throughout Puget Sound. WDFW will accomplish this goal with the guidance from relevant state and federal legislation, treaties, the Department's mission statement, its strategic goals and objectives, and Washington Fish and Wildlife Commission policies, including the existing Puget Sound Groundfish Management Plan (Palsson et al. 1998). WDFW will work with tribal governments to ensure fish and wildlife management objectives are met, including sustaining ceremonial, subsistence, commercial, and recreational fisheries, and providing non-consumptive fish benefits and other cultural and ecological values.

Expectations are increasing for fish managers to balance varied public needs to maintain and restore natural stocks, provide sustainable fishing opportunities, fulfill treaty responsibilities with tribal governments, and support additional important environmental values such as a healthy marine ecosystem. WDFW developed the PSRCP to guide the evaluation and development of WDFW's harvest, research, habitat, and outreach and education programs to aid in the conservation and restoration of natural rockfish stocks and provide harvest opportunity consistent with conservation objectives. Based on the PSRCP, WDFW will identify information gaps and develop research and monitoring programs to improve rockfish management decisions.

1.2.2 Plan Objectives

The objectives for the PSRCP *(*Appendix 1) are as follows:

1. Provide a framework of policies, strategies and actions for preserving healthy stocks of rockfish in Puget Sound by restoring and maintaining their abundance, distribution, diversity, and long-term productivity in their natural habitats;
2. Seek to maintain rockfish populations throughout Puget Sound to achieve cultural, economic, and ecosystem benefits for current and future residents of Washington State in a manner consistent with the primary conservation goal;
3. Meet all federal and state laws, including treaty obligations;
4. Ensure policies are succinct, relevant, and easily understood by the public and Department employees;
5. Seek productive partnerships that help the WDFW achieve policy objectives;
6. Use the best available science, sound fisheries management, and professional judgment to achieve excellence in stewardship of public resources; and

7. Monitor and periodically report to the Washington Fish and Wildlife Commission and the public on the implementation and outcomes of Commission-approved policies.

1.3 Issues Identified Through Scoping

WDFW received twelve responses to the Scoping Notice: three from organizations and nine from individuals. These comments contained a wide range of suggestions and are summarized in Table 1.

Table 1. Summary of Comments Made in Scoping Process.

COMMENT	NUMBER OF TIMES MADE	DEPARTMENT RESPONSE
Create underwater parks/marine protected areas as part of rockfish management	3	Considered in Plan
Consider climate change in recovery plan	5	Considered in Plan
Adopt a precautionary approach	1	Considered in Plan
Utilize adaptive management	1	Considered in Plan
Expand monitoring of rockfish to juvenile life stages	1	Considered in Plan
Review effectiveness of existing policies	1	Considered in Plan
Include outreach and education as part of management plan	1	Considered in Plan
Identify important rockfish habitat	1	Considered in Plan
Study rockfish discards (i.e., effect of 1 fish bag limit)	1	Considered in Plan
Consider bycatch in other fisheries	1	Considered in Plan
Restrict fishing gear (e.g., downriggers, lures and depth)	1	Considered in Plan
Restrict fishing for other species (e.g., lingcod and halibut)	1	Considered in Plan
Rely on natural production for stock rebuilding (i.e., no rockfish hatcheries)	1	Considered in Plan
Propagate plankton to increase food supply	1	Outside the range of the scoping notice and will not be considered (see Section 1.9)
Restore eelgrass as rockfish habitat	1	Considered in Plan
Take no action (rockfish are doing fine)	1	A status quo alternative is considered
Do something!	1	Several alternatives are considered which include many action items

1.4 Summary of Initial Environmental Impact

The PSRCRP is a **non-project action** intended to provide guidelines for improving the management, status, and utilization of rockfish in Puget Sound, Washington. It develops policies that are intended to address WDFW's dual mandates to conserve the wild rockfish resource and to provide utilization opportunity to the citizens of the state (RCW 77.040.12). Considering the current and anticipated factors affecting the rockfish resource, a key element of the plan is to emphasize conservation and rebuilding of rockfish populations.

The establishment of new guidelines to manage rockfish populations and harvest opportunity is not expected to have direct adverse environmental impacts in itself. However, if the PSRCP is approved as proposed, it is likely that specific project actions will be recommended to achieve some of the strategies. This initial review was conducted to set the framework for the more detailed evaluation of potential environmental impacts associated with subsequent actions. Environmental review of subsequent actions will refer to this document.

The review of the initial impact was conducted using the format provided by State Environmental Policy Act (WAC 197-11-960) which provides an environmental checklist of elements to be considered in an EIS. We reviewed the initial likely environmental impact on each of the elements (Table 2).

Table 2. Environmental Impact Potential Review Summarized by Element:

The elements in UPPER CASES (#5 and #12) are addressed in this FEIS because the intent of the PSRCP is to focus on strategies affecting rockfish populations, habitat, and harvest. Items in **bold,** but not in upper case, indicate other possible elements which may be affected by this plan but are judged to be non-significant. Items in bold may be impacted by future actions and may be included in future environmental reviews.

1. Earth
    a. No clearing, grading or filling. **Potential impacts to the seafloor of Puget Sound if habitat restoration or habitat construction activities are implemented.**
    b. No additional impervious surface due to construction activity.
    c. **Potential reduction of access and fishing related impacts in some areas.**

2. Air
    a. **Quantities of emissions from fishing related boating activity will likely decrease to a small degree.**

3. Water
    a. No dredge or fill operations in surface waters.
    b. In-channel monitoring and evaluation activities are conducted during normal stream flow and under established protocols.
    c. No groundwater withdrawal or discharges into ground.
    d. No activities to affect surface runoff flow or quality.

4. Plants
    a. No removal or alteration of existing vegetation.
    b. No additions to existing vegetation.

Table 2. Environmental Impact Potential Review Summarized by Element (continued):

5. ANIMALS
- a. Some rockfish species have been listed under the ESA as Threatened or Endangered.
- b. For all species, the plan will be in compliance with the ESA process to allow fisheries and incidental take.
- c. The primary purpose of the plan is the preservation and improvement of rockfish populations and their ecosystems.

6. Energy and Natural Resources
- a. No change in energy use requirements as a result of this plan.
- b. Will not affect alternative energy projects or potential use.

7. Environmental Health
- a. **Change in the amount and geographical distribution of fishing effort.**
- b. No new special emergency services required.
- c. **Reduced fishing or boating activity in some areas would decrease the overall noise level.**

8. Land Use and Shoreline Use
- a. No structures demolished.
- b. No introduction or displacement of people.

9. Housing
- a. No housing introductions or eliminations.

10. Aesthetics
- a. No aesthetics impact (degraded or blockage of views).

11. Light and Glare
- a. No light or glare impacts.

12. RECREATION
- **a. Fishing restrictions could reduce or modify recreational and commercial fishing opportunities.**
- b. **Recreational fishing would be allowed when/where appropriate as outlined in the plan.**

13. Historic and Cultural Preservation
- a. No environmental impacts.

14. Transportation
- a. Proposal will not affect existing state of Washington transportation infrastructure.
- **b. Vehicular trip reduction possible to a minor degree.**

15. Public Services
- a. No environmental impacts.

16. Utilities
- a. No environmental impacts.

1.5 Summary Table of Alternatives by Policy Area

The four alternatives discussed in section 1.1.2 were used to address each of the eight policy categories covered in the Plan:

1. Natural Production
2. Habitat Protection and Restoration
3. Fishery Management
4. Ecosystem
5. Evaluation, Monitoring and Adaptive Management
6. Research
7. Outreach, Education, and Ecotourism
8. Enhancement

The FEIS contains an analysis of all four alternatives for each of the eight policy areas resulting in a total of 32 alternate strategies. The FEIS indicates which of the four alternatives is the preferred alternative for each policy area. The selection of the preferred alternative was based on meeting plan objectives while considering adverse environmental impacts. While all of the policy areas further the goal of the PSRCP, none is sufficient by itself to address all of the objectives.

The 32 alternatives are shown in Table 3, and an analysis of each alterative is presented in Chapter 3. The approved alternative will provide a framework to achieve the goal of the PSRCP.

Table 3. Range of Policy Options Proposed For Puget Sound Rockfish Conservation Plan. The preferred alternative is indicated in bold.

	RANGE OF ACTION			
POLICY CATEGORY	**ALTERNATIVE 1 MOST CONSERVA-TIVE**	**ALTERNATIVE 2 CONSERVATIVE**	**ALTERNATIVE 3 NO-ACTION/ STATUS QUO**	**ALTERNATIVE 4 LEAST CONSERVATIVE**
Natural Production	Rockfish management shall place the highest priority on the protection and restoration of the natural production of all rockfishes to healthy levels.	**Rockfish management shall place the highest priority on the protection and restoration of the natural production of indicator rockfishes to healthy levels.**	Limited priority is placed on protecting the natural production of some rockfish stocks.	All rockfishes will be managed passively, with little or no consideration to the natural production of any stocks of rockfish.
Habitat Protection and Restoration	**Protect and restore all marine habitat types for all rockfish species.**	Protect and restore rocky habitats for indicator rockfish species.	Rely primarily on the HPA process to protect priority rockfish habitats and conduct opportunistic activities to protect rockfish habitats. No activities to restore habitat will be conducted.	Rely entirely on the HPA process to protect rockfish habitats. No new or expanded activities will be conducted to protect rockfish habitat. No activities to restore habitat will be conducted.
Fishery Management	**All fisheries in Puget Sound waters will be managed to ensure the health and productivity of all rockfish stocks.**	All fisheries in Puget Sound marine waters will be managed to ensure the health and productivity of indicator rockfish stocks.	Some fisheries for bottomfish in Puget Sound waters will be managed to ensure the health and productivity of some rockfish stocks.	All fisheries in Puget Sound waters will be passively managed with respect to the status of rockfish stocks**.**
Ecosystem	Protect existing functions of all rockfishes and conduct activities to restore the functions of all rockfishes in the ecosystem and food web in Puget Sound.	**Protect existing functions of indicator rockfishes and conduct activities to restore the functions of indicator rockfishes in the complex ecosystem and food web in Puget Sound.**	Conduct opportunistic activities to protect and restore the function of some rockfishes in the complex ecosystem and food web in Puget Sound.	The ecosystem functions of rockfishes will not be considered in rockfish management.

Table 3. Range of Policy Options Proposed For Puget Sound Rockfish Conservation Plan. The preferred alternative is indicated in bold. (continued)

POLICY CATEGORY	ALTERNATIVE 1 MOST CONSERVATIVE	ALTERNATIVE 2 CONSERVATIVE	ALTERNATIVE 3 NO-ACTION/ STATUS QUO	ALTERNATIVE 4 LEAST CONSERVATIVE
Monitoring, Evaluation, and Adaptive Management	Conduct monitoring, evaluation, and management of all rockfish stocks to provide the basis to evaluate stock status and the success of management actions.	**Conduct monitoring, evaluation and management of indicator stocks to provide the basis to evaluate stock status and the success of management actions.**	Some rockfish stocks will be monitored, primarily by using fishery dependent with some fishery-independent information.	Some rockfish stocks will be monitored using only fishery dependent information.
Research	Implement new and cooperative research to understand the diversity, biology and productivity of all rockfishes as well as needs for recovery.	**Implement new and cooperative research to understand the diversity, biology and productivity of indicator rockfishes as well as needs for recovery.**	Conduct rockfish research to examine growth, population structure and habitat requirements for some rockfish stocks.	Conduct no research on rockfish; only use information in the existing literature or studies in nearby areas to manage rockfish stocks.
Outreach, Education and Ecotourism	**Conduct a strategic outreach and education program to inform Washington citizens of the value of rockfish stocks and to promote ecotourism.**	Conduct a strategic outreach and education program to inform Washington's fishing public of the value of rockfish stocks in Puget Sound.	Write occasional popular articles, work with the media, use the rule-making process, and give public presentations on the importance of rockfish stocks.	Rely on others to inform the citizens of Washington of the value of rockfish stocks in Puget Sound.

Table 3. Range of Policy Options Proposed For Puget Sound Rockfish Conservation Plan. The preferred alternative is indicated in bold. (continued)

POLICY CATEGORY	ALTERNATIVE 1 MOST CONSERVATIVE	ALTERNATIVE 2 CONSERVATIVE	ALTERNATIVE 3 NO-ACTION/ STATUS QUO	ALTERNATIVE 4 LEAST CONSERVATIVE
Enhancement (Artificial Habitat and Hatchery Production)	**Promote the achievement of the natural production policy objective through the appropriate use of: a. Hatchery production to rebuild depleted rockfish stocks; and b. Artificial habitats consistent with the hierarchy of habitat protection and mitigation approaches.**	Develop plans to: 1. Utilize hatchery production to assist in recovery of depleted rockfish stocks consistent with natural production goals; and 2. Enhance habitat for indicator species of rockfish through the use of artificial habitat.	Hatchery production for rockfish may be used to recover depleted stocks and for research. Construction of artificial reef habitat will be considered on a case-by-case basis.	Hatchery production of rockfish will be limited to research- scale activities. Construction of artificial reef habitat will be considered on a case-by-case basis and limited to mitigation purposes.

1.6 Key Relationships Within the Plan

The PSRCP is a series of policies, strategies, and actions in eight categories. All of the categories are related and needed to achieve the goal of the PSRCP. For example, protecting and restoring rockfish populations will require protecting and restoring rockfish habitat and ensuring that fisheries management provides sustainable populations. Neither habitat protection or fisheries management alone will be sufficient to protect and restore rockfish in Puget Sound.

1.7 Significant Issues and Environmental Choices Among the Alternatives

1.7.1 Major Conclusions

During the preparation of this FEIS for this plan, an environmental checklist (Appendix 3) was used as an aid to determine the potential significant adverse impacts identified at the beginning of Chapter 3. Consistent with WDFW's mandate to conserve wild rockfish populations and provide utilization opportunities, the Department addresses the potential impacts to animals and recreation through this FEIS (see Chapter 3 for the analysis.

It should be noted that the impacts evaluated in this FEIS relate to opportunity (fishing, observation, photography, etc.) and not impacts such as noise, transportation, energy use, etc., which are related to boat or other vehicle activity. Those impacts will be evaluated separately, for example, when evaluating existing road, infrastructure, marinas, and boat ramp construction projects.

1.7.2 Unavoidable Measures

The intent of the PSRCP is to protect and, when necessary, restore rockfish stocks to healthy levels. This intent may result in changes in the amount and geographical distribution of fishing effort.

1.8 Phased Review

SEPA review is required on proposals for project and non-project actions such as the PSRCP. "Phased review" means the coverage of general matters in broader environmental documents, with subsequent narrower documents concentrating solely on the issues specific to the later analysis. WDFW will propose future project and non-project actions related to implementing the plan, such as planning site specific construction proposals. These more detailed actions may or may not require additional SEPA review.

1.9 Alternatives Considered, But Not Analyzed

Under SEPA, a reasonable alternative is defined as "an action that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation. Reasonable alternatives may be those over which an agency with jurisdiction has authority to control impacts, either directly or indirectly" (WAC 197-11-786). For some policy subject areas, alternatives were considered, but not included in the detailed analysis, because they did not fully address the stated purpose and need of the PSRCP and were not considered to be "reasonable." Examples of alternatives which were considered but not analyzed include:

1. Maximizing harvest opportunities for rockfish;
2. Seeking methods to increase food supply of rockfish;
3. Transplanting rockfish from outside Puget Sound into Puget Sound;
4. Implementing catch-and-release fisheries for rockfish; and
5. Implementing a temporary prohibition on all types of fishing which impact rockfish.

Chapter 2 Background

2.1 The Natural Environment

The natural environment considered in this FEIS includes all of the water and associated intertidal and subtidal substrate within Puget Sound. The natural environment includes plants and animals which may interact with rockfish in Puget Sound. The natural environment is common to all elements considered in the PSRCP.

2.1.1 Puget Sound

In this document "Puget Sound" refers to the inland marine waters of Washington State east of a line from Cape Flattery to Tatoosh Island to Bonilla Point on Vancouver Island including Neah Bay and those waters south of the Canadian-United States border, including all waters south to Olympia and Hood Canal (Figure 1). Within this area, the PSRCP will address rockfish management by two regions as follows:

> North Puget Sound: those waters of the Straits of Juan de Fuca and Georgia, Bellingham Bay, and the San Juan Islands. The western boundary is Cape Flattery; the northern boundary is the U.S.-Canadian border, and the southern border is a line from Point Wilson (near Port Townsend) to Partridge Point on Whidbey Island. Within this region, the waters from Cape Flattery east to the Sekiu River and north to the international border are considered to be the Neah Bay area.
>
> South Puget Sound: those marine waters south of the Point Wilson-Partridge Point line and east of Deception Pass. South Puget Sound includes the Whidbey Basin, Admiralty Inlet, Hood Canal, the central basin, and the southern basin of Puget Sound.

This geographical division is based largely on the stock identification of rockfish and by the major oceanographic patterns within the Sound (Palsson et al. 2009). This division into two regions represents a balance between the benefits and costs of managing rockfish by smaller water basin or by larger region. The Neah Bay area receives special emphasis due to its close association with the Pacific Ocean, both biologically and politically through with the Pacific Fishery Management Council.

Figure 1. Map of Puget Sound showing management regions.

2.1.2 Sensitive, Threatened and Endangered Species

Puget Sound is home to a wide variety of animals whose continued existence may be in jeopardy. These species are listed under the federal Endangered Species Act (ESA) or the Washington State species of concern list (Table 4).

Table 4. Animals found in Puget Sound that are listed in the federal endangered species listing or in the list of Washington Department of Fish and Wildlife species of concern (WDFW 2009) with possible interaction with rockfish.

COMMON NAME (STATUS[1])	SCIENTIFIC NAME	POSSIBLE INTERACTION WITH ROCKFISH
Southern Resident Killer Whale (E)	*Orcinus orca*	Rockfish are minor prey item
Humpback Whale(E. SE)	*Megaptera novaeangliae*	
Stellar Sea Lion (T,ST)	*Eumetopias jubatus*	Rockfish may be a minor prey item
Marbled murrelet(T,ST))	*Brachyramphus marmatus*	
Brown pelican (E,SE)	*Pelecanus occidentalis*	Minor competition for food
Chinook salmon (T)	*Oncorhynchus tshawytscha*	Rockfish are both prey and predators
Summer chum salmon (T)	*Oncorhynchus keta*	
Steelhead trout (T)	*Oncorhynchus mykiss*	
American white pelican (SE)	*Pelecanus erythrorhynchos*	Possible competition for food
Brandt's Cormorant (SC)	*Phalacrocorax penicillatus*	
Cassin's auklet (SC)	*Ptychoramphus aleuticus*	
Common murre (SC)	*Uria aalge*	
Black rockfish (SC)	*Sebastes melanops*	
Yelloweye rockfish (SC,T)	*Sebastes ruberrimus*	
Bocaccio (SC, E)	*Sebastes paucispinis*	
Brown rockfish (SC)	*Sebastes auriculatus*	
Canary rockfish (SC, T)	*Sebastes pinniger*	
China rockfish SC)	*Sebastes nebulosus*	
Copper rockfish (SC)	*Sebastes caurinus*	
Greenstriped rockfish (SC)	*Sebastes elongatus*	
Pacific cod (SC)	*Gadus macrocephalus*	Competition for food, predation, bycatch in rockfish fisheries
Pacific hake (SC)	*Merluccius productus*	Competition for food, predation, bycatch in rockfish fisheries
Pacific herring (SC)	*Clupea pallasi*	Rockfish prey on herring; herring prey on rockfish larvae
Quillback rockfish (SC)	*Sebastes maliger*	
Tiger rockfish (SC)	*Sebastes nigrocinctus*	
Walleye pollock (SC)	*Theragra chalcogramma*	Competition for food
Widow rockfish(SC)	*Sebastes entomelas*	
Yellowtail rockfish (SC)	*Sebastes flavidus*	
Gray Whale (SE)	*Eschrichtius robustus*	
Pacific harbor porpoise (SC)	*Phocoena phocoena*	
Northern abalone (SC)	*Haliotis kamschatkana*	
Olympia Oyster (SC)	*Ostrea conchaphila*	

[1] E or T means listed an Endangered or Threatened under the federal Endangered Species Act; SE, ST, SC and SS means the species is listed on the Washington State Endangered, Threatened, Candidate or Sensitive list.

2.2 The Governing Environment

Authority for regulating rockfish, their habitats, and threats to their health and human use in Puget Sound is divided among many federal, tribal, state, and local (city and county) governmental entities (Table 5). Different entities are responsible for fisheries management, habitat, and water quality. The diffuse nature of regulatory authority requires at least the cooperation and participation of many management agencies to ensure success.

Table 5. Agencies with authority affecting rockfish conservation and rebuilding efforts.

AGENCY	REGULATORY AUTHORITY
NOAA-Fisheries (federal)	Administers the Endangered Species Act (ESA) for fish, federal management in waters adjacent to Neah Bay, and marine mammals and the Marine Mammal Protection Act.
U.S. Fish and Wildlife Service (federal)	Administers the ESA for seabirds.
U.S. Army Corps of Engineers (federal)	Administers Section 10 and Section 404 permits which affect rockfish habitat.
Tribal governments	Manage treaty fisheries and habitat within reservation boundaries.
Dept of Fish and Wildlife (state)	Manages non tribal fisheries; has limited management authority over habitat.
Dept of Ecology (state)	Manages water quality.
Puget Sound Partnership	Coordinates the restoration of Puget Sound.
Dept of Natural Resources (state)	Manages state lands and marine vegetation and authorizes uses of rockfish habitat.
Dept of Health (state)	Issues consumption advisories, which affect demand. Current advisories are in effect in many portions of Puget Sound.
Local (city and county)	Manages substantial developments, growth management act, conditional use permits, shoreline development, critical areas, and issues consumption advisories.

2.3 Rockfish[2]

Rockfish are members of the family Scorpaenidae and are members of the *Sebastes* or *Sebastolobus* genera. Rockfish are characterized by having spines on their head (at least at some stage during their development), stiff dorsal fins, and venom glands at the base of fins, internal fertilization of eggs, and birth of live larvae. Over sixty species of rockfish exist in the Pacific northwest and exhibit a wide range of differences; some species are dull colored; others are brightly colored. Some species school, others are solitary. Some species can exceed thirty pounds in weight, others never exceed a pound.

[2] A detailed description of rockfishes and their biology in Puget Sound is found in Palsson et al. (2009).

Rockfish have a variety of local names. Perhaps the most common name applied to local rockfish is “rock cod.” Rockfish are also called “sea bass” (although they are not a member of the bass family) or “red snapper” (although they are not true snappers).

A total of 28 species of rockfish have been identified in Puget Sound east of the Sekiu River, (Palsson et al. 2009, Appendix 2), but some are very rare and uncommon (i.e., rougheye and silvergray). Others are found only in very specific areas of the Sound (i.e., blue and China rockfish). Other species are, or were, very common and provide valuable ecological functions and are included in commercial and recreational fisheries. Rockfish as a group are among the most common species of fish found in the Sound. They are year-round residents and can be found in nearly every area, depth, and habitat type. Many species of rockfish co-occur in the same habitats and depths (Moulton 1977, Love et al. 2002, Gunderson and Vetter 2006) and are similar in appearance, making species identification difficult. It is not unusual for a single fishing trip to land several species of rockfish, often caught at the same location and depth. The complex nature of the multi-species fishery and difficulties in identification makes the fishery management of rockfishes challenging.

Since the Neah Bay area is adjacent to the Pacific Ocean, additional rockfish species are likely to occur here than in the nearshore environment of Puget Sound. Neah Bay falls within the geographic range of an additional eleven species of rockfish than have been documented in Puget Sound (Appendix 2, Love et al. 2005), but most of these species are likely to be uncommon in the Neah Bay area.

2.3.1 Rockfish Life History and Biology

Rockfish are some of the longest-lived fish known in Puget Sound, with maximum age for several species exceeding 50 years. Rockfish mature as early as age 2, but ages at first maturity from 6 to 11 years are common, and may be as old as 22 years for yelloweye rockfish (Love et al. 2002).

Female rockfish give birth to free-swimming larvae, usually during the spring months. The larger the female, the greater the number of larvae produced. For example, female copper rockfish that are 8 inches (20 cm) in length produce 5,000 eggs while a female 20 inches (50 cm) in length may produce 700,000 eggs (Palsson et al. 2009). Recent research indicates that older female rockfish produce more competent larvae which have a greater chance of survival (Berkeley et al. 2004.) Currently, rockfish are commonly caught before they reach sexual maturity, eliminating their entire reproductive potential.

A dominant feature of rockfish reproduction is a pattern of infrequent and irregular successful recruitment and many years with poor recruitment (Hollowed et al. 1987, Hollowed and Wooster 1995, Ralston and Howard 1995). Reproductive success may occur only during narrow spatial and temporal windows when conditions are favorable for larval survival.

Rockfish have swim bladders which contain gas that is slowly regulated to allow the fish to maintain buoyancy at various depths. However rockfish, unlike other species, such as salmon, do not have a mechanism to rapidly expel gas from the swim bladder. When rockfish are brought to the surface, the gas within the bladder expands, causing internal injuries or death. The effects of rapid decompression include: over-inflation and rupture of the swim bladder; inability to submerge when released; exposure to predation and solar radiation; abnormal or erratic swimming behavior; gas embolisms in the blood vessel, gills, skin, and eyes; distortion of internal organs through the mouth; internal and external hemorrhaging; cloacal protrusions; and death (Kerr 2001, Meyer 2006, Parker et al., 2006, Rogers et al. 2008. Berry (2001) found clouded or bulging eyes in a third to more than half of quillback rockfish captured causing permanent eye damage. Parker et al. (2006) found that all swim bladders of tested black rockfish were ruptured when brought to the surface, but most survived at least a short time when quickly recompressed back to depth. Meyer (2006) performed pressure experiments on copper rockfish captured from northern Puget Sound and examined similar aspects of physiology. He found signs of depressurization stress when fish were brought to the surface from 10-, 20-, and 30-meter (33 to 100 feet) simulated depths, and these signs included hyper-inflated swim bladder, hyper-inflated pericardial chambers, and gas bladder rupture. Injuries are more severe with increasing capture depths. Fish captured from a simulated 10 meters (33 feet) did not die and might be safely caught and released. Fish captured from greater depths have life-threatening injuries. One of three captured from 20 meters (65 feet) died, and all fish captured from 30 meters (100 feet) died. This facet of rockfish anatomy limits fishery management options due to the high mortality rates of released fish from depth.

A recent report to the Pacific Fishery Management Council (PMFC 2008) indicated that mortality rates for rockfish caught and released in recreational fisheries increased with increasing depth of capture and that the mortality rate differed considerably between species of rockfish. For rockfish found in Puget Sound, mortality rates of released rockfish from 120 feet (36 m) or less in depth ranged from 17% to 37%.

2.4 Rockfish Habitats

The term “habitat” refers to the physical, chemical, and biological conditions that support a species or species assemblage. The structural components of habitats are created and sustained by long-term physical processes such as tidal currents, human activities, and also by habitat forming species such as eelgrass meadows and kelp forests.

2.4.1 Nearshore Vegetated and Rocky Habitats

The primary habitat for nearshore rockfish is composed of pebble, cobble, boulder, bedrock, and hardpan substrates that are continuous or isolated and form crevices or other structures to protect rockfish from currents and predators (Matthews 1990a, b, c; Buckley 1997, Pacunski and Palsson 2002). In shallow waters of less than 18 meters (60 feet) in depth, rocky habitats are typically covered during the summer months with macroalgae including canopy and understory kelps, bladed and filamentous red and

brown algae, and in high energy environments, surf grasses (Mumford 2007). These formations are important to the health of juvenile and adult rockfish as described above. Demersal species that use these habitats include copper, quillback, brown, and tiger rockfish. Pelagic assemblage species also make use of these habitats, especially where there are steep drop offs. These species include black, yellowtail, and Puget Sound rockfish.

Copper, quillback, and brown rockfish have an affinity for natural rocky habitats with high relief. Most exhibit small home ranges of approximate 30 meters^2 (323 ft^2) and exhibit high site fidelity (Matthews 1990b, c). Less is known about the specific habitat associations and distributions of other adult rockfish species in Puget Sound.

2.4.2 Deep-Benthic Habitats

Deep-benthic habitats for rockfish primarily include boulder, bedrock, and hardpan outcroppings in waters deeper than 37 meters (120 feet). Deep-water habitats also include extreme slopes of unconsolidated substrates, or sand, shell, and cobble fields often located in the periphery of rocky outcroppings. These deep, unconsolidated habitats occur off many of the islands and points of the South Sound such as Camano Head, Possession Bar, Mukilteo, Jefferson Head, Point Edwards, Point Monroe, Skiff Point, Restoration Point, Blake Island, Southworth, Dalco Point, Tacoma Narrows, Fox and Ketron Islands, and along the steep walls of Hood Canal. In addition, quillback and other sedentary rockfish are found to lesser degrees on habitats composed of coarse and fine sediments. The more common occurrence of copper, quillback, and brown rockfish in the South Sound indicates that these species may make use of isolated shelters created by benthic debris, sunken logs, or benthic vegetation mats swept into deep basins from the nearshore.

2.4.3 Open-Water Habitats

Open-water habitats include the water column, both shallow and deep, and the surface waters that contain drift vegetation. This habitat may be segregated by the depth preferences of several rockfish species. Several schooling species such as yellowtail, redstripe, and widow rockfish characterize the deeper segments of this habitat. Schools of yellowtail rockfish occasionally occur in deep waters of the western Strait of Juan de Fuca, and widow rockfish were found once off the southwest corner of San Juan Island (Miller and Borton 1980). In shallower waters, near pinnacles and steep walls, black and Puget Sound rockfish occupy open-water habitats.

The juveniles of some rockfish species make use of floating mats of vegetation in open water (Buckley 1997). These tend to occur throughout the North Sound and the northern portions of the South Sound and are often associated with tidal and other oceanographic fronts.

2.4.4 Artificial Habitats

Artificial habitats include piles of boulders, concrete wastes, tires, sewer pipes, breakwaters, shipwrecks, pilings, and other jettisoned or anthropogenic material not of natural geological origin. These structures mimic natural features of relief, crevice spaces, and settlement substrates for vegetation and invertebrates, but may not provide equal functions as natural habitats. Artificial habitats include artificial fishing reefs that were deployed to enhance fishing in the South Sound and urban habitats where rocky habitats were naturally limiting (Buckley 1982). WDFW created nine offshore artificial reefs and four urban reefs and others were created by the Washington Department of Natural Resources (WDNR) and others by illegal or accidental dumping. Some artificial habitats have been configured with smaller rock sizes than used on adult reefs in order to attract post-settlement rockfish (West et al., 1994, 1995, Buckley 1997).

Rockfish are found among artificial habitats (Matthews 1990a) and quickly colonize new artificial habitats soon after deployment. New habitats likely attract itinerant fish from the surrounding environment (Buckley and Hueckel 1985, Laufle and Pauley 1985), but how well the artificial reefs simulate the function of natural habitats is unclear. Matthews (1990b) found that home ranges are greater for rockfish living on artificial habitats than on natural habitats, and fish living on artificial habitats are more likely to move to low-relief natural rocky habitats during the summer. In contrast, rockfish living on natural high-relief rocky habitats (vertical relief greater than two meters (6 feet) apparently have more suitable conditions because they remain in smaller home ranges throughout the year. Moreover, most rockfish displaced from natural high-relief rocky habitats return to them after being displaced to artificial reefs, but rockfish displaced from artificial reefs to high-relief natural reefs do not return and remain at the high-relief natural habitats. These findings indicate that artificial habitats may not provide habitat of the same quality as natural habitats.

Artificial habitats have been suggested as a habitat mitigation tool for the loss of natural habitats because they attract concentrations of rockfish and other rocky habitat species (Hueckel et al., 1989). But issues of habitat quality, function, and replacement of underlying natural habitats may limit their use as replacement habitats.

2.4.5 Neah Bay Region

Neah Bay is a transitional area set between the open, fully saline waters of the Pacific Ocean and the estuarine waters of Puget Sound. The shoreline west of the Sekiu River to Neah Bay consists of rocky shorelines interspersed with pocket beaches of coarse sands and cobble. Neah Bay itself is a wide, sandy bay bounded by sandy, rocky, and modified shorelines enclosed by a jetty from the west shore east to Waadah Island forming a protected boat basin. Farther to the west, the shoreline consists of rocky headlands to Cape Flattery that are interspersed with cobble beaches. Just offshore, the sea floor consists of sand, cobble, and rocky outcrops that support floating kelps of *Macrocystis integrifolia* and *Nereocystis leutkeana* and a wide variety of understory seaweeds. Prominent rocky ridges and boulder fields occur in both shallow waters and

offshore as the seafloor quickly slopes to a maximum depth of over 250 m. Offshore of Cape Flattery the prominent Duncan and Duntze Rocks protrude from the ocean surface, roughly due north of Tatoosh Island. The eastern face of this island forms the western boundary of Neah Bay and consists of steep rocky shorelines and subtidal slopes that give way to boulders, cobble, and sand.

2.5 Fisheries for Rockfish

Fisheries for rockfish have existed in Puget Sound for a long time, probably since humans first inhabited the region (Stewart 1977). Modern commercial fishing for rockfish and other species of bottomfish started in the 1920s and greatly increased in the 1970s and 1980s (Figure 2). This increase occurred in both northern and southern Puget Sound and in both recreational and commercial fisheries (Figure 3). The increase in landings was due to increased fishing effort, not to an increase in the abundance of rockfish (Palsson et al. 2009).

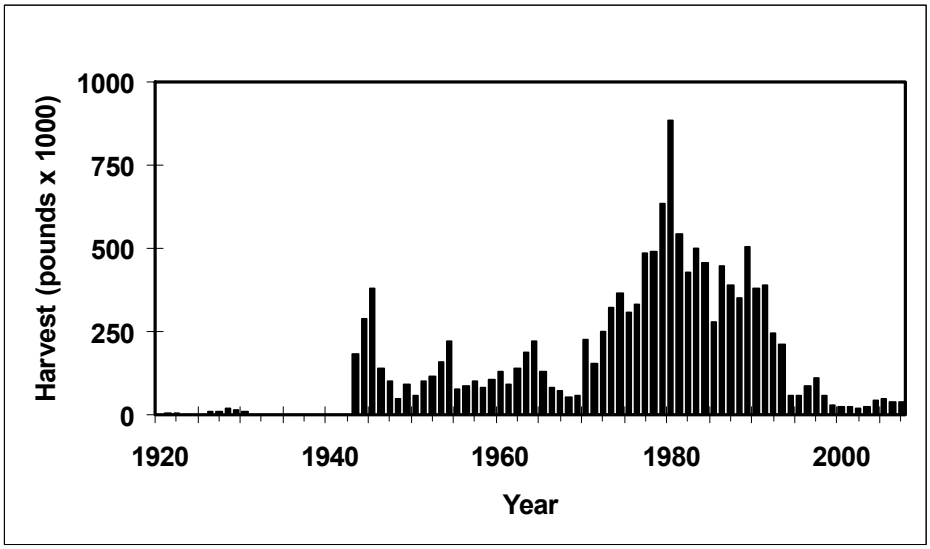

Figure 2. Estimated catch of rockfish in pounds from Puget Sound east of the Sekiu River, 1920-2008. Source: Palsson et al., 2009.

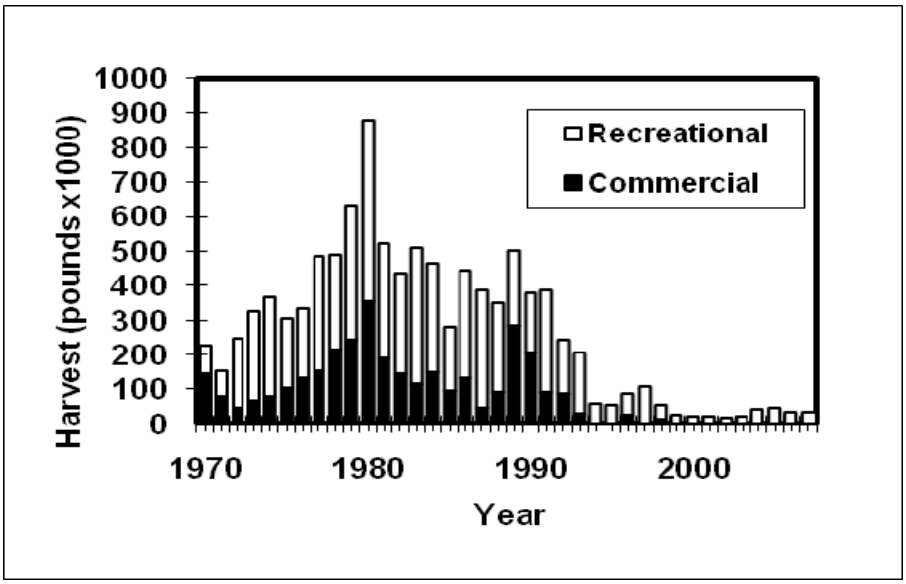

Figure 3. Commercial and recreational harvest of rockfish from Puget Sound east of the Sekiu River.

Since the 1980s, a series of management actions has been taken to reduce the impact of fishing on rockfish east of the Sekiu River. These actions include the prohibition of certain gear types, imposition of daily or trip catch limits, and establishment of no fishing areas. No annual catch limits for any species of rockfish have been established in Puget Sound. These actions have reduced the size of the rockfish catch. In 2009, the annual catches of rockfish by both commercial and recreational fisheries are low, the lowest since complete record keeping began in the 1970s (Palsson et al. 2009).

2.5.1 Commercial Fisheries

Many different types of commercial fishing gear have been used in Puget Sound east of the Sekiu River to catch rockfish. Some of this gear is designed to catch rockfish, and other types are designed to catch other species of fish such as salmon and flatfish, but may catch rockfish incidentally. The major commercial gear types which have caught rockfish, but are no longer allowed in Puget Sound, are roller trawl, handline jig, and bottomfish troll. Existing gears that may encounter rockfish incidentally are bottom trawl, set net, and setline. Commercial fisheries are capable of operating at any depth in Puget Sound.

At present, the commercial catch of rockfish in southern Puget Sound is nearly zero and has been at that level since the early 1990s. In northern Puget Sound, a harvest of rockfish (primarily yellowtail rockfish) by trawl occurs regularly in the Strait of Juan de Fuca. During the period from 2004 to 2008, less than 2,000 rockfish have been harvested from Puget Sound east of the Sekiu River by commercial gears.

The catch estimates for commercial fisheries do not include estimates for rockfish encountered during commercial fishing operations and released at sea. No monitoring program exists with which to estimate the magnitude of this release rate. The amount of this release is thought to be low, but the mortality rate high (Palsson et al. 2009).

2.5.2 Recreational Fisheries

Several different types of recreational fisheries have captured rockfish in Puget Sound east of the Sekiu River. While recreational fishers undoubtedly sought and harvested rockfish prior to 1968 (Buckley 1967, 1968; Buckley and Satterthwaite 1970), consistent statistical surveys were not implemented to estimate total recreational harvests in Puget Sound until 1970, and early estimates indicated that recreational harvests of rockfish were minimal (Palsson 1988). Targeted rockfish fisheries have included the boat-based, hook-and-line fishery for bottomfish, the spearfishery and the shore-based hook-and-line fishery. By far, boat-based anglers account for the majority of harvested rockfish. Typically, these anglers target rockfish on areas of high, rocky relief. Anglers can fish to depths of more than 122 meters (400 feet) often on deep pinnacles or artificial structures. Using modern fishing gear and electronic aids, anglers can effectively fish at any depth or location in the Sound.

Anglers who fish specifically for bottomfish encounter rockfish. In addition rockfish, are encountered while fishing for halibut, lingcod, and salmon (Table 6). Anglers fishing from shore occasionally catch rockfish using spinning gear and lures and baited hooks. However, the catch of rockfish tends to be minimal by shore anglers (Bargmann 1982). Divers spear rockfish, a sport that co-developed with the recreational diving. Divers using pole spears and spear guns have harvested rockfish in great numbers and can account for approximately a quarter of the total recreational harvest of rockfish in some areas and years (Bargmann 1984). More recent regulations restrict recreational fishing of rockfish with the imposition of a one-fish daily bag limit and the prohibition of spearfishing for rockfish.

In recent years (2004-2007), recreational anglers have encountered approximately 35,000 rockfish annually east of the Sekiu River. Most of these are encountered by people fishing for bottomfish. Smaller numbers of rockfish are encountered by anglers fishing for salmon, halibut, or other species of fish (Table 6). Considerable numbers of these rockfish are released. Of all rockfish encountered while recreational fishing in Puget Sound, nearly two-thirds are released. Anglers fishing for bottomfish released the largest number of rockfish, while salmon anglers released the highest proportion of their encountered rockfish (Table 6).

Table 6. Patterns of Rockfish Encounters in the Puget Sound Recreational Fishery, 2004-2007. Source: Palsson et al., 2009

TARGET SPECIES	AVERAGE NUMBER OF ROCKFISH ENCOUNTERED ANNUALLY	AVERAGE PERCENT OF ROCKFISH RELEASED
Bottomfish	21,490	64
Halibut	658	50
Salmon	8,742	77
Any Species	4,435	42
Total	35,325	64

Previous management strategy (prior to 2010) was designed to: 1) minimize the catch of rockfish by reducing the bag limit to one fish per day and establishing fishing seasons for rockfish; and 2) minimize wastage by allowing anglers to retain one rockfish per day. The ongoing high rate of release in the recreational fishery remains a concern (Palsson et al. 2009). In 2010 the Fish and Wildlife Commission adopted rules that prohibit recreational fishing for bottomfish in waters deeper than 120 feet in all of Puget Sound and prohibited retention of rockfish in most of the Sound. These actions should reduce the mortality rates of released rockfish, and the amount of rockfish encountered in deep water will be reduced.

2.5.3 Treaty Fisheries for Rockfish

Rockfish bones have been found in native middens and archeological studies have shown that Native Americans historically harvested several species of rockfish (Stewart 1977). Treaty tribal governments have the authority to authorize fisheries for rockfish and other species in Puget Sound. However, the amount of rockfish harvested by persons fishing under the authority of a tribal government has been very small in recent years. Rockfish harvested by tribal fishers have contributed less than two percent to the total Puget Sound harvest for most years since 1991. The annual harvested poundage was the greatest in 1992 at 15,600 pounds and in 1998 when 1,371 pounds were landed. In both of these peak years, trawl gear was the primary gear of harvest. During other years, harvests have ranged from none to approximately 500 pounds with troll and other gear being the dominant source of the landings.

2.5.4 Fisheries for Rockfish in the Neah Bay Area

In recent years, the recreational fishery has been the dominant fishery for rockfish in the Neah Bay area. Non-tribal commercial fishing for bottomfish has been progressively restricted in the Neah Bay area, first with a prohibition of commercial jigging and trolling in 1998. Commercial trawling was later prohibited in 2000. Annual commercial harvests in Neah Bay ranged between 37,500 and 109,000 pounds (17 and 49 metric tons (mt)) during the early 1990s and then decreased to less than 405 pounds (0.2 mt) or 200 rockfish per year after 1997 when most commercial closures became effective (Figure 4). During the early 1990s, commercial jiggers harvested 80% of the rockfish, trawlers harvested 10%, and longliners harvested most of the remainder of the rockfish. Commercial fishing effort progressively declined from the early 1990s when 200 to 350 landings occurred per year to less than 50 landings per year for all bottomfish.

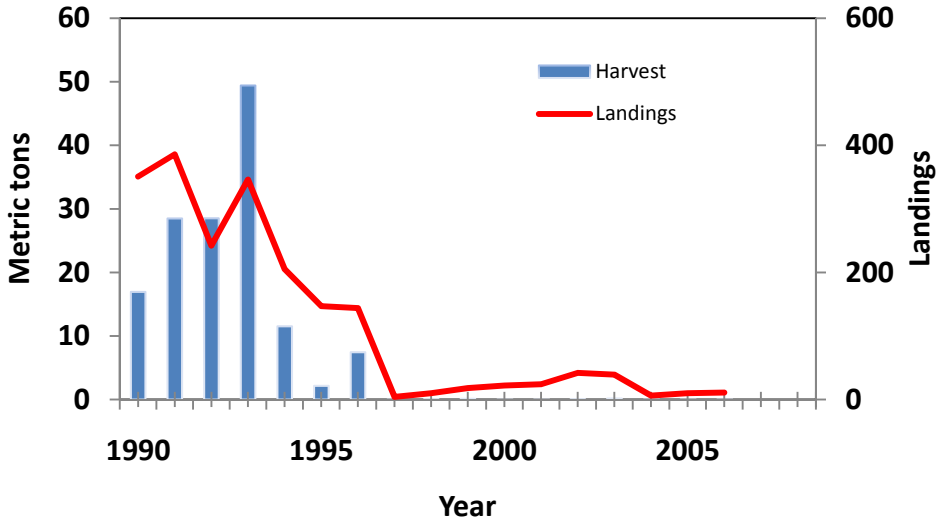

Figure 4. Commercial harvest of rockfish and fishing effort in the Neah Bay region, 1990-2008. Source: unpublished WDFW data.

Rockfish are primarily harvested in Neah Bay by recreational anglers targeting bottomfish and Pacific halibut, but rockfish fish are also harvested incidentally to fishing trips taken for salmon and combined or non-specific fish species and by divers using spearfishing gear. Harvest has ranged between 18,000 and 47,000 fish between the years 1990 and 2003 (Figure 5). Harvest amounts increased to 70,000 in 2005. However, estimates after 2004 include harvest estimates of boat-based anglers who originate their trips from waters east of the Sekiu River that were not previously estimated. Scuba divers from Neah Bay target rockfish using pole spears and spear guns, but their rockfish harvest has never exceeded 3,000 fish and has averaged 4% of the total recreational harvest. During the past five years, black rockfish has comprised 86% of the angler harvest of rockfish from the Neah Bay area, yellowtail rockfish has comprised 3%, and blue rockfish has comprised 1.4%. Most rockfish are retained by anglers, but of the total rockfish encounters, 23% are released back to the water. During the past five years, rockfish releases have averaged 12,500 fish with black rockfish constituting 71% of the released catch, canary rockfish 7%, yellowtail constituting 4%, and yelloweye rockfish constituting 3% (Source: WDFW unpublished data).

Treaty harvests of rockfish have been small in this area, averaging less than 1 mt annually between 1990 and 2008.

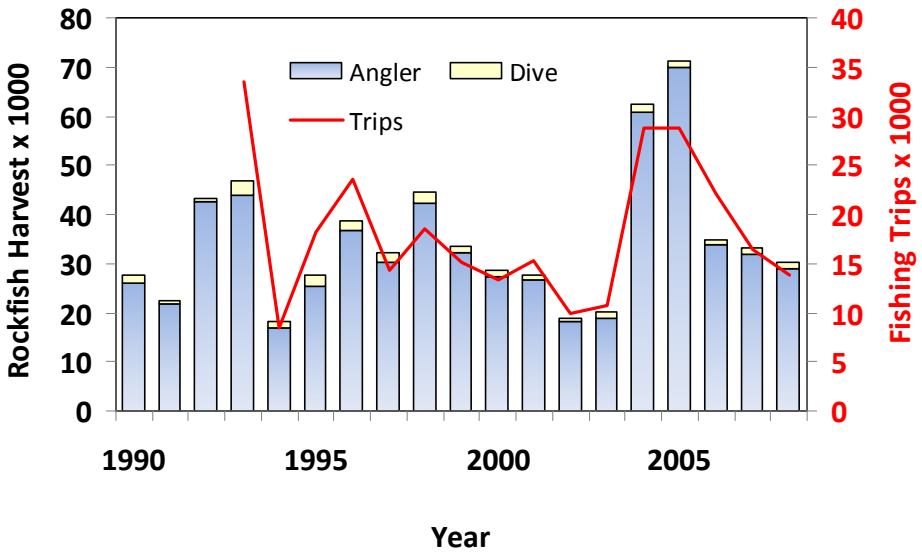

Figure 5. Recreational harvest of rockfish and fishing effort in the Neah Bay area, 1990-2008. Source: unpublished WDFW data.

2.6 Current Stock Status for Rockfish in Puget Sound East of the Sekiu River

The PSRCP concludes that many stocks of rockfish are in poor condition east of the Sekiu River. This conclusion is based on previous analysis conducted by WDFW staff (Palsson et al., 2009). The PSRCP proposes to utilize three categories of stock status (Appendix 1 (Appendix A)). These three categories are based on assessments by the Pacific Fishery Management Council and by WDFW as follows:

Healthy Stock Status: A healthy stock is one that has a biomass at or above $B_{50\%}$. The data-limited definition of a Healthy Stock is one that shows a long-term trend that is stable, increasing, or varies without trend at or above historic levels.

Precautionary Stock Status: Precautionary Stocks are those that have stock biomasses between $B_{25\%}$ and $B_{50\%}$. The data-limited definition is a stock that demonstrates instability, is decreasing, or has no information to establish condition.

Depleted Stock Status: A Depleted Stock is one that is at or below $B_{25\%}$. The data-limited definition of a Depleted stock is one that has negative indices exceeding AFS vulnerability thresholds corresponding to its population productivity. This category includes the Vulnerable status previously used by Palsson et al. (2009).

2.7 Status of Stocks in Puget Sound east of the Sekiu River

The stock status of each species was evaluated for both regions of Puget Sound east of the Sekiu River (Table 7). The majority of rockfish stocks or populations in Puget Sound east of the Sekiu Rvier are in the Precautionary status, and several species once important to recreational fisheries are in Depleted status (Table 7). The patterns of stock status are generally similar between the two regions. Fewer than 22% of the populations present in Puget Sound east of the Sekiu River are in Healthy status.

Table 7. Summary of the Status of Rockfish Populations in Puget Sound east of the Sekiu River. Source: modified from Palsson et al. (2009).

SPECIES	NORTH SOUND (excluding the Neah Bay area)	SOUTH SOUND
Copper rockfish	Precautionary	Depleted
Quillback rockfish	Depleted	Depleted
Brown rockfish	Precautionary	Precautionary
Black rockfish	Precautionary	Precautionary
Yelloweye rockfish	Depleted	Depleted
Yellowtail rockfish	Precautionary	Precautionary
Canary rockfish	Depleted	Depleted
Bocaccio	Precautionary	Precautionary
Redstripe rockfish	Healthy	Healthy
Greenstriped rockfish	Healthy	Healthy
Splitnose rockfish	Precautionary	Precautionary
Shortspine thornyhead	Healthy	Healthy
Tiger rockfish	Precautionary	Precautionary
China rockfish	Precautionary	Not Present
Blue rockfish	Precautionary	Not Present
Vermilion rockfish	Precautionary	Precautionary
Puget Sound rockfish	Precautionary	Healthy
Number Healthy	3	4
Number Depleted	3	4
Total Stocks Examined	17	15

Stock condition is closely related to the frequency of a species entering the recreational catch with the more commonly caught species being in poor condition, and smaller species, which are seldom caught, being in the healthiest conditions. Copper and quillback rockfish have been the two most important species in the recreational fishery, but three of four stocks are in Depleted condition. Throughout Puget Sound, yelloweye and canary rockfishes are in Depleted condition. Eleven species in North Sound and seven species in South Sound are in Precautionary status. These species, such as black, yellowtail, splitnose, and bocaccio, have been secondary species of importance in recreational and commercial fisheries. Palsson et al. (2009) did not recognize that bocaccio were a distinct population segment or stock east of the Sekiu River and did not conclude their decline in frequency in recreational fisheries qualified as Depleted. The Biological Review Team convened by NOAA Fisheries designated bocaccio to be a distinct population east of Port Angeles and their decline warranted listing as an

endangered species under the terms of the federal Endangered Species Act (Federal Register 2009). The review team also recommended that canary and yelloweye rockfishes were threatened and all three recommendations were accepted and ESA-listed (Federal Register 2010).

This evaluation of stock status has many limitations, most notably the lack of complete recreational catch estimates between 1994 and 2003, the lack of information on the released portion of the rockfish encounters and the poor quality of species composition data from the commercial fishery, unknown influences of changing bag limits on the interpretation of the recreational catch rate trend, and the lack of age and other biological data. Additionally, the analysis of stock status presumes that rockfish stocks in the early 1970s were at maximum levels and declines are measured from that time. However, almost certainly rockfish populations were not at their maximum in the 1970s, since harvest of rockfish had occurred for at least fifty years prior to that time. Thus, this analysis of stock condition may underestimate the real decline in abundance (Palsson et al. 2009).

2.8 Status of Stocks in the Neah Bay Area

A number of rockfish species may occur in the Neah Bay region, but not in the other regions of Puget Sound. (Appendix 2). These species are typically deepwater fish associated with the open ocean.

Stock assessments have not been made for rockfishes occurring specifically in the Neah Bay area. Because the Neah Bay area is a transitional area adjacent to the open coast, rockfishes are expected to have greater affinities to coastal rockfish stocks than rockfish farther to the east. For example, NOAA-Fisheries has identified distinct population segments to the east of Port Angeles for canary, yelloweye, and bocaccio rockfishes, and genetically distinct populations of copper, quillback, and brown rockfishes have been found south of Port Townsend (Federal Register 2009). Stock status in the Neah Bay area will likely be influenced by population processes and fisheries in coastal waters, therefore, stock assessments for coastal species conducted under the auspices of the Pacific Fishery Management Council (PFMC) will be used to provide a baseline for managing stocks and fisheries in the Neah Bay area. Federal management guidelines designate that any stock at or below 25% of the unfished biomass is overfished, a comparable level for depleted stocks in Puget Sound. Six coastal stocks of rockfish have been declared overfished including the southern stocks of bocaccio, canary, darkblotched, Pacific Ocean perch, widow, and yelloweye rockfishes. Species with status assessments by the PFMC in ocean waters are listed in Table 8.

Table 8. Stock status for rockfish in coastal waters (Source: adapted from PFMC, 2008)

ROCKFISH SPECIES	PFMC DEPLETION* (year of most recent assessment)	Equivalent WDFW stock status
Black rockfish (north of Cape Falcon)	53% (2007)	Healthy
Canary rockfish	24% (2009)	Depleted
Darkblotched rockfish	20% (2009)	Depleted
Greenstriped rockfish	81% (2009)	Healthy
Pacific Ocean Perch	29% (2009)	Precautionary
Splitnose rockfish	66% (2009)	Healthy
Widow rockfish	38% (2009)	Precautionary
Yelloweye rockfish	20% (2009)	Depleted
Yellowtail rockfish	57% (2005)	Healthy
Shortspine thornyhead	63% (2005)	Healthy
Longnose thornyhead	71% (2005)	Healthy

* Depletion means the % of the original unfished spawning biomass remaining (e.g., current biomass divided by biomass prior to the start of fishing).

2.9 Stressors and Limiting Factors

Potential stressors and limiting factors can negatively impact rockfish populations. Many stressors or threats to rockfish have been identified by West (1997). Those stressors and their potential to limit productivity and recovery of rockfish populations in Puget Sound are discussed in this section (Table 9). The likely known impact on productivity is rated as High, Moderate, or Low (Palsson et al. 2009). The definitions for each of the risk categories are as follows:

- High: The stressor has been documented to dramatically limit rockfish populations in Puget Sound or along the West Coast.
- Moderate: The stressor has been identified to cause direct mortality on local scales or to be a persistent factor but on a restricted scale.
- Low: The stressor has some potential to limit rockfish populations on a small scale or large scale, but the stressor has not been documented in Puget Sound.

Table 9. Likely Stressors Limiting Rockfish Populations in Puget Sound.

FACTOR	LIKELY IMPACT
Past Fishery Removals	High
Habitat Disruption	Low
Derelict Gear	High
Climate Change	Low
Water Quality	
Dissolved oxygen	Moderate
Nutrients	Low
Chemical Contamination	Moderate
Species Interactions	
Food Web	Moderate
Competition	Low
Salmon Hatchery Practices	Low
Diseases	Low
Genetic Changes	Low

2.9.1 Past Fishery Removals

Fishing affects rockfish in both time and space, affecting sustainable populations. In Puget Sound east of the Sekiu River, past fishing practices have decreased both the number of fish and the average age and size of fish. Recent studies clearly show declines in abundance of many species of rockfish, and several of the most commonly fished species show an average declining size as well. The comparison of rockfish densities and sizes in marine reserves to fished areas in Puget Sound shows that removals by fishing activities affect the abundance and size structure of rockfish populations (Palsson et al. 2009). We conclude that past fishing practices have been a major factor affecting the abundance and size structure of rockfish in Puget Sound east of the Sekiu River.

Age truncation, the removal of older fish, can occur at even moderate levels of fishing for rockfish (Berkeley et al. 2004b). A study of black rockfish revealed that age truncation occurs along the central coast of Oregon, and that older fish release their young earlier in the spring than younger fish (Bobko and Berkeley 2004). Further, older fish produce better quality embryos with larger oil globules and have higher absolute fecundities (Berkeley et al., 2004a, Bobko and Berkeley 2004). These and other results led Berkeley et al. (2004a) to conclude that older rockfish produce high quality larvae which are better able to withstand starvation and grow faster than the offspring of younger fish. The magnitude of the effect of age truncation on reproductive success may vary by species (Longhurst 2002, O'Farrell and Botsford 2006).

Age truncation as a result of fishing may affect rockfish populations in Puget Sound by reducing the number of larvae produced, decreasing the fitness of the larvae produced, and the decreasing the time period during which larvae are produced. All three of these factors may act to diminish the chances of successful recruitment in Puget Sound, although this effect has not been confirmed.

Rockfish often experience severe injury and death (e.g., "barotrauma") when brought to the surface from depth. Recent studies have revealed the potential for high mortality of fish caught at depth and subsequently released, and studies have shown mixed results in reducing the effects of barotrauma injuries. The mortality rate increases with depth of capture and can vary by species. The estimated mortality rates for released fish which were caught in depths of 120 feet or shallower range from 17% to 37%. At depths of 180 feet or greater, the estimated mortality rates for most species was 100% (PFMC 2008).

Techniques aimed at minimizing barotrauma have focused on reeling fish up slowly, venting, or deflating the swim bladder and rapid re-submergence.

- **Speed of retrieval**- The speed of reeling and the ascent rate does not lessen the effects of barotrauma on rockfish. The low speed of reeling does not improve the survival of copper rockfish (Meyer 2006), and holding experiments of quillback rockfish brought to the surface slowly and those brought to the surface rapidly do

not differ in their survival following four to six weeks in captivity (Berry 2001). Berry (2001) did find a higher incidence of eye damage by fast reeling with power reels in quillback rockfish.

- **Venting**- Venting (or "fizzing") involves puncturing the swim bladder to remove pressure on the organs by allowing the captured gas to escape (Berry 2001, Kerr 2001, Meyer 2006, Wilde 2009). The puncture is usually performed with a hypodermic needle or other sharp object along the side of the fish. In an analysis of 17 studies among 22 species or species groups, Wilde (2009) found little support that venting improves the survival of fish. Venting might be slightly beneficial to fish caught in shallow water, but is increasingly detrimental to fish captured in deeper water. Studies of quillback rockfish held in underwater cages following capture found no difference in survival rates between vented fish and unvented fish (Berry 2001). A study in California found similar results for blue rockfish (Gotshall 1964). Autopsies of vented and unvented fish four to six weeks following capture indicate that vented fish have a lesser rate of swim bladder lesions than unvented fish (Berry 2001). Following release, differences in behavior were noted between vented and unvented rockfish (Gotshall 1964).

- **Rapid submergence**- Reducing the time held at the surface or out of the water is more important in increasing survival than venting rockfish (Berry 2001, Parker et al., 2006, Hannah and Matteson 2007, Jarvis and Howe 2008). Parker et al. (2006) tested the effect of submerging captured black rockfish immediately after capture and found that after 21 days, rapidly submerged rockfish only suffer 3.3% mortality. Hannah and Matteson (2007) found the success of recompression depends upon the species of rockfish, with blue rockfish showing more behavioral impairment than black, canary, and yelloweye rockfish. For copper rockfish, the increasing depth of capture results in greater external signs of barotraumas, but artificial deflation and recompression offer potential benefits for minimizing the mortality of rockfish (Meyer 2006). Berry (2001) found quillback rockfish rapidly recompressed to a depth of 15 meters (50 feet) suffered less mortality and appeared more "normal" than fish slowly submerged to 15 meters (50 feet) during the course of two days.

Considerable research on methods to reduce the effects on barotrauma is currently underway and, if successful, offers the potential to reduce the mortality rates of released rockfish.

2.9.2 Habitat Disruption

Habitat disruption and loss includes naturally occurring and human caused activities that temporarily or permanently alter existing natural habitats. Habitat disruption results from filling, dumping dredge spoils, sedimentation, trawling, constructing beach bulkheads, installing pipelines and cables, sunken vessels, and constructing artificial habitats. The most vulnerable rockfish habitats are shallow-water vegetated areas and deeper rocky habitats.

Juvenile rockfish are highly associated with submerged and floating aquatic vegetation including eelgrass and kelp, while kelp is prevalent in the shallow portions of adult rockfish habitats. The disruption of submerged aquatic vegetation could pose a threat to the habitat quality of rockfish. Surveys conducted by the Washington Department of Natural Resources indicate that eelgrass abundance hasn't changed during recent years, but localized increases and decreases have occurred (Berry et al. 2003, Dowty et al. 2005, PSAT 2007). The amount of kelp beds along the Strait of Juan de Fuca varies greatly from year-to-year and some specific areas, such as near Protection Island, has shown long-term declines (Berry et al. 2002). In other areas of Puget Sound, kelp beds are increasing, due in part, to kelp growing on manmade structures (Levings and Thom 1994).

One-third of the Puget Sound's shoreline has been modified by human activities such as bulkheading, filling, overwater structures, and boat ramps (Bailey et al. 1998). Shoreline structures that extend over or through the subtidal zone alter fish communities compared to shore zones consisting of sand, cobble, or shallow rip-rap (Toft et al. 2004).

Another potential threat to rockfish is habitat disruption resulting from the introduction of exotic aquatic vegetation into Puget Sound. *Sargassum muticum*, an exotic brown algae, was accidentally introduced into Puget Sound from oyster aquaculture activities, and now is ubiquitous in the extreme nearshore where rocks and cobbles are present (Britton-Simmons 2004). These are the same habitats that post-larval copper rockfish settle in, but whether *S. mutium* affects rockfish settlement is not known. In North Sound, settling juvenile copper rockfish transition to *S. mutium* as the first substrate-associated recruitment in areas with minimal kelp habitat (Buckley 1997).

Adults of many species of rockfish are closely associated with rocky habitats. The amount of this habitat is naturally limited, especially in Southern Puget Sound. A WDFW study (Pacunski and Palsson 1998) estimated 207 square kilometers (51,150 acres) of rocky habitat exists in North Puget Sound and only 10 square kilometers (2,471 acres) occurs in South Puget Sound. This rocky habitat may be affected by the deployment of mobile fishing gear, cables and pipelines, construction of bridges, sewer lines, and other submerged structures, and burying by sediments from dredge spoils, dam removal, and natural subtidal slope failures.

In Puget Sound, some commercial bottom trawl activities have targeted rockfish living on rocky habitats. Around the world, mobile fishing gear reduces physical and biological structure on the seafloor, leaving long-lasting impacts (Auster 1998, Dorsey and Pederson 1998, Kaiser 1998). In Puget Sound, trawling is presently limited to the Strait of Georgia, the San Juan Islands, and the western Strait of Juan de Fuca. Roller gear, which can enhance the ability of trawls to fish on rocky habitats, is prohibited in Puget Sound. The extent of habitat disruption by bottom trawling in Puget Sound is not clear, but it is thought to be minimal (Bargmann et al. 1985).

The likely impact of large scale habitat disruption for rockfish in Puget Sound is low at present. However, localized habitat degradation may be impacting rockfish stocks.

2.9.3 Derelict Fishing Gear

Derelict fishing gear is nets, lines or shellfish pots which have been lost or discarded in Puget Sound. Derelict nets, especially gillnets, pose a threat to rockfish. These nets have either become entangled on rocky habitats or obstructions, or cut loose to sink to the seafloor. Derelict nets and shellfish pots, which are distributed throughout Puget Sound, can capture and kill invertebrates, marine mammals, sea birds and many species of fish including rockfish for many months or years after the gear is lost.

Nearly 3,000 derelict nets and 2,000 derelict shellfish pots have been removed by the Northwest Straits Commission in recent years. These derelict gears contained over 200 rockfish removed from the water (Table 10). The number of rockfish killed by a derelict net is considerably higher than the number in the net at the time of removal as rockfish die and decompose in the net prior to its removal or fall out of the net during its removal (Gilardi et al. 2010).

Table 10. Amount of rockfish caught in derelict fishing gear at the time or removal from the water.

GEAR TYPE	NUMBER OF GEAR UNITS REMOVED	NUMBER OF ROCKFISH	SPECIES COMPOSITION
Nets (gillnet, purse seine, aquaculture)	2,835	218	64 black, 1 brown, 1 canary, 13 copper, 12 Puget Sound, 33 quillback, 2 yellowtail and 92 unidentified
Shellfish pots (shrimp and crab)	1,921	8	2 quillback, 6 unidentified

Source: Northwest Straits Commission (www.derelict gear.org.)

Derelict nets also destroy and degrade marine habitats by accumulating sediment, wearing away of the bottom, impeding growth of plants and attached animals and blocking access to habitats used for feeding and for escaping predators. Each derelict net can degrade 0.3 acres of rockfish habitat (NW Straits Commission, personal communication).

The Puget Sound Rockfish Conservation Plan identifies removing derelict nets as a key habitat strategy and action. Additionally, the Puget Sound Partnership has identified removal of derelict fishing gear as a key step in the recovery of Puget Sound. As a result of the known detrimental effects of derelict gear on rockfish and other species, the Northwest Straits Commission has undertaken a major effort with federal economic

stimulus funds to remove as many derelict nets as possible. This effort, which is funded until the end of 2010, is projected to remove 2,000 nets from Puget Sound. However there will be an estimated 750 derelict nets remaining in Puget Sound at the end of that project. The estimate of the number of nets remaining in Puget Sound is likely an underestimate of the actual number of derelict nets. Only a portion of the shallow water, less than 30 m (100ft) in depth has been surveyed for derelict nets and the deeper water areas of Puget Sound remains largely unsurveyed.

Based upon the documented extent of derelict gear, especially nets, on rockfish mortality, food webs, and habitats, there is a high risk to rockfish populations by derelict fishing gear in Puget Sound. While this risk is declining due to the extensive efforts to remove derelict gear by the Northwest Straits Commission and other groups, its risk remains high due to the number of derelict nets remaining in Puget Sound and the long-term detrimental effects of each net.

2.9.4 Climate Change

The survival and recruitment of marine fish, including rockfish, may be affected by climate-related oceanic conditions. The oceanography of Puget Sound and adjacent coastal waters are interlinked and affected by patterns that operate on seasonal, annual, decadal, and intermittent scales. Already, an increase in sea surface temperature of 1.7^{o} Centigrade has been detected at Race Rocks (near Victoria, British Columbia) since the early 1970s (Mantua et al. 2007). Potential climatic patterns that affect biological processes include upwelling (Hsieh et al. 1995), changes in water currents, upwelling and temperatures such as the Pacific Decadal Oscillations (Ebbesmeyer et al., 1991, Hare and Mantua 2000), El Niño or Southern Oscillation events (Pearcy and Schoener 1987, Newton 1995), droughts (Newton et al. 2003), and climate change (Mantua et al. 2007). If waters become warmer due to climate change, one logical expectation is that species from warmer southern waters may invade Puget Sound while cold-tolerant species may become less common due to differential recruitment and mortality, advection of recruits, or even direct movement of adults (Mantua et al., 2007). Projected alterations in Puget Sound due to climate change during the 21st century are (PSAT 2005):

- Continued increases in water temperature.
- Continued alteration of river flows.
- Accelerated rates of sea level rise.
- Loss of nearshore habitat.
- Increased likelihood of algal blooms.
- Increased likelihood of low oxygen conditions in bottom waters.

Another change projected to be caused by changing climate is increased levels of carbon dioxide in the water of Puget Sound. This increased level will change the pH of the water to make it more acidic. Changes in pH are likely to have a smaller impact of fish than on invertebrates, but studies have indicated changes in pH can alter the physiology, metabolism and reproductive biology of fish (Rijnsdorp et al., 2009) with

changes in egg fertilization and survival of early life stages being most affected (Ishimatsu et al. 2005).

In addition, the ecosystem and food web of rockfish in Puget Sound may change in an unknown manner as primary and secondary productivity changes due to changes in the physiological rate of species, the availability of nutrients, changes in species composition of zooplankton, and increase in wind speeds (Rijnsdorp et al. 2009).

How climatic changes directly affect rockfish in Puget Sound is unclear, but biological effects of climate change can affect the year-to-year success of reproduction for rockfish, other bottomfish, and salmonids. For example, successful year classes for different rockfish appear to be linked to warm, intermediate, and cold oceanographic conditions (Hollowed et al. 1987, Hollowed and Wooster 1995). Moser et al. (2000) found that juvenile rockfish abundance of several species was negatively correlated with warm water and El Niño events in the California current system. Major perturbations have been observed with many extreme El Niños affecting the northeastern Pacific (Pearcy and Schoener 1987). A common pattern of rockfish recruitment, observed along the West Coast, is infrequent and irregular years of successful recruitment with many years of poor recruitment (Parker et al. 2000). The synchronous recruitment event of 2006 in Puget Sound observed for copper and quillback rockfish in South Sound and black and yellowtail rockfish in North Sound (LeClair et al. 2007), suggests rockfish productivity is affected by sporadic recruitment events, which are likely related to broad-scale climatic events. Many rockfish species along the West Coast exhibit sporadic recruitment over many decades (Hollowed et al. 1987, Moser et al. 2000). Synchrony of rockfish recruitment in the California Current System appears to predominate on coast-wide rather than smaller regional scales, suggesting that large-scale climatic factors are affecting rockfish recruitment (Field and Ralston 2005). In contrast, different California regions can show different patterns in catch per unit effort for rockfish in response to El Niño conditions (Bennett et al. 2004). For example, as El Niño conditions developed, or as ocean climate turned warm after 1977, catch rates for rockfish declined in southern California and increased in the north.

A limited amount of information indicates that fishing may increase a species' sensitivity to the effects of climate change. Heavily fished stocks of cod in the Atlantic, which are at low levels of abundance, show a strong link between water temperature and recruitment. However this link was weak or non-existent in earlier years when the stock was larger (Rijnsdorp et al. 2009).

A recent survey of potential impacts of climate change in fish populations (Rijnsdorp et al. 2009) hypothesized that:

- Populations at the limits of their latitudinal ranges will exhibit a stronger response than those occurring at the center of their range.
- Northerly species at the southern limits of the distribution will decrease in abundance and southerly species will increase at their northerly limits.

- Deep water species will be less affected by climate change than shallower species.
- Fish species with narrow dietary preferences will be more sensitive to climate change than generalists.
- Species with restricted habitat requirements will be more sensitive to climate change than those with less specific habitat requirements.

Overall, how climate change will affect rockfish in Puget Sound is unknown. A recent study of climate change by the University of Washington concluded that profound changes have occurred in the Puget Sound environment over the past century and that the next several decades will see even more changes (Snover et al. 2005). Projected changes that could impact rockfish include increases in water temperature, flooding, lowering of pH, accelerated rates of sea level rise, loss of nearshore habitat, changes in plankton, and increased likelihood of algae blooms and low levels of dissolved oxygen. Each of these potential changes could adversely impact rockfish populations in Puget Sound, but at present the known impact on rockfish is low.

None of these hypothesized impacts of climate change have yet been observed in rockfish in Puget Sound, so they remain hypothetical. However changes due to climate change, if they do occur, may be abrupt (Rijnsdorp et al. 2009).

2.9.5 Water Quality

Throughout most of Puget Sound, the water quality (temperature, salinity, dissolved oxygen) is suitable for rockfish survival and growth. Most waters of Puget Sound are classified as “Excellent” by the Department of Ecology, with Hood Canal remaining a glaring exception. Other areas including Budd Inlet, Discovery Bay, and Penn Cove, may have waters that limit fish populations, especially due to warm summer temperatures.

2.9.5.1 Water Quality- Hypoxia

In Hood Canal, persistent and increasing areas of low levels of dissolved oxygen (hypoxia) have been noted during the past decade (Newton et al. 1995, 2005, Warner et al. 2002). This exposure to low oxygen results in abnormal behavior by rockfish in Hood Canal. For instance, rockfish avoid waters with less than 2 mg/L of oxygen by moving to nearshore, shallow waters less than 9 meters (20 feet) in depth (Palsson et al. 2008). In some years, extreme hypoxia results in massive fish kills in Hood Canal (Palsson et al. 2008). In 2003, hypoxia resulted in a 26% direct mortality of the copper rockfish at the Sund Rock Conservation Area (Palsson et al. 2008). In addition to mortality, rockfish exposed to low levels of dissolved oxygen may experience decreased growth rates and decreased reproductive success.

Overall, the impact of hypoxia represents a moderate risk to rockfish at present, but the risk appears to be increasing. The impact of hypoxia on rockfish is greatest in Hood Canal.

2.9.5.2 Water Quality- Changes in Nutrients

Nutrients are chemical compounds needed by organisms for metabolism, growth, and other functions. Nutrients in Puget Sound come from rivers, streams, and the Pacific Ocean. Humans can add nutrients to the waters of Puget Sound through sources such as sewage, agricultural runoff, and storm water (Paulson et al. 2006). The nutrients are not utilized directly by rockfish, but could impact rockfish populations indirectly. The addition of relatively small amounts of nutrients could increase rockfish prey such as crustaceans, which feed on the organic material while the addition of larger amounts could reduce water quality by causing hypoxia. The addition of nutrients can stimulate the growth of algae during the summer months through a process called eutrophication. The algae dies, sinks to the bottom and decomposes, a process that utilizes dissolved oxygen. Therefore, increased levels of nutrients may lead to lower levels of dissolved oxygen in places such as Hood Canal. Increased nutrients from septic systems may be exacerbating naturally-caused hypoxia in Hood Canal (Newton et al., 2007), and this human source, as well as natural sources of nitrogen, may be causing the hypoxia that adversely affects rockfish populations (Palsson et al. 2008).

There is a lack of long-term monitoring information for nutrients in Puget Sound. The Puget Sound Action Team (PSAT 2002) identified several water bodies that are susceptible to eutrophication including portions of the Whidbey Basin, Sinclair Inlet, southern Hood Canal, and portions of southern Puget Sound. In addition, several freshwater sources have high concentrations of total nitrogen and phosphorus including Skagit Bay, the Puyallup River, and the Deschutes River in Olympia. This risk is judged to be low.

2.9.5.3 Water Quality- Chemical Contamination

Risks to rockfish health associated with their exposure to toxic contaminants can occur at all life history stages where the pollutants occur. Demersal adults and juveniles, and pelagic larvae and juveniles can all be exposed to a wide range of toxic contaminants in their habitat. Larvae, in particular, face unique additional risks associated with maternal transfer of toxics via the nutrients they receive during gestation.

Many rockfish are long-lived and exhibit relatively strong site fidelity and high trophic position as adults. These factors increase the risk of exposure to persistent bioaccumulative toxics (PBTs) for populations that reside in contaminated habitats. Demersal rockfishes in urban or industrialized areas have exhibited some of the highest tissue concentrations of mercury, polychlorinated biphenyls (PCBs), and dichlorodiphenyltrichloroethanes (DDTs) of any species monitored in Puget Sound (West et al. 2001). On a larger spatial scale, rockfishes residing in southern Puget Sound may experience greater exposure than populations in other Puget Sound Basins because Pacific herring (*Clupea pallasi*), an important rockfish prey, exhibit unusually high levels of PBTs in the South Puget Sound Region (West et al. 2008).

PBT exposure may affect rockfish growth in Puget Sound. Male quillback rockfish exhibit a lower growth rate than females in Elliott Bay, a pattern that is unique to that urban location, compared to samples from 98 other locations in Central Puget Sound, Admiralty Inlet, Georgia Basin, and the Strait of Juan de Fuca (Jim West, WDFW, personal communication). This unique sex-specific disparity in growth pattern correlates with higher levels of toxics that accumulate in male rockfish in Elliott Bay (females can transfer their PBTs to their developing embryos).

Impairment of rockfish reproduction may occur when PBTs are maternally transferred to developing embryos. Rockfish larvae from urban females are probably born with a pre-existing body burden of PCBs, thereby increasing the risk that fitness of this sensitive life stage is compromised. In addition, English sole (*Parophrys vetulus*) studies suggest that exposure to certain pollutants may cause feminization of males and unusual spawn timing in females (Johnson et al. 2008) of benthic species living in contaminated habitats.

The contribution of rockfish living in urban, contaminated areas to the full reproductive output of all Puget Sound populations is unknown and needs to be quantified. For some rockfish species, the oldest individuals are typically found in urbanized habitats. Such areas may act as *de facto* refuges, because it is either difficult to fish the habitats (e.g., habitats near ferry lanes) or access is restricted to fishers (i.e., at military bases like Sinclair Inlet's Puget Sound Naval Shipyard). The greatest pollutant-related risks to the conservation and recovery of rockfish in Puget Sound relate to reproductive dysfunction of rockfish populations due to exposure to contaminants. At present, this risk is judged to be moderate due to its localized impacts.

2.9.6 Species Interactions

Rockfish have naturally evolved to persist and thrive in the presence of other species in Puget Sound. However, the perturbations in community structure caused by fishing, habitat alteration, and other stressors may negatively affect or create an imbalance in the natural structure of marine communities. This impact has not been demonstrated in Puget Sound and the risk is judged to be low.

2.9.7 Food Web Dynamics

Rockfish function as both predators and prey in the complex food web of Puget Sound. Some of these linkages have been examined through diet studies, and only recently are food web interactions for rockfish and other species in Puget Sound (PSP 2008) being integrated into a conceptual and quantitative model of food web structure. Simenstad et al. (1979) identified copper rockfish as an important carnivore of rocky, subtidal habitats in northern Puget Sound.

Harbor seals are year-round residents of Puget Sound, whose population has expanded greatly since the 1970s, increasing from a few hundred to over 12,000 in 1999 (Schmitt et al. 1995, Jefferies et al. 2003) and 14,000 recently (PSAT 2007). There are indications that the growth rate of the seal population is decreasing, and that the population may be reaching its maximum carrying capacity in Puget Sound (Jefferies et al., 2003). The average weight of harbor seals in Puget Sound is approximately 63 kg (140 pounds) and daily food consumption rates are approximately 4% of body weight (Schmitt et al. 1995). Based on these numbers, the estimated consumption of food by harbor seals in Puget Sound is approximately 28 million pounds (12,700 mt) annually. There is insufficient information to directly estimate the annual consumption of rockfish by harbor seals. In the San Juan Islands, where there are approximately 7,000 seals, rockfish occurred in 12% of seal diets annually and 23% during the winter (Lance and Jeffries 2007). However, these statistics were based upon the frequency of occurrence and not weight. They also could not distinguish species of rockfish, but found that most were subadult or ages 1 or 2. The possibility remains that these younger rockfish may have been the numerous Puget Sound rockfish that area abundant in the San Juan Islands. Lance and Jefferies (2007) concluded that the consumption patterns of seals may have an important impact on reduced stocks of rockfish in the San Juans. These estimates cannot be applied to other regions where rockfish are not as abundant. In Hood Canal and southern British Columbia, rockfish comprised 1% or less of seal diets (Olesiuk 1993, London et al. 2002).

Like harbor seals, California sea lions have not been common until recently in Puget Sound (PSAT 2007). The first large aggregation was observed in 1979. Since then, the abundance of California sea lions has been in the hundreds and occasionally over 1,000 animals (Schmitt et al. 1995). California sea lions are seasonal migrants in Puget Sound, occurring primarily from September through June. The average weight per animal is between 180 and 277 kg (450 to 700 pounds). Antonelis and Perez (1984) estimated daily food consumption to be 5 to 10 percent of their body weight. Therefore, a 225 kg (500-pound) California sea lion would eat 11 to 23 kg (25 to 50 pounds) per day. In a review of predation by marine mammals in Puget Sound, no evidence was found of a significant consumption of rockfish by California sea lions (Schmitt et al. 1995). However, because California sea lions consume rockfish off California, the observed lack of rockfish in the diet of California sea lions in Puget Sound may reflect low rockfish abundance, or poor seasonal and geographic data on California sea lion diets. The great numbers of harbor seals and some aggregations of sea lions in Puget Sound may result in significant natural morality of depleted rockfish stocks.

Consumption of rockfish by orca whales in Puget Sound is thought to be a rare event and the impact is likely low, even at low levels of rockfish abundance (Palsson et al. 2009).

Steller sea lions inhabit Puget Sound, especially in the entrance waters at Tatoosh Island and in the San Juan Islands, where dozens are present during the spring (S. Jeffries, WDFW, personal communication). Steller sea lions have increased in abundance in the northern portion of the western United States; currently, 800 to 1,000 animals inhabit northern Puget Sound during the fall and winter months (PSAT 2007). The impact of these large mammals on rockfish is unknown. In the San Juan Islands, rockfish occurred in 8.3% of Steller sea lion scats (Lance and Jeffries 2007).

Rockfish are an important prey for several species of marine birds. Juvenile rockfish can be especially important for birds feeding their young. There has been no known increase in populations of marine birds that would likely affect rockfish stocks, and several species of marine birds are in decline in Puget Sound (PSAT 2002).

Rockfish, especially juvenile rockfish, are important prey for lingcod and may even be their primary food (Matthews 1987, Beaudreau and Essington 2007). Abundances of lingcod was low in Puget Sound prior to the mid 1990s but has increased in recent years (PSAT 2007), suggesting that lingcod may have an increasing negative effect on rockfish abundance. In marine reserves, lingcod may cause a “tropic cascade” which changes the structure of the marine fish community (Salomon 2002, Salomon et al., 2002). The high densities of lingcod observed in the long-term marine reserves in Puget Sound may reduce the abundance of rockfish through predation upon adult and juvenile rockfish (Palsson et al, 2004). Rockfish were three times more likely to occur in the diets of lingcod captured from marine reserves in the San Juan Islands than from fished areas (Beaudreau and Essington 2007). Therefore, increased abundances of lingcod and management practices promoting lingcod conservation may impact the abundance and recovery of rockfish stocks in Puget Sound.

The likely importance of predation limiting rockfish stocks in Puget Sound is moderate.

2.9.8 Competition

Rockfish have been shown to have competitive interactions, or to partition their environment to avoid competition with other rockfish species (Larson 1980, Hallacher and Roberts 1985). In southern Puget Sound, the increase in brown rockfish may be a result of the removal of the larger copper and quillback rockfish by the fishery, allowing for brown rockfish to invade an open niche. The impacts of competition may also be exacerbated or caused by the availability of prey. The present known impact of competition on rockfish stocks is low.

2.9.9 Hatchery Practices

West (1997) suggested that a potential stress to rockfish in Puget Sound was predation of larval and juvenile rockfish by “delayed-release,” hatchery-reared salmon. Delayed-release salmon are Chinook salmon and coho salmon which have been held longer in hatcheries or net pens, so they are less likely to migrate to sea and more likely to remain in Puget Sound. Since Chinook and coho salmon consume rockfish, especially in the larval and juvenile stage (Buckley 1997), releases of larger hatchery salmon may impede the productivity of rockfish stocks in Puget Sound (West 1997). The number of hatchery-released salmon released into Puget Sound averaged 21.2 million fish annually from 1983 to 2001 and has declined by over 33% since until 2007 (Palsson et al. 2009). Overall, there is a lack of information on the direct impacts of hatchery releases on rockfish stocks in Puget Sound and the risk is judged to be low.

2.9.10 Disease

Rockfish are susceptible to diseases and parasites (Love et al. 2002), but the effect on rockfish populations in Puget Sound is not known. Extensive scale loss has occurred on individuals living in high densities or in poor water quality. Sub-adult quillback rockfish living on the Boeing Creek Artificial Reef had a disease causing scale loss attributed to a protozoan parasite (W. Palsson, WDFW, unpublished data). Copper rockfish concentrated in dense schools during events of low dissolved oxygen in Hood Canal had extensive scale loss (W. Palsson, WDFW, unpublished data). Conboy and Speare (2002) found the eggs of a nematode infesting rockfish in a British Columbia fish market, but the pathology to the fish was not known. A wide variety of parasites and diseases affect rockfish (Love et al. 2002) and stress, such as in Hood Canal during low dissolved oxygen events, may exacerbate the incidence and severity of naturally occurring diseases to the point of sub-lethal or lethal effects.

Overall, diseases are likely naturally occurring and pose a low risk impact to rockfish stocks in Puget Sound.

2.9.11 Genetic Change

Fishing can alter the genetic characteristics of fish populations by lowering genetic diversity and by artificial selection (Kenchington 2003). Fishing can artificially select larger and typically faster growing individuals thus promoting the survival of individuals with slower growth rates (Biro and Post 2008). Overall population growth rates may decrease, and other effects such as smaller size at maturity, smaller size at age, and smaller maximum sizes can occur (Law 2000).

The impacts of genetic change are likely subtle and need at least 30 generations to be expressed for long-lived rockfish. Thus, it may require several hundred years to identify any genetic changes. However, genetic change may be exacerbated when population sizes are low or naturally limited. Demonstrated genetic threats are lacking, and the impacts of genetic change to rockfish stocks are low.

Chapter 3 Alternatives and Analysis

3.1 Overview

WAC 197-11-444 detailing the SEPA requirements provides a comprehensive list of subjects that must be considered in this analysis with the caveat that the EIS must only study the elements that apply to this proposal. The alternatives introduced in section 1.1.2 of this Programmatic FEIS for the Puget Sound Rockfish Conservation Plan have been examined in the context of WAC 197-11-144 and found not to have a likely significant adverse impact to the environment except for the following two elements:

1) Plants and Animals - Habitat for and numbers or diversity of species of plants, fish, or other wildlife, unique species and fish or wildlife migration routes.
2) Land and Shorelines Use – Recreation.

3.2 Analysis of Alternatives to the Suggested Policy

This section provides an analysis of reasonable alternatives to each of the eight major policy categories proposed in the PSRCP. The alternatives are evaluated on their potential impact on stocks of rockfish in Puget Sound. The concept of stock is important or evaluating the success of the plan.

3.2.1 Affected Environment

The affected environment for all of the policy options and alternatives includes all of Puget Sound east of Cape Flattery that is utilized by larval, juvenile, and adult rockfish. The environment includes the water column, intertidal and subtidal substrate, aquatic vegetation, and animals that feed on rockfish or provide food for rockfish. The human environment is included as well: fishing; habitat alteration, pollution, and construction activities.

3.3 Alternatives

The PSRCP proposes eight categories of policy action to achieve the goals. As described in Chapter 1 of this document, we developed a range of four alternatives for each of the action areas. These alternatives are described in Table 3.

The PSRCP relies heavily on the concept of “indicator” species in many of the policy elements. As explained in the Plan, an indicator species is a species of rockfish which will receive heightened monitoring and management attention and will serve an a proxy for the other species which were not selected as an indicator species. A total of eight species of rockfish are proposed to serve as indicator species. Each of the indicator species will serve as proxy for more than one other species. The choice to use indicator species in certain circumstances is based on the cost and technical difficulties associated with attempting to actively manage every species of rockfish in Puget

Sound, some of which are uncommon. The use of indicator species generally increases the environmental risk associated with this Plan. The use of indicator species concept does not add any risk to the indicator species but rather increases the risk to non-indicator species. A critical assumption implicit in the use of indicator species is that the indicator species do indeed serve as accurate proxies for the non-indicator species. If not, the risk to non-indicator species could be great and stocks could decline without the declines being detected by management. For the indicator species concept to function as intended, it is critical that non-indicator species receive some level of management attention and monitoring so that declines in population can be detected and that the assumption that the indicator species serves as a proxy is verified.

Climate change has the potential to alter the environment experienced by rockfish in Puget Sound. While the possible effects are many and varied, an approach to dealing with the effects of climate change was developed by the Puget Sound Action Team in 2005, and the draft PSRCP incorporates all of the suggested approaches (Table 11).

Table 11. Suggested approaches to preparing for climate change climate change.

SUGGESTED APPROACH (PSAT 2005)	PSRCP POLICY ELEMENT
Recognize the past may not be a dependable guide to the future	-Monitoring, Evaluation and Adaptive Management -Research
Take actions to increase the adaptability to the ecosystem to change	-Monitoring, Evaluation and Adaptive Management -Habitat Protection and Restoration
Monitor climate and ecosystem for ongoing change	-Monitoring, Evaluation and Adaptive Management -Research
Expect surprises and design for flexibility to changing conditions	-Monitoring, Evaluation and Adaptive Management -Research

3.3.2 Natural Production

The goal of the PSRCP to restore and maintain the abundance, diversity, and productivity of rockfish implies that stocks of wild rockfish will be maintained or restored to a healthy condition. By wild, we mean naturally produced rockfish regardless of parentage. By healthy, we mean rockfish stocks that have sufficient abundance, productivity age, and spatial diversity to maintain populations through environmental fluctuations, climate change, and prolonged periods of low reproductive success. Since many stocks of rockfish are at low levels of abundance with a scarcity of larger fish, realizing these goals will translate into higher numbers of rockfish with an increase in larger fish.

There are several potential environmental impacts if these goals are achieved. Increased numbers of rockfish and more, larger fish will mean increased demand and competition with other predators for forage. This increased demand could result in increased natural mortality rates for herring, shrimp, and other food items. Conversely

increased populations of rockfish, especially younger, smaller individuals will act to increase the forage base of Puget Sound, because many other species, including birds and marine mammals, feed on rockfish.

While the goals of using natural production will act to increase the number of rockfish present in Puget Sound, we do not plan to utilize natural production to create unnaturally high populations of rockfish. Thus the environmental impact is predicted to remain at, or less than, historical levels of rockfish abundance.

Alternative 1 (Most Conservative):

Rockfish management shall place the highest priority on the protection and restoration of the natural production of all rockfishes to healthy levels.

All rockfish species will be managed in an ecosystem context that considers the natural capacity of a population to sustain itself in relation to food web dynamics, targeted and bycatch fishery removals, other human induced stressors and limiting factors, and climatic factors. Stocks will be managed to assure intact genetic structure, sustainable production, age diversity, and ecosystem services. The management of other marine species will consider fishery, habitat, population, and other impacts on the integrity and sustainability of natural rockfish populations.

Alternative 2 (Conservative): Preferred Option

Rockfish management shall place the highest priority on the protection and restoration of the natural production of indicator rockfishes to healthy levels.

All fishery and ecosystem management protects and recovers indicator rockfish species to healthy levels and considers the management and ecosystem impacts of other marine species.

This alternative has a narrower scope than Alternative 1 in that it limits activities to indicator species of rockfish rather than all species. Only indicator species will be managed in an ecosystem context that considers the natural capacity of a population to sustain itself in relation to food web dynamics, targeted and bycatch fishery removals, other human-induced stressors and limiting factors, and climatic factors. Stocks will be managed to assure intact genetic structure, sustainable production, age diversity, and ecosystem services. The management of other marine species will consider fishery, habitat, population, and other impacts on the integrity and sustainability of natural rockfish populations of indicator species.

Alternative 3 (No Action):

Limited priority is placed on protecting the natural production of some rockfish stocks.

Natural production of rockfish will be considered as a complex of species, rather than individual species, with attention to those species commonly harvested in recreational fisheries (i.e., copper, quillback, brown, and black rockfish).

Alternative 4 (Least Conservative):

All rockfishes will be managed passively, with little or no consideration to the natural production of any stocks of rockfish.

This option substantially increases the risk to rockfish. Adoption of this alternative would result in rockfish being managed without consideration to other components of the Puget Sound ecosystem. Little or no management activity to protect rockfish would occur.

3.3.3 Habitat Protection and Restoration

The management intent of this proposal is to protect and restore habitat important to rockfish. Habitat could be protected by enforcing existing rules and creating new rules encouraging other agencies (state, federal, local and tribal) to do the same. Research and surveys could be conducted to identify and protect rockfish habitat. Restoration could be accomplished by physical projects to improve the functioning of existing but degraded habitat, or new habitat which mimics natural habitat could be constructed. These projects could have a wide variety of approaches. Examples include removing derelict nets that are located on rocky reefs, improving water quality by removal of contaminants, minimizing habitat damage caused by fishing, restoring degraded vegetation beds, removing invasive species, and improving levels of dissolved oxygen.

As is the case with other options discussed in this document, the intent is to restore and maintain rockfish habitat to natural levels. This means that rockfish populations on protected and restored habitats will likely not exceed historical levels.

Protecting existing habitat means continued recreational opportunities for rockfish, both consumptive and non-consumptive. As degraded habitat is restored, recreational opportunities should increase as well.

Because this FEIS addresses a non-project activity, specific restoration proposals are not addressed. Any such proposal would be addressed separately as the details are developed, with reference to this plan and EIS as appropriate (WAC 197-11-442).

Under the hydraulic code (WAC 220-110), WDFW has the authority to regulate construction in marine waters of Puget Sound, including all rockfish habitat. The code, commonly referred as “HPA” (hydraulic project approval), is designed to protect fish life

by regulating certain activities. While not designed specifically for rockfish, the code identifies three rockfish habitats of special concern (WAC 220-110-250):

Rockfish settlement and nursery areas
Eelgrass meadows
Kelp beds

However, the HPA code does not emphasize rocky marine habitat, the habitat type most commonly associated with rockfish in Puget Sound.

Alternative 1 (Most Conservative): Preferred Option
Protect and restore all marine habitats types for all rockfish species.

This alternative provides the maximum habitat protection to all fish and wildlife species. Restoring rockfish habitat will provide benefits to other animals because the restored and protected habitat will improve their habitats as well. Of all the alternatives, this one places greatest emphasis on restoration. Activities under this alternative include: 1) increased regulatory authority; 2) partnerships with other agencies which can influence rockfish habitat; and 3) active on-the-ground projects within the authority of WDFW to restore habitat.

Alternative 2 (Conservative):
Protect and restore rocky habitats for indicator rockfish species.

The intent of this alternative is to protect and restore rock habitats for indicator rockfish species. It differs from Alternative 1 by limiting efforts to habitats of indicator species and to rocky habitats only**.** This alternative would fully implement and enforce current authorities, and increase participation in effective external conservation processes and encourage other agencies to follow suit.

Alternative 3 (No Action):
Rely primarly on the HPA process to protect priority rockfish habitats and conduct opportunistic activities to protect rockfish habitats. No activities to restore habitat will be conducted.

This alternative would seek to protect habitat through the current HPA process, and maintain involvement in state and federal protection and restoration processes. Compared to Alternatives 1 and 2, this option places more emphasis on protecting existing habitat. Restoration may occur but at a lower priority and scope. Instead, emphasis will be placed on protecting existing habitat through the regulatory process. The impacts on fish and wildlife will be to maintain current levels or show slight improvement.

Existing HPA authority would be utilized to evaluate proposed construction projects for their impact on rockfish. Existing staff would continue to evaluate habitat requirements

for rockfish and suggest modifications to the HPA code as needed to provide additional protection.

Alternative 4 (Least Conservative):
Rely entirely on the HPA process to protect rockfish habitats. No new or expanded activities will be conducted to protect rockfish habitat. No activities to restore habitat will be conducted.

Existing HPA authority would be utilized to evaluate proposed construction projects for their impact on rockfish.

3.3.4 Fishery Management

Past fishing practices have been a major stressor affecting the abundance and size structure of rockfish stocks. Harvest levels have decreased in recent years, but fishing remains a risk to rockfish. Establishing proper harvest controls will greatly strengthen conservation and restoration efforts. Rockfish fishery management is complicated because of the widespread distribution of most rockfish species in Puget Sound, the high rates of mortality of released fish, the co-occurrence of many species, the limited ability of anglers to distinguish one species from another, and the large number of fishing gears which can unintentionally capture and kill rockfish.

Alternative 1 (Most Conservative): Preferred Option
All fisheries in Puget Sound will be managed to ensure the health and productivity of all rockfish stocks.

This alternative will provide the greatest benefit to rockfish because all stocks of rockfish will be considered in management decisions. All fisheries will be analyzed for their potential impact on rockfish stocks. Fishing opportunities for species other than rockfish (i.e., salmon, lingcod, and halibut) may be limited or modified to reduce or eliminate their impact on rockfish. For example, lingcod fishing may be prohibited or restricted in areas or depths with high potential to encounter yelloweye or bocaccio rockfishes. Because some species of rockfish may be infrequently encountered, management precision may be low.

The initial impact on recreational fishing and recreation could be negative and substantial. Substantial numbers of rockfish are caught in fisheries for other species. Some of these species are in need of stock rebuilding and the fisheries may be constrained to help meet rebuilding needs. These constraints could include reducing fishing seasons, restricting fishing areas, and changing allowable fishing gear (i.e., minimum hook sizes for angling).

Alternative 2 (Conservative):
All fisheries in Puget Sound marine waters will be managed to ensure the health and productivity of indicator rockfish stocks.

This alternative differs from the first alternative in that only indicator stocks of rockfish will be considered in management decisions. When fisheries are examined for their potential impact on rockfish, the analysis will consider only the indicator species. In comparison to the example given in the first alternative, lingcod fishing will be examined for potential bycatch of yelloweye rockfish but not silvergray rockfish because the latter is not an indicator species.

This alternative will provide less protection to rockfish in that only indicator species will be considered, but it will have a reduced negative impact on recreational fishing for the same reason. This alternative will have a positive impact on rockfish populations, but less than the first alternative. The initial impact on recreational angling will likely be negative as fishing opportunities are constrained. However, the long-term impact on recreational activity could be positive compared to the third and fourth alternatives.

Alternative 3 (No Action):
Some fisheries for bottomfish in Puget Sound waters will be managed to ensure the health and productivity of some rockfish stocks.

Fisheries for bottomfish will be examined for their impact on rockfish populations and conservation. For example, recreational fishing for salmon will not be modified to help meet rockfish conservation goals. The positive impact on rockfish will be much less than the impact of the first two alternatives. The initial impact on recreational fishing will be minor but could be substantially major and negative in the future if rockfish populations do not respond favorably to the PSCRP.

Alternative 4 (Least Conservative):
All fisheries in Puget Sound waters will be passively managed with respect to the status of rockfish stocks.

This alternative provides limited positive benefit to fish populations. Fishing seasons, areas, and gear specifications would be set without regard to conservation needs of rockfish. Instead, fishing would be allowed to continue uninterrupted. There is no benefit to rockfish under this alternative. While recreational fishing initially would be restricted, and may even see increased fishing opportunities, the long-term prediction is that the impact would be negative for the same reasons listed in Alternative 3.

This alternative substantially increases the risk to rockfish by minimizing fishery management. Past fisheries have been identified as a high level stressor for rockfish and this alternative does not address the stressor.

3.3.5 Ecosystem

Rockfish, as a group, occur throughout Puget Sound and provide a vital component of the food web in the Sound. Rockfish are major consumers of other fish and invertebrates and, in turn, provide food to a variety of other fish species, marine mammals, and birds. Changes in rockfish abundance could have important effects

throughout the food web in varied ways. For example, declines in abundance of juvenile rockfish could mean less food for other animals while decline in the abundance of larger rockfish could mean a lower rate of predation on other species.

Understanding the dynamics of food webs is difficult in Puget Sound (and in all other marine waters). This understanding requires detailed knowledge of food consumption patterns as well as understanding of biology and physiology of many types of organisms. At present, the Puget Sound Partnership and NOAA-Fisheries are developing an ecosystem model of portions of Puget Sound (Levin et al., 2009). At this time we conclude that insufficient information currently exists to manipulate rockfish populations in Puget Sound or the populations of other animals with the intent to restore ecosystem functions of rockfish. Efforts may be made to obtain additional information in this category, but would be conducted under the Research category (3.3.6).

The ecosystem functions of rockfish are largely unquantified. Since the functioning of healthy rockfish populations is largely undefined, it is not possible to chart a path to restore such functions or to know when they have been restored.

Efforts to restore all rockfish populations to healthy levels provide the best way to achieve proper ecosystem functioning with Puget Sound. However, many other species in Puget Sound are not at healthy levels, and restoration of rockfish species alone will not assure a healthy functioning ecosystem.

Alternative 1 (Most Conservative):
Protect existing functions of all rockfishes and conduct activities to restore the functions of all rockfishes in the ecosystem and food web in Puget Sound.

This alternative would seek to maintain or restore food web dynamics (e.g., predator-prey relationships). This may involve increasing or decreasing rockfish populations in attempts to meet forage requirements of other animals or to reduce predation. At this point, insufficient knowledge exists to accomplish these goals and there is a danger of unintended consequences of such effort.

Alternative 2 (Conservative): Preferred Option
Protect existing functions of indicator rockfishes and conduct activities to restore the functions of indicator rockfishes in the complex ecosystem and food web in Puget Sound.

This alternative would maintain functioning at present levels or increase the levels of function by increasing populations of indicator rockfish. A large number of rockfish species and stocks are found in Puget Sound and the agency has limited capacity to understand their ecological functions. Focusing agency resources on indicator species is likely to have a greater chance of success than attempting to understand the ecological functioning of all species (Alternative 1). Alternative 2 is riskier than Alternative 1 in that it is based on the presumption that species other than the indicator

species will benefit from activities designed for the indicator speices. This risk is identified in the PSRCP.

Alternative 3 (No Action):
Conduct opportunistic activities to protect and restore the function of some rockfishes in the complex ecosystem and food web in Puget Sound.

A limited number of activities would be conducted, focusing on relationships to determine the proper ecological functioning of rockfish in Puget Sound. This option poses little risk of unintended negative consequences to the ecosystem of Puget Sound, but continues research activities. If these research activities are successful, ecosystem measures could be implemented.

Alternative 4 (Least Conservative):
The ecosystem functions of rockfishes will not be considered in rockfish management.

Under this alternative there is no direct management of rockfish function in the complex marine ecosystem and food web in Puget Sound. No attempt to maintain or conserve functions would occur. No attempt to gain additional information would occur.

3.3.6 Monitoring, Evaluation and Adaptive Management

Monitoring, evaluation, and adaptive management are the activities required to produce successful management and to judge the success of current management efforts. They are defined as follows:

- Monitoring — collecting data on rockfish catch, abundance, life history characteristics.
- Evaluation — analyzing the data to make inferences on the health of rockfish stocks.
- Adaptive management — making changes in management practices as the result of the monitoring and evaluation to judge the success of current management efforts.

All three activities are required to produce successful management and to judge the success of current management efforts.

Fishery-dependent monitoring means collecting information from various fisheries, both commercial and recreational. Information typically collected includes amount of rockfish caught, the amount of effort required to make that catch, location of catch, and biological data on the catch such as age, length, and sex. The advantage is that information from fishery-dependent monitoring is relatively inexpensive to collect, and the techniques for evaluating the data are well established. However, fishery-dependent monitoring for rockfish may be inaccurate because of changing fishery and management patterns (Palsson et al. 2009).

Fishery-independent monitoring means systematic collection of rockfish data independent of commercial or recreational fishing activities by professionals or trained observers. These surveys generally consist of measuring the density of rockfish (number per unit of area) at selected locations. These surveys can be conducted by divers, use of electronic equipment, or use of scientific sampling devices. Certain types of fishery-independent data can be relatively expensive to collect, thus limiting the number of surveys that can be conducted. Additionally, some types of fishery-independent monitoring involve mortality of fish collected during the monitoring. However, the results can be precise and free of potential bias.

Alternative 1 (Most Conservative):
Conduct monitoring, evaluation and management of all rockfish stocks to provide the basis to evaluate stock status and the success of management actions.

Some populations of rockfish are small and have always been so. Monitoring of small rockfish populations will be difficult and expensive. Additionally the ability to scientifically detect changes in population size or diversity will be very limited. This alternative has the greatest benefit to rockfish and associated animals because population changes in any population will be rapidly detected and adaptive management utilized. This alternative addresses the risk of climate change on rockfish. By monitoring stocks of all rockfish in Puget Sound, we increase the likelihood of detecting climate changes on non-indicator species.

Alternative 2 (Conservative): Preferred Option
Conduct monitoring, evaluation and management of indicator stocks to provide the basis to evaluate stock status and success of management activities.

As the indicator stocks are most commonly encountered in fisheries, limiting monitoring and evaluation to indicator stocks will likely increase the benefit to the indicator stocks at a lower cost than Alternative 1. However, risks to stocks other than indicator species will be increased. This alternative contains considerable more risk to non-indicator stocks of rockfish. These non-indicator stocks will receive no or little monitoring which will decrease the likelihood of detecting possible changes in non-indicator stocks. For this alternative to be successful, it is important that the assumption that changes in indicator stocks will reflect changes in non-indicator stocks as well is critical.

Alternative 3 (No Action):
Some rockfish stocks will be monitored, primarily by using fishery dependent with some fishery-independent information.

Monitoring will be limited to fisheries important to recreational fisheries. Both fishery independent and fishery dependent monitoring will occur. Monitoring will be largely fishery-dependent means with some fishery- independent monitoring occurring. This technique will pose risk to all rockfish stocks and limit the ability of management agencies to respond to changes in population or diversity.

Alternative 4 (Least Conservative):
Some rockfish stocks will be monitored using only fishery dependent informati**o**n.

This option poses the greatest risk to rockfish. Limiting monitoring to fishery dependent means will decrease the cost of monitoring but increase the risk to rockfish. Fishery-dependent monitoring is not sensitive to changes in rockfish populations and may mask declines in abundance of rockfish. The ability of management agencies to respond to changing rockfish population will be severely curtailed.

Alternative 4 increases the risk to rockfish over the status quo. Fishery dependent information often is not sensitive to changes in fish populations. Relying entirely on fishery dependent methods to assess rockfish stocks will degrade the ability to detect changes in the stocks. This will be especially true when fisheries are greatly reduced or regulations changed. Changing regulations can degrade fishery dependent information and will limit the useful of data collected over several years.

3.3.7 Research

Research consists of collecting data relating to rockfish fisheries and the rockfish resources within Puget Sound, analyzing the data, drawing conclusions, and publishing the results. Research may be conducted by WDFW staff acting alone or in collaboration with scientists from other state, federal, tribal governments, non-governmental organizations or universities. As is the case with monitoring (3.3.5) there are two general categories of research: fishery-dependent and fishery-independent. However, research differs from monitoring by addressing problems and developing solutions. Monitoring serves to evaluate the success of the solutions.

Research can address a wide variety of topics such as determining the impact of climate change on rockfish, developing artificial production techniques, and developing methods to reduce mortality of released rockfish. Research proposed in this plan will be directed to problems of rebuilding rockfish and maintaining healthy populations and habitats.

Alternative 1 (Most Conservative):
Implement new and cooperative research to understand the diversity, biology and productivity of all rockfishes as well as needs for recovery.

Both fishery-dependent and fishery-independent activities will be conducted and will focus on all rockfish species. This option will provide the most benefit to fish and recreational opportunities. Changes in fish population or environmental quality will be rapidly detected and WDFW will have the ability to respond rapidly. This ability will help lessen the decline in abundance of selected species to minimize the changes of a rockfish stock falling into the vulnerable category and reducing the number of rockfish in the precautionary category as more information is collected.

This will foster the development of sustainable fishing opportunities more than any of the other alternatives.

Alternative 2 (Conservative): Preferred Option
Implement new and cooperative research to understand the diversity, biology, and productivity of indicator rockfishes as well as needs for recovery**.**

This alternative will have less favorable impact to fish and wildlife and to recreation. Research efforts will focus on indicator species but none will be conducted on the other species of rockfish. This will increase the risk that other species will decline to vulnerable status resulting in reduced recreational fishing opportunity for rockfish and other species of fish.

This alternative will foster sustainable fisheries for indicator species of rockfish.

Alternative 3 (No Action):
Conduct rockfish research to examine growth, population structure, and habitat requirements for some rockfish stocks.

Limited research, both fishery-dependent and fishery-independent, will be conducted on a few selected species and will focus on shallow-water rocky habitats for adults only. While providing some information, risk to fish will remain high as many species will be placed in the precautionary category due to lack of information. This could result in decreased or unsustainable fishing opportunities.

Alternative 4 (Least Conservative):
Conduct no research on rockfish; only use information in the existing literature or nearby studies to manage rockfish stocks.

Fishery-independent research only will be conducted, making it difficult to detect changes in abundance or habitat in a timely manner. Only when large changes in fish abundances have occurred or habitat deteriorated will the changes become evident.

3.3.8 Outreach, Education and Ecotourism

The intent of this category of action is to educate Washington residents and others of the special management needs of rockfish in Puget Sound and the present need for strong conservation efforts. The most obvious target group for this education is those who engage in harvest activities in Puget Sound because their activities have a direct link to mortality of rockfish. However, even people who do not fish can contribute to rockfish recovery by altering their personal activities. The purpose of conducting an education effort to the non-fishing public is: 1) emphasize the detrimental impacts of human activity on rockfish; and 2) link their personal actions to the health of Puget Sound and rockfish recovery. Outreach efforts to the fishing public would be directed at collaboratively identifying solutions such as placement of Rockfish Recovery Areas and methods to reduce the mortality rate of released rockfish.

With all alternatives, the short-term impact on fish and wildlife and recreation would be indirect and minimal. We do not envision any education or outreach activities that would harm or kill fish and wildlife or impact recreation opportunities. Rather, the activities would be conducted via WDFW's web site, on printed materials, and through speaking arrangements.

Alternative 1 (Most Conservative): Preferred Option
Conduct a strategic outreach and education program to inform Washington citizens of the value of rockfish stocks and to promote ecotourism.

Efforts would target the entire population of Washington as well as non-residents who visit the state and fish in Puget Sound. Emphasis will be placed on rockfish biology and the connection between individual action and the health of Puget Sound and the impact of individual harvest practices. Specific efforts would be made to provide information on ecotourism possibilities in Puget Sound. If successful, these efforts could lead to an increase in the number of persons actively utilizing the rockfish resources of Puget Sound. However, this utilization will not harvest rockfish or other fish species and the environmental impact is judged to be low.

Alternative 2 (Conservative):
Conduct a strategic outreach and education program to inform Washington's fishing public of the value of rockfish stocks in Puget Sound.

Efforts would be limited to people who engage in harvest activities and also be limited to the impact of harvest practices on rockfish populations.

Alternative 3 (No Action):
Write occasional popular articles, work with the media, use the rule-making process, and give public presentations on the importance of rockfish stocks.

Scientific and management staff would engage in education and outreach activities only as opportunities arise. Focus would be placed on people who fish in Puget Sound.

Alternative 4 (Least Conservative):
Rely on others to inform the citizens of Washington of the value of rockfish stocks in Puget Sound.

No WDFW staff would be involved in outreach activities. Instead, we would rely on the efforts of other agencies (*e.g.*, the Puget Sound Partnership), magazines, web sites, and interested individuals and organizations. Focus would be on topics chosen by outside groups.

3.3.9 Enhancement (Artificial Habitat and Hatchery Production)

This set of alternatives relies heavily on technology to restore and maintain populations of rockfish in Puget Sound. The two techniques proposed in the PSRCP are hatchery production and creation of artificial habitat.

Hatchery production entails gathering females from the wild and allowing them to produce larvae within a hatchery environment. The young fish would be raised in the hatchery and then released into Puget Sound. Existing Commission Policy (C3611) limits the use of hatchery production of rockfish to research and the restoration of depleted populations. We do not plan to utilize hatchery culture of young rockfish exclusively to provide recreational fishing opportunities. We would utilize rockfish hatcheries only to restore populations to a healthy level. Once populations are restored, the hatchery production would end. Additionally research may be conducted to prepare culture techniques prior to their use. Collection of wild adult rockfish for culture may have a detrimental impact on rockfish populations. Some of the captured fish may die during capture or captivity. This impact is anticipated to be very minor.

An artificial habitat could be constructed to increase the amount of functioning rockfish habitat. Initial new artificial habitat will seek to mimic the functions of rocky substrate as rockfish habitat or vegetated areas and will be used to replace lost or degraded habitat. Construction of artificial habitat will have impacts on fish and wildlife. Positive impacts include increasing the amount of rocky habitat that will benefit species such as lingcod and rockfish and some species of shellfish. The new artificial habitat will cover existing habitat and be detrimental to species utilizing the area. An example is bivalve clams inhabiting a soft bottom which is covered by rocks to provide rockfish habitat. While the new habitat may be beneficial to rockfish, it will be detrimental to the bivalves. The impacts of such construction are not included in the EIS as they are project related. These impacts would be evaluated when a construction project is proposed; the impacts are likely to vary for each project and will be considered on a project-by-project basis and any such construction project will be evaluated individually for its environmental impact (WAC 197-11-442).

As needed, artificial habitat may be constructed to restore or replace degraded habitat for rockfish populations. Initial emphasis will be on constructing rocky habitat. In the future, efforts may be conducted to increase the amount of vegetated areas in Puget Sound or to increase the amount of habitat needed by juvenile rockfish. Construction of new habitat may have unintended consequences which should be evaluated. These consequences may include increasing predation by lingcod on salmon, altering genetic population structure, and disrupting salmon migration corridors.

Of all of the eight policy categories in the PSRCP, this category contains the greatest risk of environmental impact. Construction of artificial reefs will have an impact on the existing habitat of Puget Sound and the impact may extend beyond the actual reef site (Smiley 2006). Once constructed, artificial reefs will be difficult, expensive or impossible to remove and may last indefinitely. Culture and release of rockfish as an

enhancement tool may impose risks such as introduction of disease or modification of the genetic composition of native rockfish stocks. If these impacts do occur, they may be irreversible.

An evaluation of programs to enhance salmon populations in our area (Hilborn and Winton 1993) made the following recommendations:

1. Make a substantial commitment to evaluate the program and ensure that this evaluation continues throughout the life of the program,
2. Use flexible technology whenever possible, avoiding large, permanent structures until adequate evaluation has been conducted,
3. Prepare the public and others for a long wait to determine the success of the program, and
4. Rely on outside oversight (such as an independent board of experts) to evaluate the program and guide future directions.

Alternative 1 (Most Conservative): Preferred Option
Promote the achievement of the natural production policy objective through the appropriate use of:

a. Hatchery production to rebuild depleted rockfish stocks; and

b. Artificial habitats consistent with the hierarchy of habitat protection and mitigation approaches.

Hatchery production for rockfish may be used to recover depleted populations and for research. Research will be conducted to develop techniques for the culture of rockfish. This research will include development of hatchery techniques to raise fish in a hatchery environment and include small scale release of cultured fish. The releases will be designed to investigate the survival and movements of released fish as well as their impact of naturally produced rockfish. If the research is successful, rockfish will be cultured and released to speed the recovery of depleted stocks.

WDFW may use artificial habitats to restore degraded rockfish habitats. Degraded habitat includes, but is not limited to, habitat damaged by construction activities, habitat in areas of poor water quality, and areas damaged by the presence of derelict fishing gear. Artificial habitats for rockfish have been constructed in Puget Sound to enhance recreational opportunities and to mitigate for damaged habitat. If artificial habitat is created, some mitigation for loss of existing habitat may be required.

Alternative 2 (Conservative):
Develop plans to: 1) utilize hatchery production to assist in recovery of depleted rockfish stocks consistent with natural production goals; and 2) enhance habitat for indicator species of rockfish through the use of artificial habitat.

Hatchery production for rockfish may be used to recover depleted populations of indicator species of rockfish and for research. Artificial reef habitats may be used to restore available habitat for indicator rockfish populations.

The hatchery component will be identical to that of Alternative 1. Construction of artificial reefs would be limited to benefit indicator species of rockfish. We anticipate that fewer, smaller artificial structures will be constructed compared to Alternative 1. Artificial habitats would be constructed only to replace lost or degraded natural rockfish habitats.

Alternative 3 (No Action):
Hatchery production for rockfish may be used to recover depleted stocks and for research.

Construction of artificial reef habitat will be considered on a case-by-case basis.

Research and releases limited to indicator species will be limited to research purposes only. Construction of rockfish habitat will be limited to rocky artificial reef habitat. Enhancement activities will be considered on a case-by-case basis with limited assessment.

Alternative 4 (Least Conservative):
Hatchery production of rockfish will be limited to research- scale activities.

Construction of artificial reef habitat will be considered on a case-by-case basis and limited to mitigation purposes.

Hatchery production will be much reduced compared with other options. Adult fish will still be captured and their progeny raised in a hatchery environment, but only a few will be released annually. No effort will be made to construct artificial reefs unless an unanticipated opportunity arises. It is likely that no artificial habitat will be constructed under this alternative.

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Appendix 1

Final Puget Sound Rockfish Conservation Plan
Policies, Strategies and Actions

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F I N A L

PUGET SOUND ROCKFISH CONSERVATION PLAN

Policies, Strategies and Actions

Including

Preferred Range of Actions

prepared by

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

Original draft issued October, 2009
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Puget Sound Rockfish Conservation Plan.

Washington Department of Fish and Wildlife
Fish Program
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Approved:

Philip Anderson, Director 3/15/2011 DATE

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Table of Contents

Introduction

Rockfish in Puget Sound are in trouble. Many, but not all, rockfish species have declined in abundance, some quite severely, over the past two decades. These declines have resulted in increased scientific, economic, and social concerns about the status of the resource and the viability of fisheries for rockfish in Puget Sound. This concern has manifested itself in several forums. In 1999, a petition was presented to the federal government to list several species of rockfish in Puget Sound under the federal Endangered Species Act (ESA). A scientific conference held in the San Juan Islands in 2003 concluded that the outlook for rockfish was "grim" (Mills and Rawson, 2004). A special review by the American Fisheries Society found several species of rockfish to be "vulnerable" in Puget Sound. A review of marine life in Puget Sound concluded that demersal rockfish were in decline, largely as a result of overharvest (West 1997). Another review of marine fish concluded that marine fish in Puget Sound were among the most threatened stocks of fish in North America (Musick et al. 1998). In 2007, another petition was received by the federal government. This petition requested that five species of rockfish in Puget Sound receive protection under the ESA; in 2009 the Department of Commerce concluded that two of these species (canary and yelloweye rockfish) warrant protection as threatened and one species (bocaccio rockfish) warrants protection as endangered.

These declines have largely been caused by historical fishing practices, although several other stress factors play a part in their decline. Rockfish in urban areas are exposed to high levels of chemical contamination, which may be affecting their reproductive success. Poor water quality in Hood Canal has resulted in massive periodic kills of rockfish as well as other species. Lost or abandoned fishing nets trap and kill large numbers of rockfish. This Puget Sound Rockfish Conservation Plan (PSRCP) provides a plan for rebuilding rockfish populations and providing sustainable fisheries when appropriate.[1]

This plan was prepared by the Washington Department of Fish and Wildlife (WDFW) in response to these declines and threats. The goal of the plan is to provide a pathway to protect existing stocks of rockfish, rebuild depleted stocks, and provide sustainable fishing and other economic and harvest benefits to our citizens. The WDFW recognizes the Puget Sound tribes also have conservation concerns associated with rockfish populations. Rockfish co-management plans will be developed with appropriate Treaty tribes. The tribes' and state's fishery jurisdictions and authorities significantly overlap. To promote effective and efficient management of fisheries resources and to minimize potential conflict, the Department and tribes have developed a cooperative management approach to exercise their respective authorities and to achieve shared conservation objectives. This approach will be reflected in co-management agreements as the various tribes contribute their knowledge and expertise to support rebuilding wild

[1] The Puget Sound Rockfish Conservation Plan refers to all rockfish species in Puget Sound and not specifically to the Puget Sound rockfish (*Sebastes emphaeus*) although this species is considered in the plan.

rockfish stocks. The PSRCP will be the foundation to manage non-tribal fisheries and will be used with tribal co-managers to develop fishery management plans.

WDFW has concluded that the adoption of this plan falls under the authority of the State Environmental Protection Act (SEPA). Accordingly, a Draft Environmental Impact Statement (EIS) was prepared to accompany this plan. After undergoing a period of public review, the Draft EIS and draft plan was revised, a Final EIS was issued, and the Puget Sound Rockfish Conservation Plan was adopted by the Department.

This plan will be used as the Department's basis for developing co-management plans with tribal governments, establishing priorities for funding and staff assignments, and making specific regulation changes. WDFW will develop a schedule within available resources to implement the Plan's strategies and actions. WDFW will seek additional resources and partnerships to fully implement the plan.

Guiding Documents

The development of this plan was guided by:

1. State law defining the duties and powers of the Department of Fish and Wildlife (RCW 77) which can be found at:
   http://apps.leg.wa.gov/rcw/default.aspx?Cite=77

2. Relevant polices adopted by the Fish and Wildlife Commission which include:
   Puget Sound Groundfish Management (C3003);
   http://wdfw.wa.gov/commission/policies/c3003.html

   Marine Fish Culture (C-2611);
   http://wdfw.wa.gov/commission/policies/c3611.html

   Marine Protected Areas (C-3013;
   http://wdfw.wa.gov/commission/policies/c3013.html

3. The Department's 2009-2015 Strategic Plan, which is located at:
   http://wdfw.wa.gov/about/strategic_plan/

4. Relevant rulings by the federal court regarding the role of tribal governments in resource management in Puget Sound which includes:

   Amendment to Paragraph G of "Order to Implement Interim Plan" entered May 8, 2001 in United States v Washington, Sub proceeding No. 96-2.

Time Period of Plan:

Indefinite; once formally adopted, the plan will remain in existence until changed. Due to the long life spans of many species of rockfish, recovery can be expected to require several decades. For example, the stock rebuilding plan for canary rockfish in coastal waters is over fifty years (Methot 2005) and for yelloweye rockfish is approximately ninety years (Tsou and Wallace 2006).

During the time period the Plan is in effect, WDFW will conduct periodic review of progress made toward achieving the goals of the Plan. This review will include evaluating strategies and actions and may result in revisions to these items. WDFW anticipates that formal review of the Plan will occur every 5 years or less and the results of the evaluation will be made available to the public.

Geographic Area Covered By Plan: Puget Sound

In this Plan, Puget Sound refers to the marine waters of Washington State east of Cape Flattery and south of the Canadian-United States border, including all waters south to Olympia, the San Juan Islands, and Hood Canal (Figure 1).

Figure 1. Map of Puget Sound showing management regions.

Definition of Rockfish

By rockfish, we mean any species of fish in Puget Sound east of Cape Flattery belonging to the family Scorpaenidae and members of the *Sebastes* or *Sebastolobus* genera. While Palsson et al. (2009) identified 28 species of rockfish occurring in Puget Sound east of the Sekiu River, these species are also found in the Cape Flattery to the Sekiu River area, also known as "Neah Bay" (Table 1). Additional species may occur in the Neah Bay vicinity, including aurora, shortraker, greenspotted, chilipepper, shortbelly, blackgill, yellowmouth, bank, pygmy, and harlequin rockfishes and longspined thornyhead (Love et al. 2005). However, these other species are generally offshore or rare species and have not been verified to occur in the Neah Bay vicinity. If additional species are confirmed to exist in Puget Sound, they will be managed under the auspices of this plan.

Species can be divided into stocks based upon their population structure. Several patterns of genetic structure have been found in Puget Sound. For management, each species will be defined to have one stock throughout Puget Sound unless indications of genetic structure have been found. Potential stock units are identified in Table 1. As more information becomes available, finer-scale stock units may be defined and require smaller-scale management.

Rockfish species can be grouped into several assemblages, or general categories, based on their life histories and habitat associations (Palsson et al. 2009). Species in the **nearshore sedentary** assemblage live in close association with rocky habitats usually in nearshore waters less than 40 meters (120 feet) in depth and, as adults, have high site fidelity. These species are commonly taken in hook and line fisheries in Puget Sound and include copper, quillback, and brown rockfish. A second category of rockfish is the **deepwater assemblage** which is composed of large, deep-bodied fish such as canary and yelloweye rockfish. As adults, these fish live in deeper water greater than 40 meters and are often associated with rocky habitats. A third category is the **pelagic assemblage,** which are the species that live higher in the water column and may move longer distances as adults. Species that fit this general description include the black, blue, yellowtail and widow rockfish.

While there are many species of rockfish found in the Sound, some are very rare and have apparently never been common (i.e., rougheye and silvergray). Others are found only in very restricted areas of the Sound (i.e., blue and China rockfish). Other species are, or were, very common and provide valuable ecological functions as well as inclusion in commercial and recreational fisheries. Because it would be expensive or impossible to assess and manage every species of rockfish, WDFW will use the concept of an **indicator species** to represent one or several species within each assemblage. A species may be classified as an indicator species based on one or more of the following factors:

1. Is, or was, very common in Puget Sound;
2. Is, or was, important to recreational and/or commercial fisheries;
3. Provides important ecological functions; and/or
4. Has been identified at extreme low levels of abundance.

Management actions will focus on indicator species with the intent of imparting conservation benefits to those species and the other species within the assemblage. While management actions will focus on indicator species, other species will be considered as well. There are risks that other species within each assemblage may have different productivity patterns or ecological needs that are unlike the corresponding indicator species. These species may act as “weak” stocks that may not respond like indicator species. Several management strategies will be needed to ensure that non-indicator species are linked to indicator species and are not impeded by fishery, habitat, or other management actions. Many rare species are included in the

deepwater assemblage. The actions taken for the indicator species for this assemblage will likely provide protection for the rare species.

We propose that eight species of rockfish in Puget Sound be classified as an indicator species (Table 1). This list of indicator species may change as more information is obtained or through the co-management process with tribal governments. Each species in Puget Sound will be assigned to one of the three assemblages and receive management. All assemblages will have more than one indicator species. While we recognize that juvenile rockfish may occupy different habitats as they grow, the indicator species focus on adult assemblage characteristics. This approach to fishery management is used to manage other fisheries (Smith et al. 2009).

WDFW intends to manage rockfish in Puget Sound by geographical stock units. By "stock unit," we mean a group of fish of one species that is large enough to be essentially self-reproducing with members exhibiting similar patterns of growth and migration. Movement of individuals between stocks should be minimal (Hilborn and Walters 1992). This Plan recognizes six geographical stock units as follows:

1. Puget Sound- species with a Puget Sound stock unit will be managed as one stock throughout Puget Sound
2. Neah Bay vicinity- species with this stock unit will be managed as one stock from Cape Flattery to the mouth of the Sekiu River
3. West of Port Angeles- species with this stock unit will be managed as one stock between Cape Flattery and Port Angeles
4. East of Port Angeles- species with this stock unit will be managed as one stock in all waters east of Port Angeles
5. North Puget Sound- species with; this stock unit will be managed as one stock from Cape Flattery to Port Townsend and north to the Canadian border, including the San Juan Islands
6. South Puget Sound- species with this stock unit will be managed as one stock from Port Townsend south to Olympia including Hood Canal and Saratoga Pass.

Additional stock units may be designated or modified as genetic and other information develops.

Within a stock unit, different management regulations may apply to address regional differences in abundance, habitat distribution, and fishery patterns. Fishing regulations may be more liberal in areas with higher abundance or more habitat than in other portions of the geographical stock unit with lower abundance or less habitat.

Table 1. Rockfish assemblages, indicator species and stock units of rockfish in Puget Sound.

Assemblage	Species	Stock Units
Nearshore Sedentary	Copper, Quillback, Brown, Tiger, Vermilion,	Each species consists of a North Sound and a South Sound stock unit
	China	This species consists of a North Sound stock only
Pelagic	Black, Puget Sound rockfish, Yellowtail, Blue	Each species consists of a single Puget Sound stock unit
Deepwater	Yelloweye, Canary, Bocaccio	Each species consists of a stock unit west of Port Angeles and a stock unit east of Port Angeles
	Greenstriped, Redstriped	Each species consists of a North Sound and a South Sound stock unit
	Splitnose, Shortspined thornyhead, Rougheye, Redbanded, Darkblotched, Pacific Ocean Perch, Rosethorn, Rosy, Stripetail, Sharpchin, Silvergray, Halfbanded, Widow	Each species consists of a single Puget Sound stock unit
	Aurora, Shortraker, Greenspotted, Chilipepper, Shortbelly, Blackgill, Yellowmouth, Bank, Pygmy, Harlequin, Longspine thornyhead	Each species consists of a stock unit in the Neah Bay vicinity

- Indicator species for the assemblage are underlined.. Species in *italic*s are likely to occur in the Cape Flattery to Sekiu area but their presence has not been confirmed.

Summary of Life History Factors Relating to Rockfish Management and Recovery

This management plan is based on the following life history and biological characteristics of rockfish. These characteristics will limit management flexibility and focus management effort.

1. Rockfish, as a group, are very vulnerable to the effects of fishing. Once populations are at a low level, recovery requires a great deal of time. Fishing strategies must be very protective of rockfish and allow only very low levels of exploitation.
2. Mortality of rockfish which are caught and released is very high due to barotrauma.
3. Management goals for rockfish should include more than maintaining a specified level of biomass. A successful management plan should consider the genetic structure, age, and size composition of the stocks as well.
4. Several species of rockfish are similar in appearance and can be caught at the same location. It is very difficult for recreational anglers and commercial fishers to distinguish one species from another, resulting in limited management flexibility to selectively harvest most species and a general lack of public ability to identify species.
5. Rockfish occupy similar habitat and depths as lingcod and halibut and are commonly taken as bycatch in these fisheries and, less frequently, in fisheries for salmon.
6. Annual reproductive success is very variable and marked by numerous years of poor recruitment and occasional years of high recruitment. Maintenance of many ages of rockfish in the population is important to buffer the impacts of a sustained period of poor recruitment.

Goals and Policies

This document is intended to provide a framework of policies, strategies, and actions that will lead to the achievement of the following goal:

> **The goal of the PSRCP is to restore and protect our natural heritage of Puget Sound rockfish populations. Increases in the abundance, distribution, diversity and productivity of rockfish will help restore the Puget Sound ecosystem, provide opportunities to view rockfish in the marine environment, and, when appropriate, provide sustainable fishing opportunities.**

By natural heritage, we mean that rockfishes occur in their natural habitats and distributions throughout Puget Sound, the genetic structure of populations will remain intact within Puget Sound, portions of stocks will be protected that resemble unfished size and age distributions, and that rockfishes will provide for intact ecosystem functions in Puget Sound. WDFW recognizes that the people of Washington value an intact Puget Sound ecosystem, enjoy viewing rockfish and other wildlife, and seek fishing opportunities when stocks are at levels that can provide sustainable fisheries.

This plan considers the following eight different, but interlocking, policy categoriess:

1. Natural Production
2. Habitat Protection and Restoration
3. Fishery Management
4. Ecosystem effects
5. Evaluation, Monitoring and Adaptive Management
6. Research
7. Outreach, Education and Ecotourism
8. Enhancement

To meet this goal, this plan includes a set of strategies that:

- Recognizes the multi-species nature of the rockfish harvest.
- Considers the high mortality rates of released rockfish.
- Reduces the mortality of released rockfish.
- Acknowledges the public's difficulty in distinguishing one species of rockfish from another.
- Recognizes the lack of detailed information needed for more precise management.
- Increases our knowledge of rockfish population status.
- Implements methods to achieve goals in a cost effective manner.
- Fosters likely acceptance and support by the public.
- Provides opportunities for utilization consistent with conservation of the rockfish stocks.
- Develops co-management plans with tribes and forms partnerships with other organizations to further rockfish conservation.

POLICY CATEGORY: NATURAL PRODUCTION

OBJECTIVE: Rockfish management shall place the highest priority on the protection and restoration of the natural production of indicator rockfishes to healthy levels.

Natural production means producing rockfish that are born in the wild from naturally occurring stocks in Puget Sound. Natural production integrates the management of habitat, fisheries, and enhancement activities under one cohesive policy. Because the ability to monitor and assess all species of rockfish is limited, the reliance on indicator species will provide similar information and conservation benefits for other species within each assemblage. There is some risk that individual species may have other productivity and limiting factors that may not be demonstrated by the indicator species for that assemblage. WDFW will examine whether the conservation actions taken for indicator species also benefit other species within the assemblage.

Indicator species will be managed in an ecosystem context that considers the natural capacity of a population to sustain itself in relation to food-web dynamics, fishery impacts, habitat alteration, water quality, other human-induced stressors and limiting factors, and climatic factors. Stocks will be managed to ensure the existence of intact genetic structure, sustainable production, age and size diversity, and ecosystem services. A healthy stock will have these characteristics (see Appendix A for details). Within a stock unit, different management regulations may apply to address regional differences in abundance, habitat distribution, and fishery patterns.
The management of other marine species will consider fishery, habitat, population, and other impacts on the integrity and sustainability of natural rockfish populations of indicator species.

Multiple tools are used throughout the world to protect and restore natural production of marine resources, including marine protected areas. In Washington we define marine protected area as a “geographical marine or estuarine area designated by a state, federal, tribal, or local government in order to provide long-term protection for part or all of the resources within that area” (Van Cleve et al. 2009).

This definition is quite broad, and can include a wide variety of measures ranging from complete prohibition of harvest activities to no special rules pertaining to harvest. WDFW has established both complete and partial, no-take areas which are designed to: protect and conserve habitats; exclude fisheries to increase species abundance and biodiversity; protect ecosystem functions; and provide recreational, scientific, and educational opportunities[2]. These reserves amount to approximately 1% of the subtidal area of Puget Sound. Terminologies can be confusing as WDFW has used the terms marine protected areas, marine refuges, conservation areas, and preserves to impart complete and partial protections from harvest activities and other agencies and entities have used other terms (Van Cleve et al. 2009).

[2] WDFW Policy C-3013 on Marine Protected Areas.

To avoid the confusion of past usage of terms and for the purposes of rockfish conservation in Puget Sound, we propose to use two types of protected areas: Marine Reserves and Rockfish Conservation Areas:

> A **Marine Reserve** (MR) is a tool intended to allow permanent protection of a site specific, marine area. Depending on the site and corresponding needs, a marine reserve may be established to protect marine habitats, provide research opportunities and protect a variety of natural functions including fish reproduction. Full harvest restrictions will occur in marine reserves.
>
> A **Rockfish Conservation Area** (RCA) is a tool that can be used to rebuild rockfish stocks to healthy levels and to protect the genetic, size and age diversity of portions of rockfish populations. Depending on the site and corresponding needs, an RCA may be established as a permanent or temporary feature and will have specific harvest restrictions intended to meet the goal of rockfish protection at the site.

Using the Washington Administrative Code (WAC), WDFW defines “Conservation Areas” which are complete no-take areas and “Marine Preserves“ which are partial-take areas. In terms of the PSRCP, these areas correspond to Marine Reserves and Rockfish Conservation Areas, respectively. Establishment of either type of area by WDFW does not prohibit the harvest by persons fishing under the authority of tribal regulations.

Strategies

1. **Protect and restore the genetic, size, and age diversity of indicator species.**
2. **Identify and reduce stressors on indicator rockfish species within an ecosystem perspective.**
3. **Implement holistic, integrated management strategies.**

Actions

1. Develop standards, especially in data-limited situations, to establish stock status and restoration standards for discussion with tribal co-managers. The Department will use, as a foundation, the concepts of stock status as discussed in Appendix A.
2. Establish benchmarks for indicator species to meet the natural production objective and strategies and use governmental accountability and other procedures to monitor success at meeting benchmarks.
3. Assess the status of indicator species of rockfish on a 5-year, or more frequent, basis.
4. Evaluate that the management of indicator species imparts conservation benefits to other rockfish species.

5. Develop a science-based system of marine reserves and rockfish conservation areas that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems. Use scientists, fishers, and interested parties to develop goals and objectives for a system of marine reserves and RCAs. Marine Reserves and RCAs will be developed and adopted in a transparent public process. Current Marine Reserves and RCAs and new sites will be evaluated to determine if they are meeting goals or need modification (See Monitoring, Evaluation, and Adaptive Management).
6. WDFW will implement an agency process to integrate habitat management, fisheries management, ecosystem research, and enhancement activities to coordinate and account for all activities across agency programs. WDFW will identify key stressors and reduce their effects by involving and working with the Puget Sound Partnership, NOAA-Fisheries, other state agencies, the Northwest Straits Commission and other local organizations.

POLICY CATEGORY: HABITAT PROTECTION AND RESTORATION

Objective: Protect and restore all marine habitat types for all rockfish species.

Most species of rockfish are highly dependent upon rocky habitats as adults. However, some species occur on sand, cobble, and open-water habitats, and as younger life stages depend upon a variety of open-water, vegetated, nearshore, sandy, or cobble habitats. WDFW intends to protect and, where needed, restore degraded habitats to natural levels. This will ensure that the physical spaces and pathways needed for rockfish to thrive are available.

Several approaches and regulations can be used to protect and restore rockfish habitats. WDFW has instituted a hierarchy of protection and mitigation approaches for habitat. Recognizing that at times, the needs of society will result in habitat degradation, the agency has pursued a policy of avoiding, rectifying, minimizing, and compensating for the impacts. Impacts will be monitored and alterations made to achieve habitat protection objectives. Rockfish habitat could be protected by enforcing existing rules and creating new rules encouraging other agencies (state, federal, local and tribal) to do the same. Under the hydraulic code (WAC 220-110); WDFW has the authority to regulate construction in marine waters of Puget Sound, including all rockfish habitat. The code, commonly referred as “HPA” (hydraulic project approval), is designed to provide general protection for fish life and specifically protects certain activities and identifies rockfish settlement and nursery areas, eelgrass meadows, and kelp beds as special habitats of concern. However, the HPA code does not emphasize rocky marine habitat, the habitat type most commonly associated with rockfish in Puget Sound. These protections will need to be strengthened along with those offered by other authorities.

Rockfish habitats have been degraded by chemical contamination, derelict fishing gear, dredge disposal, and filling of marine habitats, mobile fishing gears, and poor water quality. Restoration efforts can be focused on removing derelict gears, improving water quality, constructing artificial habitats in permanently damaged areas, or removing deleterious man-made materials. The relationship between rockfish, especially juvenile stages, and their habitats is still poorly understood and needs further research.

Since 2002, the Northwest Straits Commission has been a leader in identifying and taking actions to solve the problem of derelict fishing gears. Most recently, the Northwest Straits Commission conducted a vigorous program to remove derelict fishing nets and restore habitats in the shallow waters of Puget Sound. The goal of this effort is to remove 3,000 derelict nets by December 2010. This removal should provide substantial benefits to rockfish conservation efforts and improve rockfish habitat. However, efforts are needed to remove nets in deeper waters, to remove other derelict gears, and to prevent the loss of fishing gear in the future.

Strategies

1. **Enhance the effectiveness of WDFW habitat protection measures and programs to protect all rockfish habitats.**
2. **Provide technical expertise to other agencies and interested groups to promote identification and protection of rockfish habitats.**
3. **Restore degraded rockfish habitats including those impaired by poor water quality.**
4. **Use marine reserves as tools to protect and restore rockfish stocks, habitats, and ecosystems.**

Actions

1. Incorporate all rockfish habitats as Habitats of Special Concern to the Hydraulic Project Approval criteria, the Priority Habitats and Species, the Habitat Conservation Plans, and other WDFW habitat conservation initiatives.
2. Provide updated information on rockfish habitat requirements and the distribution of these habitat types to tribal co-managers and agencies to evaluate projects that modify rockfish habitats.
3. Promote cooperative projects to inventory and map sea floor and identify habitats through high-resolution imagery.
4. Identify degraded rockfish habitat, including those impacted by derelict gear and degraded water quality including pollution from endocrine disruptors, carcinogens, and other deleterious compounds, and develop a long-range restoration program.

5. Develop a science based system of marine reserves that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems.
6. Work with the Northwest Straits Commission, theDepartment of Natural Resources, the Puget Sound Partnership, the Department of Ecology, NOAA Fisheries, the US Fish and Wildlife Service, Canada, non-governmental organizations, and other agencies to protect rockfish habitats and restore habitats degraded or lost due to pollution, disruption, and derelict fishing gear.

POLICY CATEGORY: FISHERY MANAGEMENT

OBJECTIVE: All fisheries in Puget Sound waters will be managed to ensure the health and productivity of all rockfish stocks.

Fisheries management is the process and actions to provide public benefits from natural resources including sustainable fishing opportunities, watchable wildlife, and ecosystem functions. Fishing can impact fish that are intentionally harvested, or are encountered as unintended catch, often called bycatch. WDFW seeks to manage all species of rockfish harvested and encountered by commercial and recreational fishers by focusing on indicator species. We will improve methods to collect detailed information on the indicator species, including amount of catch, length and age composition of the catch, and depth of capture. By concentrating on the indicator species, we can make the best use of scarce agency resources and improve our knowledge of population and fishery changes for these species. WDFW recognizes that weaker or less common stocks or species may be affected by fisheries and will seek to assure that those weaker or less common stocks are not overharvested.

Past fishing practices have been a major factor affecting the abundance and size structure of rockfishes. While other stressors such as marine mammal predation, climate, and pollution may affect rockfish stocks, these stressors act both in marine protected areas and fished areas. The greater sizes and densities observed in many marine protected areas in Puget Sound indicate that fishing is the most significant factor contributing to the observed differences between protected and fished areas.

Strategies

1. **Work with tribal co-managers to establish and implement fishery management guidelines that promote healthy rockfish stocks and restoration of the Puget Sound ecosystem.**
2. **Manage commercial and recreational fisheries consistent with fishery management guidelines for all rockfish species.**
3. **Minimize disruptions to other fisheries when possible.**

Actions

1. Use the PSRCP to develop fishery management plans with tribal co-managers.
2. Manage all fisheries to ensure that fishery management guidelines for rockfish are not exceeded.
3. Use gear, depth, time, area, and other restrictions to achieve fishery management guidelines.
4. Develop a science based system of Rockfish Conservation Areas that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems.
5. Provide for fishing opportunities for other species consistent with rockfish fishery management guidelines.
6. Account for all rockfish encountered in all fisheries through fishery monitoring and estimation programs.
7. Develop and implement measures to increase the survival of released rockfish such as identifying the best handling practices and rapid submergence techniques, educating fishers about these techniques, or, if needed, requiring fishers to use rockfish release equipment and procedures.
8. Work with the Northwest Straits Commission, tribes, fishers, and other groups to improve the system to report, and account for fishing gear lost during active fishing operations and remove derelict gear. Evaluate the potential effectiveness of voluntary and mandatory reporting and marking systems to prevent the accumulation of derelict gear to reduce rockfish mortality.
9. Evaluate the effectiveness of removing derelict fishing gear in increasing rockfish populations and restoring rockfish habitat.
10. Seek opportunities and funding to enhance enforcement presence in Puget Sound.

POLICY CATEGORY: ECOSYSTEM

Objective: Protect existing functions of indicator rockfishes and conduct activities to restore the functions of indicator rockfishes in the complex ecosystem and food web in Puget Sound.

Rockfish, as a group, occur throughout Puget Sound and are a vital component of the ecosystem in Puget Sound. While ecosystem science is still developing, we know that rockfish are both important predators and prey in the food web, are affected by climatic and oceanographic factors, die from natural mortality, compete as important members of fish communities, and are affected by a variety of human-caused stressors. Human-caused stressors already identified in habitat and fishery management sections can amplify natural stressors further impairing the health of rockfish populations. As climate changes occur, we can expect that the abundance and productivity of rockfish species

will change, likely favoring more warm-tolerant species and perhaps limiting some species that are presently common.

The ecosystem functions of rockfish are poorly understood and not quantified. NOAA Fisheries and their partners, including WDFW, are developing a food-web and ecosystem model of Puget Sound that will help identify data gaps and major limiting factors of rockfish and other marine populations. As these models develop, WDFW and its partners will identify the ecosystem needs, benefits, and limitations of the indicators species of rockfish in order to inform and improve the ability to manage for natural production, habitat, and fisheries.

Strategies

1. **Ensure that the abundance, distribution, and structure of indicator rockfish stocks provide benefits to other species and ecosystem components.**
2. **Identify and address the limiting ecosystem factors affecting the indicator species of rockfish, such as human-caused stressors, predation, and disease.**
3. **Incorporate new information on the effects of climate change on the management of rockfish and their ecosystems.**

Actions

1. Investigate and reduce the impacts of human-caused stressors, such as pollution, habitat degradation, and fisheries that impair the productivity of indicator rockfish stocks.
2. Consider and, where necessary, reduce fishery harvests and implement marine reserves to provide intact food-webs, and ecosystem functions so biological communities can thrive.
3. Develop a science based system of marine reserves that, with other actions, achieves the natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems.
4. Partner with state, federal, and Canadian agencies and scientists to improve existing food-web and ecosystem models to identify and take actions to restore rockfish stocks.
5. Minimize introductions of aquatic invasive species that may negatively impact rockfish.
6. Partner with agencies and scientists to predict and react to climate change including increases in water temperature, changing pH, and rises in sea surface level.

POLICY CATEGORY: MONITORING, EVALUATION AND ADAPTIVE MANAGEMENT

Objective: Conduct monitoring, evaluation and management of indicator stocks to provide the basis to evaluate stock status and the success of management actions.

Monitoring, evaluation, and adaptive management are the integrated activities that result in the successful management of resources and programs. There are several types of environmental monitoring that can be applied to rockfish management: long-term baseline monitoring to determine stocks status and trends, impact monitoring to test whether management actions are effective, and compliance monitoring to determine whether individuals and agencies are complying with or implementing required actions. Evaluation of these monitoring activities and other research findings provides the analysis of the health of rockfish stocks and whether management actions, rules, and agreements are effective. Adaptive management is the process of making changes in management practices as the result of the monitoring and evaluation. Monitoring, evaluation, and adaptive management are required to produce successful management and to judge the success of current management efforts.

WDFW will monitor indicator stocks of rockfish, the integrity of rockfish habitats, fisheries, and important ecosystem functions. These data will be analyzed and evaluated in terms of meeting healthy stock criteria, effectiveness of Marine Reserves and Rockfish Conservation Areas, fishery management guidelines, habitat protection initiatives, and improving and understanding ecosystem benefits. WDFW rules and programs will be examined periodically to understand whether they are effective or need to be changed and adapted to existing or emerging concerns.

Strategies

1. **Use fishery dependent and independent monitoring and other information to periodically assess indicator rockfish stocks.**
2. **Work with tribal co-managers, citizens, agencies, Canada, and scientists in monitoring, evaluating, and managing rockfish stocks.**
3. **Adopt flexible management and regulatory programs that will allow rapid change of regulations or policies in response to new information or altered environmental conditions.**
4. **Regularly review progress towards the objectives and modify strategies or actions which are not producing desired results.**
5. **Ensure species within an assemblage are receiving the desired benefits of the representative indicator species.**
6. **Enforce rules and regulations that protect rockfish.**

Actions

1. Collaborate with tribal co-managers and other scientists to monitor and evaluate indicator rockfish stocks and rockfish stock structure. Develop common standards and practices to maximize the use of the data and findings.
2. Define quantifiable goals and benchmarks for healthy stock levels and sustainable fishery harvests using the Government, Management Accountability and Performance (GMAP) or other accountability systems to assure goals and benchmarks are being achieved.
3. Conduct fishery-dependent programs to account for all catch and fishing effort and to monitor species composition and biological characteristics of indicator rockfish stocks.
4. Conduct trawl, acoustic, video, scuba and other fishery-independent surveys so all regions are visited at least every five years to monitor indicator rockfish stock abundance, habitat quality and ecosystem functions.
5. Evaluate indicator stocks with assessments and models that integrate fishery dependent, fishery independent, and biological information on a 5-year (or more frequent) basis.
6. Conduct studies that address non-indicator rockfish species to ensure their stocks are receiving the desired benefits of the representative indicator rockfish species. Use information on non-indicator species collected during surveys targeting indicator species when available to evaluate their status.
7. Use scientists, fishers, and interested parties to develop goals and objectives for a system of Marine Reserves and RCAs. Evaluate current sites and new sites on a 5-year or more frequent basis to see if they are meeting goals and need modification. Establish baseline conditions before reserves are established.
8. Involve citizens to conduct monitoring and to evaluate the success of the strategies and actions, and use information provided by fishers, divers, beach watchers and other organized groups such as Coastal Conservation Association, Puget Sound Anglers, REEF (Reef Environmental Education Foundation), Washington State University, and other non-governmental sources to evaluate the strategies and actions.
9. Strengthen our partnerships with Canada in the Technical Subcommittee of the Canada-United States Groundfish Committee (appointed by the Conference on Coordination of Fisheries Regulations between Canada and the United States) and other venues to provide mutual benefits regarding rockfish management and rebuilding across transboundary waters.
10. Work with enforcement authorities to provide information and tools needed to effectively enforce regulations protecting rockfish.
11. Work with partners to clearly mark Marine Reserves and RCAs, and work with enforcement authorities and volunteers to improve compliance.
12. Every five years, conduct a review of the implementation of the strategies and

actions employed in this plan. The review will be conducted by WDFW and will include an opportunity for public comment. The results of the review will be available to the public.

POLICY CATEGORY: RESEARCH

OBJECTIVE: Implement new and cooperative research to understand the diversity, biology and productivity of indicator rockfishes as well as needs for recovery.

Rockfish research uses the scientific process to discover new information about the biology, management, and monitoring effectiveness of the strategies and actions taken for indicator rockfish stocks in Puget Sound. Science relies upon the peer-review process to independently confirm the validity of new research results. Efforts to understand the Puget Sound ecosystem, model populations, evaluate Marine Reserves and Rockfish Conservation Areas, protect habitat, manage for climate change, enhance populations, and manage fisheries will all benefit from a vigorous research program.

Strategies

1. **Identify data gaps and research needed to successfully implement this plan.**
2. **Increase partnerships with tribal co-managers, universities, Canadian scientists, non-governmental organizations and state and federal agencies.**
3. **Rely upon a peer-review process to independently confirm the validity of research findings.**
4. **Proceed with other actions in this Plan while research is being conducted.**

Actions

1. Convene a workshop to identify the key research needs for rockfish, including juvenile and sub-adult life stages, in Puget Sound.
2. Promote cooperative rockfish research by forming a standing work group of rockfish scientists.
3. Secure funding through grants, foundations, and other sources to support key rockfish research.
4. Conduct research to address key needs for rockfish.
5. Implement a process to ensure peer review of key agency findings.

POLICY CATEGORY: OUTREACH, EDUCATION AND ECOTOURISM

OBJECTIVE: Conduct a strategic outreach and education program to inform Washington citizens of the value of rockfish stocks and to promote ecotourism.

There is a substantial need to inform Washington residents and others about the status of rockfish in Puget Sound and the need for strong conservation efforts. The purpose of conducting an education effort is to inform the public about the important role of rockfish in the ecosystem and actions individuals can take to protect and restore the health of rockfish in Puget Sound.

Ecotourism for rockfish provides the experience to observe rockfish in their natural environment. Ecotourism promotes environmental awareness and low impact on natural resources.

Strategies

1. **Educate Washington residents about the efforts to conserve and restore rockfish populations in Puget Sound.**
2. **Educate anglers about rockfish identification, methods of reducing the incidental encounters, and the use of release techniques that minimize mortality.**
3. **Promote ecotourism by providing information about viewing opportunities for rockfish in Puget Sound.**
4. **Regularly inform the public on the implementation of new initiatives, and progress towards achieving plan objectives.**

Actions

1. Develop a webpage and utilize other media to feature the Puget Sound Rockfish Conservation Plan and the Department's effort to protect and restore rockfish in Puget Sound.
2. Work with the Puget Sound Partnership, agencies, and groups to increase public involvement in efforts to protect and restore rockfish in Puget Sound and to identify and reduce stressors such as pollution.
3. Establish partnerships with aquariums, marine science centers, and other groups to teach children and adults about the importance of rockfish in the Puget Sound ecosystem.
4. Work with advisory and fishing groups to: 1) improve identification of rockfish (both out of and in the water); 2) reduce encounters of rockfish while fishing for other species; and 3) effectively release rockfish.
5. Include within WDFW's *Fishing in Washington* pamphlet information on identifying rockfish, reducing encounters of rockfish while fishing for other species, and methods of effectively releasing rockfish.

6. Promote underwater viewing opportunities and ecotourism for rockfish in Puget Sound by working with organizations promoting tourism, distributing maps and brochures, and developing websites.
7. Education will feature all policy elements of the plan, but will focus initially on new or controversial elements.

POLICY CATEGORY: ENHANCEMENT (Artificial Habitat and Hatchery Production)

OBJECTIVE: Promote the achievement of the natural production policy objective through the appropriate use of:

a. Hatchery production to rebuild depleted rockfish stocks; and

b. Artificial habitats consistent with the hierarchy of habitat protection and mitigation approaches.

These tools will be implemented in a manner that preserves the ecological balance of the marine community and avoids negative impacts on the recovery of any species listed as endangered or threatened under state or federal statutes.

Hatchery Production- WDFW will rely on natural production to meet its rockfish conservation objectives unless a stock is designated as depleted and meets the conditions and constraints outlined under the terms of Fish and Wildlife Commission Policy on Marine Fish Culture (C3611). If a stock is designated as depleted, hatchery techniques may be employed as a rebuilding tool. Hatchery techniques include collection of brood stocks, fertilization and rearing of young in the hatchery, and release of larvae or juveniles into the environment. We do not plan to utilize hatchery culture of rockfish exclusively to provide recreational fishing opportunities. Production of cultured rockfish would cease when the stock has recovered to a healthy level. Additionally, research may be conducted to prepare culture techniques prior to their use. Hatchery production may be used to produce rockfish for research purposes.

Artificial Habitats - WDFW may use artificial habitats to restore and mitigate for degraded rockfish habitats. Degraded habitat includes, but is not limited to, habitat damaged by construction activities, habitat in areas of poor water quality and areas damaged by the presence of derelict fishing gear. Artificial habitats for rockfish have been constructed in Puget Sound to enhance recreational opportunities and to mitigate for damaged habitat. If artificial habitat is created, some mitigation for loss of existing habitat may be required.

Strategies

1. **Use hatchery production in combination with habitat, fishery and ecosystem strategies to restore depleted rockfish stocks to healthy levels.**
2. **Develop and evaluate hatchery production techniques with the NOAA Fisheries and other partners for restoring depleted rockfish stocks.**

3. **Artificial habitats may be used to restore and mitigate for degraded rockfish habitats.**
4. **Balance the goal of utilizing natural production for rockfish with any proposed enhancement activity.**

Actions

1. Conduct research to evaluate the risks and uncertainties associated with the release of cultured rockfish and artificial habitats.
2. Identify degraded rockfish habitats, develop requirements for artificial habitat construction, and construct new habitats to restore degraded natural habitats.
3. Develop and adopt requirements in WAC for construction and placement of artificial habitats in state waters.
4. Monitor and evaluate culture techniques and artificial habitat construction to ensure they are successfully restoring depleted rockfish stocks and restoring degraded rockfish habitat.
5. Implement and evaluate rockfish culture techniques and artificial habitat construction actions that also restore other marine species and ecosystem functions.
6. Develop partnerships with NOAA Fisheries, universities, and other organizations to implement these activities.
7. Prioritize species for hatchery culture, establish specific goals for any proposed enhancement activity and evaluate risks and benefits of the enhancement activity relative to the goals of this plan.
8. Use scientists, fishers, and interested parties to review the risks and benefits of specific enhancement activities. Conduct research to determine if the enhancement activity achieved the stated goal.

NEXT STEPS

Following the adoption of this Plan, WDFW will develop an implementation schedule that will provide a timeline for actions that can be accomplished with existing agency capacities. The implementation schedule will include a strategy to secure additional resources needed to implement the Plan and identify effectiveness measures.

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APPENDIX A Stock Status

Stock assessment is the analysis of biological and statistical data used to determine the status of a fish stock relative to a biological reference point. Often stock assessments measure changes in abundance and, if possible, to predict the future trends of abundance. When detailed information is lacking, we will use data-limited measures and indices to determine stock status. Data-limited information includes catch-per-effort, indices of stock abundance from surveys, distributional information, and size of fish from catches or surveys. Past fishery and survey information has been applied to determine rockfish stock status by Palsson et al., (2009), but new criteria will be needed to establish future stock status, clear rebuilding targets and recovery goals.

When detailed stock information is available, we will use the unfished biomass of the stock as an absolute measure of stock abundance. Similar to Pacific Fishery Management Council (PFMC) objectives, we will seek to maintain rockfish stocks at least at 50% of their unfished biomass ($B_{50\%}$) in order to maintain the stock at the biomass of maximum sustainable yield (B_{msy}). The PFMC also defines an overfished state when stocks are at or below 25% of their unfished biomass ($B_{25\%}$). These guidelines are similar to those criteria established by Palsson (2009) to define four stocks status conditions for Puget Sound rockfishes using the same theoretical framework but modified with other criteria for data-limited situations. Due to lack of data, especially from early years in the fishery, it will be difficult or impossible to accurately calculate the size of the unfished biomass of any species or any stock of rockfish in Puget Sound.

In data-limited situations, The North Pacific Fishery Management Council has adopted a harvest policy that establishes reduced harvest levels to account for risk and uncertainty (Thompson 1997).

WDFW will use the following three stock status conditions to assess the health of rockfish in Puget Sound. The three status conditions are based on both PFMC definitions and data-limited conditions collapsed from Palsson et al. (2009):

Healthy Stock Status: A Healthy Stock is one that has a biomass at or above $B_{50\%.}$ The data-limited definition of a Healthy Stock is one that shows a long-term trend that is stable, increasing, or varies without trend at or above historic levels.

Precautionary Stock Status: Precautionary Stocks are those that have stock biomasses between $B_{25\%}$ and $B_{50\%}$. The data-limited definition is a stock that demonstrates instability, is decreasing, or has no information to establish condition.

Depleted Stock Status: A Depleted rockfish Stock is one that is at or below $B_{25\%}$. The data-limited definition of a Depleted stock is one that has negative indices exceeding AFS vulnerability thresholds corresponding to it population productivity. This category includes the Vulnerable status used by Palsson et al., (2009).

In addition to traditional stock assessment approaches; we propose the use of Marine Reserves and RCAs to serve as reference areas resembling healthy and intact habitats for use as unfished reference points for healthy stocks. As Marine Reserves mature in Washington, British Columbia, and in nearby waters, they may provide baseline measures of unfished biomass in terms of abundance, size and age structure, and reproductive output. Information from Marine Reserves, historical catch and biological data, and new modeling efforts may provide the most likely tools and benchmarks for designating the criteria for a healthy rockfish stock. For example, copper rockfish density observed from the oldest marine reserves and in the area could define the goal for half of the nearshore rockfish habitat in Puget Sound. In addition, the size frequency of copper rockfish from long-term reserves or historical fishery monitoring to evaluate stock status could be used as size-based goal for a significant portion of the copper rockfish stock.

APPENDIX B. Definitions

The following are definitions of terms as used in the Puget Sound Rockfish Management Plan. They are presented here to prevent confusion with how these or similar terms are used in other efforts.

Artificial Production: The rearing and release of fish from an artificial culture setting such as a hatchery.

Biomass: The weight of a stock of fish. Often limited to the weight of the spawning population.

Bottomfish: A group of fishes that is closely associated with the bottom. Examples include rockfish, Pacific cod, greenling, lingcod, sharks, sculpins, soles and flounders. Bottomfishes are legally defined by WDFW (WAC 220-16-340) and the definition excludes Pacific halibut and shiner perch.

Bycatch: Encounters of one species that is taken incidentally while fishing for another species. For example, a person may be fishing for Chinook salmon and incidentally catch a rockfish. This fish may or may not be retained by the angler.

Catch (Encounters): A rockfish that is caught by a commercial or recreational fishery. Encountered rockfish may be harvested retained by the fisher or released back to the Sound. Released fish may be dead or alive.

Catch-and-Release: A non-retention hook-and-line fishery.

Depleted Stock Status: A Depleted rockfish stock is one that is at or below $B_{25\%}$. The data-limited definition of a Depleted stock is one that has negative indices exceeding AFS vulnerability thresholds corresponding to it population productivity.

Diversity: Variation among individuals in age, size, life history, or genetic characteristics, or the number or eveness of species among biological communities.

Groundfish: Fish that are associated with or live near the bottom including bottomfish, Pacific halibut, and unclassified marine fishes.

Harvest: The total number of fish caught and retained by a fisher. These fish are landed on shore and are all dead. In this document “catch” means the same as ”landed catch.”

Healthy Stock Status: A Healthy Stock is one that has a biomass at or above $B_{50\%.}$ The data-limited definition of a Healthy Stock is one that shows a long-term trend that is stable, increasing, or varies without trend at or above historic levels.

Incidental catch: See bycatch

Indicator Species: A species of rockfish identified as important by the WDFW. Indicator species may receive more intense monitoring, research, and protection than other species of rockfish in Puget Sound.

Landed Catch (Harvest): The portion of the encountered rockfish which is brought to shore at the end of a fishing trip.

Marine Reserve: A tool intended to allow permanent protection of a site specific, marine area. Depending on the site and corresponding needs, a marine reserve may be established to protect marine habitats, provide research opportunities and protect a variety of natural functions including fish reproduction. Full harvest restrictions will occur in marine reserves.

Maximum Sustainable Yield (MSY): The largest average catch (including released fish) that can be taken from a stock under existing environmental conditions.

Natural Production: Fish that spawn or rear entirely in the natural environment. These fish may be the offspring of natural or hatchery production.

Natural Stock: Fish that are produced by spawning and rearing in their natural habitat, regardless of parentage.

Neah Bay Area: Those waters between Cape Flattery and the Sekiu River.

Non-Treaty: All fishers except those with reserved rights identified in treaties.

North Puget Sound: Those waters east of Cape Flattery to Port Townsend and north to the Canadian border. This area includes the Straits of Juan de Fuca and Georgia, the San Juan Islands, and Bellingham Bay.

Precautionary Stock Status: Precautionary Stocks are those that have stock biomasses between $B_{25\%}$ and $B_{50\%}$. The data-limited definition is a stock that demonstrates instability, is decreasing, or has no information to establish condition.

Productivity: A stock's intrinsic rate of increase. The higher the productivity, the quicker the population will fill the habitat and the more resilient it will be to harvest and to survive other sources of mortality.

Released catch: Fish are returned to the water by the angler. These fish may be dead or alive at the time of release. Fish may be released because retention is prohibited, the species is undesirable, or the individual fish is too small to be of interest.

Revised Code of Washington (RCW): Laws enacted by the Legislature and signed by the Governor which direct the activities of WDFW and other agencies. Many of the laws affecting WDFW are found in Chapter 77 of the Code.

Rockfish Conservation Area (RCA): A tool that can be used to rebuild rockfish stocks to healthy levels and to protect the genetic, size and age diversity of portions of rockfish populations. Depending on the site and corresponding needs, an RCA may be established as a permanent or temporary feature and will have specific harvest restrictions intended to meet the goal of rockfish protection at the site.

South Puget Sound: Those waters south of Port Townsend to Olympia including Hood Canal, Admiralty Inlet, Saratoga Pass and Port Susan.

Stock: A group of fish within a species, which is substantially reproductively isolated from other groups of the same species.

Target Species: The species that is a fisher's intended catch during a fishing trip.

Wild: See Natural Stock.

WAC: Washington Administrative Code- A listing of rules enacted by state agencies to implement state laws (RCWs). WACs may be found at: http://apps.leg.wa.gov/wac/default.aspx.

Appendix 2. List of Rockfish Species Found in Puget Sound

Source: Palsson et al. 2009; Love et al. 2005

COMMON NAME	*SCIENTIFIC NAME*
Known from Puget Sound East of the Sekiu River	
Rougheye rockfish	*Sebastes aleutianus*
Pacific ocean perch	*Sebastes alutus*
Brown rockfish	*Sebastes auriculatus*
Redbanded rockfish	*Sebastes babcocki*
Silvergray rockfish	*Sebastes brevispinis*
Copper rockfish	*Sebastes caurinus*
Darkblotched rockfish	*Sebastes crameri*
Splitnose rockfish	*Sebastes diploproa*
Greenstriped rockfish	*Sebastes elongatus*
Puget Sound rockfish	*Sebastes emphaeus*
Widow rockfish	*Sebastes entomelas*
Yellowtail rockfish	*Sebastes flavidus*
Rosethorn rockfish	*Sebastes helvomaculatus*
Quillback rockfish	*Sebastes maliger*
Black rockfish	*Sebastes melanops*
Vermillion rockfish	*Sebastes miniatus*
Blue rockfish	*Sebastes mystinus*
China rockfish	*Sebastes nebulosus*
Tiger rockfish	*Sebastes nigrocinctus*
Bocaccio	*Sebastes paucispinis*
Canary rockfish	*Sebastes pinniger*
Redstripe rockfish	*Sebastes proriger*
Rosy rockfish	*Sebastes rosaceus*
Yelloweye rockfish	*Sebastes ruberrimus*
Stripetail rockfish	*Sebastes saxicola*
Halfbanded rockfish	Sebastes semicinctus
Sharpchin rockfish	*Sebastes zacentrus*
Shortspine thornyhead	*Sebastolobus alascanus*
The Following Additional Species Are Likely to Occur in Neah Bay Region	
Aurora rockfish	*Sebastes aurora*
Shortraker rockfish	*Sebastes borealis*
Greenspotted rockfish	*Sebastes chlorostictus*

Chilipepper	*Sebastes goodie*
Shortbelly rockfish	*Sebastes jordani*
Blackgill rockfish	*Sebastes melanostomus*
Yellowmouth rockfish	*Sebastes reedi*
Bank rockfish	*Sebastes rufus*
Pygmy rockfish	*Sebastes wilsoni*
Harlequin rockfish	*Sebastes variegatus*
Longspine thornyhead	*Sebastolobus altivelis*

Appendix 3. Environmental Checklist

ENVIRONMENTAL CHECKLIST
(WAC 197-11-960)

A. BACKGROUND

1. Name of proposed project, if applicable:

PUGET SOUND ROCKFISH CONSERVATION PLAN

2. Name of applicant:

WASHINGTON DEPARTMENT OF FISH & WILDLIFE

3. Address and phone number of applicant and contact person:

600 CAPITOL WAY N.
OLYMPIA, WA 98504
(360) 902-2725

4. Date checklist prepared:

AUGUST 7, 2009

5. Agency requesting checklist:

WASHINGTON DEPARTMENT OF FISH & WILDLIFE

6. Proposed timing or schedule (including phasing, if applicable):

PLAN ADOPTION DURING 2010

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. THE PROPOSAL IS A NON-PROJECT PROPOSAL WHICH MAY BE FOLLOWED BY SITE SPECIFIC PROPOSALS TO RESTORE OR CREATE HABITAT FOR ROCKFISH IN PUGET SOUND. ANY SUCH PROPOSAL WOULD UNDERGO A SEPARATE SEPA REVIEW.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

PALSSON, W, T. TSOU, G. BARGMANN, R. BUCKLEY, J. WEST, M. MILLS, Y. CHENG AND R. PACUNSKI 2009 THE BIOLOGY AND ASSESSMENT OF

ROCKFISHES IN PUGET SOUND. WASHINGTON DEPARTMENT OF FISH AND WILDLIFE DRAFT REPORT FPT-09-04

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. NOT APPLICABLE

10. List any government approvals or permits that will be needed for your proposal, if known.
APPROVAL OF PUGET SOUND ROCKFISH CONSERVATION PLAN AND FINAL EIS BY WASHINGTON DEPARTMENT OF FISH & WILDLIFE

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

THE PLAN ADDRESSES THE MANAGEMENT AND RESTORATION OF ROCKFISH IN ALL AREAS OF PUGET SOUND. THE GOAL OF THE PLAN IS TO RESTORE AND PROTECT OUR NATURAL HERITAGE OF PUGET SOUND ROCKFISH POPULATIONS. INCREASES IN THE ABUNDANCE, DISTRIBUTION, DIVERSITY, AND PRODUCTIVITY OF ROCKFISH WILL HELP TO RESTORE THE PUGET SOUND ECOSYSTEM, PROVIDE OPPORTUNITIES TO VIEW ROCKFISH IN THE MARINE ENVIRONMENT AND, WHEN APPROPRIATE, PROVIDE SUSTAINABLE FISHING OPPORTUNITIES.

TO ACHIEVE THIS GOAL, THE PLAN PROPOSES EIGHT DIFFERENT BUT INTERLOCKING POLICY ELEMENTS AS FOLLOWS:

- NATURAL PRODUCTION
- HABITAT PROTECTION AND RESTORATION
- FISHERY MANAGEMENT
- ECOSYSTEM
- MONITORING, EVALUATION AND ADAPTIVE MANAGEMENT
- RESEARCH
- OUTREACH, EDUCATION AND ECOTOURISM
- ENHANCEMENT

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans

required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

PUGET SOUND, INCLUDING THE STRAIT OF JUAN DE FUCA (WEST TO CAPE FLATTERY), THE SAN JUAN ISLANDS, HOOD CANAL, ADMIRALTY INLET, THE WHIDBEY BASIN AND INNER PUGET SOUND SOUTH TO OLYMPIA. THE PLAN DIVIDES THE PROJECT AREA INTO TWO REGIONS: 1) SOUTH OF PORT TOWNSEND; 2) NORTH AND WEST OF PORT TOWNSEND TO CAPE FLATTERY.

B. ENVIRONMENTAL ELEMENTS

1. **Earth**

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other . . . . . .NOT APPLICABLE

b. What is the steepest slope on the site (approximate percent slope)? NOT APPLICABLE

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. NOT APPLICABLE

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. NOT APPLICABLE

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill. NONE

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. NO

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings) NO CHANGE FROM EXISTING LEVELS

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
NONE

2. **Air**

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known. NO CHANGE FROM EXISTING LEVELS.

b. Are there any offsite sources of emissions or odor that may affect your proposal? If

so, generally describe. NONE

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
NONE

3. **Water**

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. YES, THE ENTIRE PUGET SOUND IS COVERED BY SALT WATER.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. NO

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
NONE

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. NONE

5) Does the proposal lie within a 100-year flood plain? If so, note location on the site plan. NOT APPLICABLE

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
NONE

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known. NONE

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. NONE

c. Water runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. NOT APPLICABLE

2) Could waste materials enter ground or surface waters? If so, generally describe. NO

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any: NONE

4. **Plants**

a. Check or circle types of vegetation found on the site:

— Deciduous tree: Alder, maple, aspen, other
— Evergreen tree: Fir, cedar, pine, other
— Shrubs
— Grass
— Pasture
— Crop or grain
— Wet soil plants: Cattail, buttercup, bullrush, skunk cabbage, other
X— Water plants: Water lily, eelgrass, milfoil, other
— Other types of vegetation

b. What kind and amount of vegetation will be removed or altered? NONE

c. List threatened or endangered species known to be on or near the site. NONE

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: NONE

5. **Animals**

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

Birds: Hawk, heron, eagle, songbirds,

other: . ALMOST ALL BIRD SPECIES FOUND IN WESTERN WASHINGTON ARE FOUND IN OR OVER PUGET SOUND. . . . . .

Mammals: Deer, bear, elk, beaver,

other: .SEALS, OTTERS, AND WHALES. . . . . .

Fish: Bass, salmon, trout, herring, shellfish,
other: . . OVER 212 SPECIES OF FISH ARE KNOWN TO OCCUR IN

PUGET SOUND AS WELL AS THOUSANDS OF SPECIES OF INVERTEBRATES . . . . . .

b. List any threatened or endangered species known to be on or near the site.

COMMON NAME (STATUS[3])	**SCIENTIFIC NAME**	**POSSIBLE INTERACTION WITH ROCKFISH**
Southern Resident Killer Whale (E)	*Orcinus orca*	Rockfish are minor prey item
Humpback Whale(E. SE)	*Megaptera novaeangliae*	
Stellar Sea Lion (T,ST)	*Eumetopias jubatus*	Rockfish may be a minor prey item
Marbled murrelet(T,ST))	*Brachyramphus marmatus*	
Brown pelican (E,SE)	*Pelecanus occidentalis*	Minor competition for food
Chinook salmon (T)	*Oncorhynchus tshawytscha*	Rockfish are both prey and predators
Summer chum salmon (T)	*Oncorhynchus keta*	
Steelhead trout (T)	*Oncorhynchus mykiss*	
American white pelican (SE)	*Pelecanus erythrorhynchos*	Possible competition for food
Brandt's Cormorant (SC)	*Phalacrocorax penicillatus*	
Cassin's auklet (SC)	*Ptychoramphus aleuticus*	
Common murre (SC)	*Uria aalge*	
Black rockfish (SC)	*Sebastes melanops*	
Yelloweye rockfish (SC,T)	*Sebastes ruberrimus*	
Bocaccio rockfish (SC, E)	*Sebastes paucispinis*	
Brown rockfish (SC)	*Sebastes auriculatus*	
Canary rockfish (SC, T)	*Sebastes pinninger*	
China rockfish SC)	*Sebastes nebulosus*	
Copper rockfish (SC)	*Sebastes caurinus*	
Greenstriped rockfish (SC)	*Sebastes elongatus*	
Pacific cod (SC)	*Gadus macocephalus*	Competition for food, predation, bycatch in rockfish fisheries
Pacific hake (SC)	*Merluccius productus*	Competition for food, predation, bycatch in rockfish fisheries
Pacific herring (SC)	*Clupea pallasi*	Rockfish prey on herring; herring prey on rockfish larvae
Quillback rockfish (SC)	*Sebastes maliger*	
Tiger rockfish (SC)	*Sebastes nigrocinctus*	
Walleye pollock (SC)	*Theragra chalcogramma*	Competition for food
Widow rockfish(SC)	*Sebastes entomelas*	
Yellowtail rockfish (SC)	*Sebastes flavidus*	
Gray Whale (SE)	*Eschrichtius robustus*	
Pacific harbor porpoise (SC)	*Phocoena phocoena*	
Northern abalone (SC)	*Haliotis kamschatkana*	
Olympia Oyster (SC)	*Ostrea conchaphila*	

[3] E or T means listed an Endangered or Threatened under the federal Endangered Species Act; SE, ST, SC and SS means the species is listed on the Washington state Endangered, Threatened, Candidate or Sensitive list.

c. Is the site part of a migration route? If so, explain.
PUGET SOUND IS USED FOR MIGRATION FOR JUVENILE SALMON ENTERING SALTWATER AND ALSO BY ADULT SALMON RETURNING TO NATAL STREAMS TO SPAWN. PUGET SOUND IS PART OF A MAJOR FLYWAY FOR MIGRATING BIRDS.

d. Proposed measures to preserve or enhance wildlife, if any:
PART OF THE PROPOSED PLAN IS TO DEVELOP RESTRICTIVE FISHING REGULATIONS WHICH WILL PROTECT FISH LIFE. ADDITIONALLY THE PLAN CONSIDERS THE ECOSYSTEM NEEDS OF AQUATIC LIFE SUCH AS FORAGE AND CREATES AREAS WHERE FISHING WILL NOT BE ALLOWED.

6. **Energy and natural resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. NOT APPLICABLE

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. NO

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: NOT APPLICABLE

7. **Environmental health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe. NONE

1) Describe special emergency services that might be required. NONE

2) Proposed measures to reduce or control environmental health hazards, if any: NOT APPLICABLE

b. **Noise**

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? NONE

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. NONE

3) Proposed measures to reduce or control noise impacts, if any: NOT APPLICABLE

8. **Land and shoreline use**

a. What is the current use of the site and adjacent properties? NOT APPLICABLE

b. Has the site been used for agriculture? If so, describe. NOT APPLICABLE

c. Describe any structures on the site. NONE

d. Will any structures be demolished? If so, what? NONE

e. What is the current zoning classification of the site? NOT APPLICABLE

f. What is the current comprehensive plan designation of the site? NOT APPLICABLE

g. If applicable, what is the current shoreline master program designation of the site? NOT APPLICABLE

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

WAC 220-110-250
Saltwater habitats of special concern.

In the following saltwater habitats of special concern, or areas in close proximity with similar bed materials, specific restrictions regarding project type, design, location, and timing may apply as referenced in WAC 220-110-270 through 220-110-330.

(a) Surf smelt (*Hypomesus pretiosus*) spawning beds are located in the upper beach area in saltwater areas containing sand and/or gravel bed materials.

(b) Pacific sand lance (*Ammodytes hexapterus*) spawning beds are located in the upper beach area in saltwater areas containing sand and/or gravel bed materials.

(c) Rock sole (*Lepidopsetta bilineata*) spawning beds are located in the upper and middle beach area in saltwater areas containing sand and/or gravel bed materials.

(d) Pacific herring (*Clupea pallasi*) spawning beds occur in lower beach areas and shallow subtidal areas in saltwater areas. These beds include eelgrass (*Zostera* spp.) and other saltwater vegetation and/or other bed materials such as subtidal worm tubes.

(e) Rockfish (Sebastes spp.) settlement and nursery areas are located in kelp beds, eelgrass (*Zostera* spp.) beds, other saltwater vegetation, and other bed materials.

(f) Lingcod (*Ophiodon elongatus*) settlement and nursery areas are located in beach and subtidal areas with sand,

eelgrass (*Zostera* spp.), subtidal worm tubes, and other bed materials.

(2) Juvenile salmonid (Family Salmonidae) migration corridors, and rearing and feeding areas are ubiquitous throughout shallow nearshore saltwater areas of the state.

(3) The following vegetation is found in many saltwater areas and serves essential functions in the developmental life history of fish or shellfish:

(a) Eelgrass (*Zostera* spp.);

(b) Kelp (Order laminariales);

(c) Intertidal wetland vascular plants (except noxious weeds).

i. Approximately how many people would reside or work in the completed project? NOT APPLIABLE

j. Approximately how many people would the completed project? NOT APPLIABLE

k. Proposed measures to avoid or reduce displacement impacts, if any: NOT APPLICABLE

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: NONE

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. NONE

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. NONE

c. Proposed measures to reduce or control housing impacts, if any: NOT APPLICABLE

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? NOT APPLICABLE

b. What views in the immediate vicinity would be altered or obstructed? NONE

c. Proposed measures to reduce or control aesthetic impacts, if any: NONE

11. **Light and glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? NONE

b. Could light or glare from the finished project be a safety hazard or interfere with views? NO

c. What existing offsite sources of light or glare may affect your proposal? NONE

d. Proposed measures to reduce or control light and glare impacts, if any: NONE

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity? BOATING, FISHING, DIVING, PHOTOGRAPHY, BIRD WATCHING, WHALE WATCHING

b. Would the proposed project displace any existing recreational uses? If so, describe.

THE PLAN COULD CHANGE EXISTING RECREATIONAL FISHING ACTVITIES

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: CHANGES IN RECREATIONAL FISHING ACTVIITIES WOULD OCCUR ONLY AFTER PERIODS OF SCIENTIFIC STUDY AND PUBLIC COMMENT.

13. **Historic and cultural preservation**

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe. NOT APPLICABLE

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site. NOT APPLICABLE

c. Proposed measures to reduce or control impacts, if any: NONE

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any. NOT APPLICABLE

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop? NOT APPLICABLE

c. How many parking spaces would the completed project have? How many would the project eliminate? NONE

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private). NONE

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. NOT APPLICABLE

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur. NOT APPLICABLE

g. Proposed measures to reduce or control transportation impacts, if any: NONE

15. **Public services**

a. Would the project result in an increased need for public services (for example: Fire protection, police protection, health care, schools, other)? If so, generally describe. NOT APPLICABLE

b. Proposed measures to reduce or control direct impacts on public services, if any. NONE

16. **Utilities**

a. Circle utilities currently available at the site: Electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other. NOT APPLICABLE

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. NONE

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: . . . . . .

Date Submitted: . . . . . .

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(do not use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise? THE PLAN MAY AFFECT RECREATIONALFISHING OPPORTUNITIES, CAUSING SMALL INCREASES OR DECREASES IN BOATING ACTIVITY AND ASSOCIATED EMISSIONS.

   Proposed measures to avoid or reduce such increases are: THE PLAN PROPOSES TO CREATE SUSTAINABLE FISHING OPPORTUNITES. ACHIEVEMENT OF THIS GOAL WILL PRODUCE MORE STABLE FISHERIES, MINIMIZING INTER ANNUAL CHANGES IN EMMISSIONS FROM FISHING VESSELS AND LIMITING THE GROWTH OF EMISSIONS

2. How would the proposal be likely to affect plants, animals, fish, or marine life? POSITIVE FOR FISH AND MARINE LIFE

   Proposed measures to protect or conserve plants, animals, fish, or marine life are:

THE PLAN WILL PRODUCE MORE RESTRICTIVE FISHING REGULATIONS, CONSIDER ECOSYSTEM NEEDS OF MARINE LIFE, RESTORE DEGRADED HABITATS AND INCREASE AREAS WHERE FISHING IS NOT ALLOWED OR GREATLY RESTRICTED

3. How would the proposal be likely to deplete energy or natural resources? THE PROPOSAL WILL HAVE NO EFFECT ON ENERGY USE AND PROVIDE POSITIVE BENEFITS TO NATURAL RESOURCES

   Proposed measures to protect or conserve energy and natural resources are: THE PLAN WILL PROTECT AND CONSERVE MARINE LIFE BY PRODUCING MORE RESTRICTIVE FISHING REGULATIONS, CONSIDERING ECOSYSTEM NEEDS OF MARINE LIFE, RESTORING DEGRADED HABITATS AND INCREASING AREAS WHERE FISHING IS NOT ALLOWED OR GREATLY RESTRICTED

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, flood plains, or prime farmlands? THE PROPOSAL WOULD BENEFIT THESE AREAS

   Proposed measures to protect such resources or to avoid or reduce impacts are: THE PROPOSAL WILL RESTORE DEGRADED HABITATS AND CREATE NO FISHING AREAS IN PUGET SOUND.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans? NO CHANGE IN SHORELINE USE IS ANTICIPATED

   Proposed measures to avoid or reduce shoreline and land use impacts are: NONE

6. How would the proposal be likely to increase demands on transportation or public services and utilities? NO CHANGE FROM EXISTING LEVELS

   Proposed measures to reduce or respond to such demand(s) are: NOT APPLICABLE

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment. NO KNOWN CONFLICTS

Appendix 4. Public Comments

Hundreds of public comments were received during the two open comment periods and at public meetings. The text of each public comment can be found at http://www.wdfw.wa.gov/licensing/sepa/sepa_comment_docs.html WDFW staff read the comments and categorized the comments in the following table. WDFW staff analyzed and responded to the comments in a systematic manner. Each public comment has one or several numbers corresponding to the agency response that can be found in Appendix 5.

Public Comments Received Through January 4, 2010

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Myers, Doug People for Puget Sound	Applauds Dept. for recognizing depleted resource	12
Myers, Doug People for Puget Sd	Supports alternative (alt.) 1	43
Myers, Doug People for Puget Sd	Supports protection of all habitats	38
Myers, Doug People for Puget Sd	Supports EBM approach to Fishery Mgt.	13
Myers, Doug People for Puget Sd	Supports EBM (alt. 1) over alt. 3	13
Myers, Doug People for Puget Sd	Supports monitoring alt. 1	55
Myers, Doug People for Puget Sd	Supports research alt. 1, also determine key species	34, 43
Myers, Doug People for Puget Sd	Supports alt. 1 outreach/ed. Add life hist. requirements.	54
Myers, Doug People for Puget Sd	No art. Reefs/hatcheries-no risk assessment & not scientifically supported	36, 37
Colman	against proposal 10A, spearfishing in area 5	17
Colman	against proposal 10B, closing bottomfishing	17, 18
Croonquist	against EIS, does not address economic and recreational interests	9
Croonquist	EIS does not address other ESA plans	10, 11
Croonquist	EIS does not address ecosystem Policy 4 issues	40
Betrozoff	Follows CCA positions on EIS	30, 29
Betrozoff	Stop netting in affected marine areas	8
Betrozoff	Remove derelict nets then evaluate rockfishes	35, 40
Betrozoff	Add artificial reefs	36
NWSC	refer to comment number 11	12

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Laurence Bucklin/CCA and PSA	plan has lack of facts and science and lack of specific actions	56, 15
Laurence Bucklin/CCA and PSA	Food Web is underrate as a stressor	57
Laurence Bucklin/CCA and PSA	Plan considers past fishing but should consider present harvest levels	17, 18
Laurence Bucklin/CCA and PSA	Create advisory group to complete final plan	29
Laurence Bucklin/CCA and PSA	restart entire outreach process once the advisory group is complete	27
Wright	Draft EIS does not describe true problem	15, 19
Wright	Hatchery Chinook releases may be adversely affecting rockfishes	40
Wright	Need to address bycatch and other negative consequences of 1 rockfish bag limit	6, 18
NWSC	Support Alt 1, include implementation strategies	43
NWSC	Prefer Alt 1. Make plan consistent with the Puget Sd Partnership	38
NWSC	Prefer Alt. 1	14
NWSC	Prefer Alt 2.	13
NWSC	Prefer Alt 2. Need to identify key species. Include rotational data collection	55
NWSC	Prefer Alt 2. Need to id/focus on key species	12, 43
NWSC	Support Alt 1. Expand outreach to life history and management challenges	54
NWSC	No alternative is acceptable Do not consider enhancement until all other possibilities have been exhausted	36, 37
NWSC	Call for precautionary approach	17
Whatcom MRC	Supports monitoring all rockfishes, alt. 1	55
Whatcom MRC	Supports research of ecological functions, alt. 1	34
Whatcom MRC	Supports active outreach to all citizens, alt. 1	54
Whatcom MRC	Use enhancement $ for enforcement and habitat protection	36, 37
Marx	Supports no-take reserves protected from all harvest groups (Commercial, recreational, tribal)	22, 23
Cooperstein	Supports protecting Yelloweye, Canary, Boccaccio	11
Cooperstein	Reduce recreational fishing rather than close it	17, 18
Cooperstein	Stop or severely restrict netting in Puget Sound	8
Cooperstein	retain current lingcod/rockfish seasons	17, 18

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Wild Fish Conservancy	EIS needs specific, concise, quantifiable goals	56, 15
Wild Fish Conservancy	Need greater detail, scientific basis, pref. Alt. 1	56, 15
Wild Fish Conservancy	Support preferred alt. for habitat (alt. 1)	38
Wild Fish Conservancy	need to examine US army corps removal of large woody debris in Puget Sound	38
Wild Fish Conservancy	Need performance audit of HPA process	38
Wild Fish Conservancy	Fishery Mgt. Category is most important factor in rockfish decline	14
Wild Fish Conservancy	Support objective statement of Fishery Mgt.	14
Wild Fish Conservancy	Prefer Ecosystem alt. 1	13
Wild Fish Conservancy	Support robust monitoring (alt. 1)	55
Wild Fish Conservancy	Support Research strategies 2 & 3	34
Wild Fish Conservancy	Supports broad public outreach, citizen science (alt. 1)	54
Wild Fish Conservancy	Against enhancement/ art. Reefs	36, 37
Wild Fish Conservancy	EIS needs to include Cape Flattery to Sekiu River	28
Lounsbery	Highly concerned and opposed to recovery plan	30
Lounsbery	Blames sport fishers w/o mention of seals, tribes, pollution, and derelict gear	40
Lounsbery	WDFW does not take credit for mismanaging	17
Lounsbery	Does not consider addition of 600 acres of habitat by derelict gear removal	35
Lounsbery	Does not consider seal predation	26
Lounsbery	EIS does not consider economic impact	9
Lounsbery	EIS does not consider tribal drag netting	25
Lounsbery	EIS does not give adequate consideration to rockfish hatcheries	37
Puddicombe	Supports Rockfish Conservation Plan	59
Puddicombe	Supports listing rockfishes on ESA	11
Puddicombe	Supports maximum conservation efforts	12
Puddicombe	Supports marine reserves	22, 23
Pennington	Supports restoration plan	38
Pennington	Supports any protective measures	12
Pennington	Volunteer divers are excited to help	34, 46
Branch	EIS is thorough and supports it	12
Branch	Supports Ecosystem Based Management approach (alt. 1)	13

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Branch	Supports marine reserves (alt. 1 & 2)	22, 23
Branch	Reserves, enhancements, etc. are complicated, need WDFW direction asap	12, 23, 34
Stocking	Table Conservation Plan until next year	27
Freeman	Against Conservation Plan	30
Freeman	Opposed to closing marine areas to fishing	22, 23
Freeman	Supports reduced bag limits, and selective regulations rather than closures	14
Boyd	Against MPAs targeting recreational fishermen	22, 23
Boyd	Need to address commercial bycatch, pinnipeds, derelict gear	8
Boyd	Need to address commercial bycatch, pinnipeds, derelict gear	26
Boyd	Need to address commercial bycatch, pinnipeds, derelict gear	35
Boyd	No science to suggest rec. fishers caused decline, therefore not logical to restrict fishing	22
Burlingame	Supports rockfish/habitat research	38, 34
Burlingame	Supports removing derelict gear, studying pinniped predation	35
Burlingame	Supports removing derelict gear, studying pinniped predation	26
Burlingame	Enhancement may be useful, more research needed	36, 37
Burlingame	Opposes MPAs, would rather close all recreational rockfish fishing	22, 23
Burlingame	Educate fishers on catch/release barotrauma	4, 54
Burlingame	Rockfish bycatch in downrigger salmon fishery is minimal	2
Burlingame	Opposes closures that would affect recreational salmon fisheries	5, 17, 18
Lanier	reduce bag limit to zero in MA 8-1 to 13 for 5 years	6, 17, 18
Lanier	reduce bag limit to 5 in MA 1-7	17, 18
Lanier	Restrict lingcod fishing to depths >120 ft.	3, 18
Kauffman	Commercial & tribal fishermen have destroyed Puget Sound	8
Kauffman	If we close commercial and tribal fishing, WDFW will not attain its goal	25
Kauffman	Close netting, commercial fishing, tribal fishing	8
Kauffman	Close netting, commercial fishing, tribal fishing	25
Kauffman	Artificial reefs attract divers and fuel the	36, 45

Name- Organization	Comment Summary	See Agency Response in Appendix 5
	economy	
Wilkie	Willing to stop harvesting	17, 18
Wilkie	Need more research on rockfish habits	38, 34
Wilkie	Would rather see thriving populations of rockfish, not just surviving	43
Gorss	State cannot affect tribal share of harvest	25
Gorss	State already has mind made up on the issue	17, 29, 30
Gorss	Fishers pay more and get less every year	17
Gorss	State will not respond to my letter	30
Hartigan	Proposed regulations go too far	17, 18
Hartigan	Close rockfish retention then reevaluate resource before proceeding	17, 18
Hartigan	120 ft. rule would effectively eliminate lingcod fishery	3, 18
Apel	strongly supports proposed rockfish recovery measures, MPAs	22, 23
Apel	All MA 9-13 should be closed for waters <200 ft., except piers	3
Bykonen	Close rockfish angling east of Port Angeles	6, 17, 18
Bykonen	Eliminate all commercial fishing	8
Bykonen	Increase fines, hire more enforcement officers to patrol	42
Adams	Do not change regulations. Rockfish are already coming back	19
David Jennings	Would like to know how Con. Plan affects PSGMP	17, 47
David Jennings	Neah Bay (Tatoosh Island) should be recovery area (MPA)	22, 23
David Jennings	Expand Con. Plan to Neah Bay or change title to reflect geographic area	28
David Jennings	Concerns over trawl bycatch	5, 8
David Jennings	Selection of "key" species needs definition & review	43
David Jennings	Add China, tiger, yellowtail, & vermilion to "key" species list	43
David Jennings	Evaluate China & tiger rockfish status	43
Kirk/OHS	Manage for key rockfish species alt. 2	43
Kirk/OHS	Supports artificial reefs/enhancements alt. 2, but don't sink boats	12, 36
Kirk/OHS	Support ecosystem alternative 2	13
Kirk/OHS	Supports outreach/education alternative 2	54
Henry Valz	Generally supports Con. Plan	12, 26, 31, 32

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Henry Valz	Says rockfish predation by pinnipeds is overestimated by WDFW	26
Henry Valz	Cannot compare pinniped predation on rockfish in SJI with Puget Sound proper	26
Henry Valz	EIS should address rockfish size truncation and effects on populations in Puget Sound	31
Henry Valz	EIS should address oceanographic factors limiting recovery between basins of Puget Sound	32
Henry Valz	Monitoring. Evaluation, Adaptive management should be alt. 1	55
Henry Valz	Outreach and Education should be most conservative alt. 1	54
Henry Valz	Supports MPAs	22, 23
Henry Valz	Supports depth restrictions on fisheries	3
Gaydos	Supports natural production alternative 2	43
Gaydos	Supports Habitat alternative 1	38
Gaydos	Supports Fishery Management alternative 1	14
Gaydos	Supports Ecosystem alternative 2	12, 13
Gaydos	Support Monitoring, Evaluation, & Adaptive Management between alt. 1 &2	55
Gaydos	Supports Research alternative 2	34
Gaydos	Supports Outreach/Education alternative 1	54
Gaydos	Opposed to Enhancement all alternatives	36, 37
Gaydos	Expresses dissatisfaction with a "no hatchery/artificial reef" alternative for Policy 8	36, 37
Gaydos	Describes several disparities, typos, and information gaps in DEIS	26
Krause, Fayette	Unclear if simulated injury from baratrama studies are comparable to actual cature and release. Impact may be greater than stated	1
Krause, Fayette	What prevents depletion of copper rockfish under current management prescription	17, 18
Krause, Fayette	Unclear what management measures are being undertaken in North Sound to justify placing copper rockfish in the Precautionary Stock Status Is there a policy to protect larger older females	31
Krause, Fayette	Clarify why bocaccio is listed as precautionary when the federal proposed listed in Endangered (p 26)	39

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Krause, Fayette	P 27 the department identified two high stressors- derelict gear and fishing. Seems logical to concentrate on these two area which can be done through creation of MPA and partnership with federal programs to remove derelict gear.	35
Krause, Fayette	P 27 the department identified two high stressors- derelict gear and fishing. Seems logical to concentrate on these two area which can be done through creation of MPA and partnership with federal programs to remove derelict gear.	22, 23
Krause, Fayette	P 27 the department identified two high stressors- derelict gear and fishing. Seems logical to concentrate on these two area which can be done through creation of MPA and partnership with federal programs to remove derelict gear.	14
Krause, Fayette	Support alternative 2 under Natural Production	43
Krause, Fayette	It would be helpful if the department indicates species for which the key species act as surrogates	43
Krause, Fayette	Habitat-consider Alt 2. Request the department delay any construction of artificial reef until monitoring determines if existing high quality habitat is reoccupied by fish.	36, 38
Krause, Fayette	Fishery Management- support Alt 1, the department must adopt a science based system of MPA	14
Krause, Fayette	Fishery Management-support Alt 1, the department must adopt a science based system of MPA	22, 23
Krause, Fayette	Monitoring, Evaluation and Adaptive Management- support Alt 2. A robust monitoring program must be implemented immediately to determine success of rockfish efforts	55
Krause, Fayette	Enhancement- support Alt 3. If after 10-15 years monitoring indicates few positive benefits, form increased protection and MPAs, enhancement may be undertaken	36, 37
Krause, Fayette	Enhancement and Natural Production are at least mildly contradictory.	36, 37
Krause, Fayette	Enhancement- why is any form of habitat enhancement necessary. No mention of amt of % of habitat that has been lost or destroyed	36, 38

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Krause, Fayette	Enhancement why would the dept. start a new hatchery program when existing programs are in dispute. Hatchery programs for rockfish are costly, long-tern, potentially harmful and unnecessary	37
Krause, Fayette	What actions will be taken to reduce the incidence of new derelict fishing nets?	35
Krause, Fayette	Property rights pressures will make it almost impossible to improve the effectiveness of the HPA process	38
Krause, Fayette	What is the difference between a rockfish recovery area and a marine protected area	22, 23
Krause, Fayette	The department should state that fishing will be prohibited in a rockfish recovery area or MPA. Anything short will be unenforceable	22, 23
Krause, Fayette	P. 66 the department is best served by incorporating all programs and groups listed under action item 3	34, 46
Krause, Fayette	Given declining budgets how can the department accomplish all proposed actions?	46, 52
Krause, Fayette	Natural Production Item2- what does the department propose. If limited to MPAs just state that.	43
Krause, Fayette	Habitat Protection- water quality is important- should concentrate on restoration of high quality water.	40
Krause, Fayette	Fishery management is the arena which the department can have the most possible impact to rockfish recovery and where it needs to focus.	14
Krause, Fayette	The department must move forward to establish sufficient MPAs (no fishing zones) to accomplish the goal of rockfish recovery.	22, 23
Byrnes	Supports alternatives 1 or 2	12
Byrnes	support marine protected areas	22, 23
Byrnes	Close bottom trawling	8
Darm (Tonnes) NOAA	Agrees with key species approach, but includes black rockfish	43
Darm (Tonnes) NOAA	Alter research to all species from key species, prefers (alt. 1)	34, 43
Darm (Tonnes) NOAA	Risks of hatcheries outweigh benefits for ESA proposed species	37

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Darm (Tonnes) NOAA	Need of artificial habitats not established for ESA proposed species	36
Darm (Tonnes) NOAA	Agrees with fisheries management (alt. 1)	14
Darm (Tonnes) NOAA	Agrees with use of marine protected areas	22, 23
Ken Kumasawa PSA and CCA	Plan should be written with 50 to 100 time frame	41
Ken Kumasawa PSA and CCA	Plan should be integrated with research coordination with other recovery plans with measurable, timed, and achievable results	34, 46, 47
Ken Kumasawa PSA and CCA	Low economic Impact to Washington citizens	9
Ken Kumasawa PSA and CCA	Increase in human population requires human intervention in recovery	36, 37
Ken Kumasawa PSA and CCA	Very detailed: Suggests text rewritten from Shared Strategy for Salmon Recovery--Adaptive Management Section	55
Ken Kumasawa PSA and CCA	Create Rockfish Conservation Advisory Group	29
Ken Kumasawa PSA and CCA	Very Detailed suggested edits to overall dies	27, 29
Ken Kumasawa PSA and CCA	Research must support decisions made in each Policy Area	34
Ken Kumasawa PSA and CCA	Research can be conducted by volunteers	34, 46
Silver	Olympic Coast Alliance Supports MPAs	22, 23
Silver	Olympic Coast Alliance supports All species approach	12
Wild Fish Conservancy	Use national standards to specifically identify goals, e.g. Bmsy, Blim, specify minimum rebuilding targets	15
Wild Fish Conservancy	Redefine healthy stock in quantified, bio-referenced terms	15
Wild Fish Conservancy	Have AG determine if SFA and National Standard One is applicable to Puget Sound	16
Wild Fish Conservancy	Supports key species, but add China and Tiger rockfishes	43
Wild Fish Conservancy	Use key species in Most Conservative alternatives	43, 12
Wild Fish Conservancy	Support primary objective on Natural Production, include rebuilding and protecting larger, older fish	31

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Wild Fish Conservancy	Most conservative approach is needed to compensate for lower effective population sizes compared with censused sizes, likelihood of depensatory mortality, management imprecision, lack of baseline data, and fishing mortalities than can hinder rebuilding at low population sizes.	43
Wild Fish Conservancy	Supports MPAs as centerpiece for conservation	22, 23
Wild Fish Conservancy	Supports preferred alternative for habitat protection and restoration, but secure independent performance audit of the HPA process	38
Wild Fish Conservancy	Examine the effects of removing large woody debris from Puget Sound, needed for floating recruitment	38, 73
Wild Fish Conservancy	Supports Fishery Management alternative 1 but modify: don't waste time on release strategies but focus on clear bycatch limits as a function of stock status	4, 8
Wild Fish Conservancy	Ecosystem should be alternative 1	12, 13
Wild Fish Conservancy	Supports improving fish identification	54
Wild Fish Conservancy	Supports Monitoring and Evaluation but only with clear goals and measurable objectives; not support data collection to placate some management action	55
Wild Fish Conservancy	Supports Research, especially advisory group and research linked to monitoring	59, 34
Wild Fish Conservancy	Supports Outreach and education, especially nonconsumptive users, and citizen science	34, 46
Wild Fish Conservancy	Opposed to artificial hatcheries and reefs, no evidence for them working, and they will divert rare dollars for research and monitoring	36, 37
Wild Fish Conservancy	Include Neah Bay consistent with PSGMP	28
Wild Fish Conservancy	Edit section 1.4 of DEIS, in reference to Environmental Health and no change to the distribution of fishing effort	17, 18
Peggy	Comments on Rule Proposals, not DEIS	17, 18
TNC	Natural production, key species	43
TNC	Habitat, Consider alternative 2 and focus on rocky habitats	38

Name- Organization	Comment Summary	See Agency Response in Appendix 5
TNC	Fishery Management, key species approach; use maps	12
TNC	Ecosystem, agree, Alternative 3 is a good compromise	12, 13
TNC	Supports science-based mpas	22, 23
TNC	Monitoring. Evaluation, Adaptive management, agrees	55
TNC	Research, agree with alternative 2, goes with alternative 3 of Ecosystem	34
TNC	Outreach and Education should be down-graded to 2, really need buy-in from fishers	54
TNC	Artificial propagation and reefs, down grade to no action; use mpas instead, make consistent with natural production goal	36, 37
Bear Holmes CCA	Supports monitoring	55
Bear Holmes CCA	Supports clean-up of garbage, derelict gear	35
OFCO	Supports MPA	22, 23
Holman	Opposed to plan if it doesn't consider lethal removal of harbor seals, consumption estimate inaccurate, recreational fishers only take 1% of seal consumption	26
Hauser	Congratulates WDFW, generally supports plan	59
Hauser	Need to address larval rockfish biology and factors affecting survival	48, 33, 34
Hauser	Need to address genetic effects on survival, hybridization in cooperative research	33, 34
Mak	Opposes MPAs	22, 23
Mak	Reduce crab/shrimp fisheries to provide more prey for rockfishes	57
Mak	Close all sport/commercial fisheries in Puget Sound w/o stock status	17
Mak	Need definable goals and exit strategy	56, 15
Mak	Mark gill nets every 5 fathoms, fine for derelict net removal	35
Mak	Make removal from water of rockfish illegal	1, 4
ECY_Mendoza	Make permit required for activities within Shoreline Jurisdiction	51
ECY_Mendoza	Individual projects may need stormwater/water quality permit	51
BHAS_Merrill	Document key species selection process, elaborate on effect on non-key threatened species	43

Name- Organization	Comment Summary	See Agency Response in Appendix 5
BHAS_Merrill	Supports preferred alt.	59
BHAS_Merrill	Modify other fisheries to protect rockfishes from bycatch	3
BHAS_Merrill	Protect ecosystem functions of key rockfishes	12, 13
BHAS_Merrill	Broaden to include non-key species, use volunteers	12, 36, 37
BHAS_Merrill	Broaden to include non-key species, use volunteers	34, 46
BHAS_Merrill	Focus on Key species, but include other species also	34, 43
BHAS_Merrill	Educate general public and fishing community	54
BHAS_Merrill	Do not rely on artificial reefs or hatcheries	36, 37
Hart	Need to develop MPA network	22, 23
Hart	Avoid hatcheries, artificial reefs	36, 37
Hart	Develop educational aspect	54
Longstreth	Math behind rockfish predation by pinnipeds is wrong; gives example	26
Longstreth	Lethal removal of harbor seals needs to be considered	26
Longstreth	Opposes current Plan unless we address seal problem	26
Gary Thomason	Opposes 2010-2012 reg changes to rockfish fisheries in Strait	3, 6, 17
Gary Thomason	WDFW should provide leadership to protect resource & promote fishing	17
Gary Thomason	WDFW should adapt CCAs principles regarding MPAs	22, 23
Gary Thomason	WDFW estimates of rockfish catch/mortality are inaccurate	1, 7
Kraemer	Need to use best and latest science	34
Kraemer	Need to determine effect of management decisions already enacted	17, 30
Kraemer	Repeat stock status determination of 1999 using current data	19
Kraemer	Modify Section 2.1.1 to split North Puget Sound into SJI and ESJF	53
Kraemer	Modify table 4. to include Bull Trout to ESA list of Puget Sound species	10
Kraemer	Section 2.5.2 Use depth caught/release data	1, 3
Kraemer	Section 2.6: stock status is based on old data	19
Kraemer	Section 2.6 clarify stock status between precautionary and unknown	19

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Kraemer	Table 8. assess past fishing and current fishing practices separately	14
Kraemer	Table 8. Need to address age/size structure and apparent increase from creel data	14, 19, 31
Kraemer	Section 2.7.3 Need to address & reduce derelict gear accumulation	35
Kraemer	Section 2.7.5.3 Chemical contaminant effects on larval rockfish need to be addressed	58
Kraemer	Section 2.7.7 Seal predation on rockfishes is higher than WDFW estimates	26
Kraemer	Section 3.2 Key species approach is generally good	43
Kraemer	Need clarification on how to monitor key species	34, 55
Kraemer	Supports second most conservative approach in each Policy area	43
Kraemer	Supports second most conservative approach in each Policy area	38
Kraemer	Supports second most conservative approach in each Policy area	12
Kraemer	Supports second most conservative approach in each Policy area	13
Kraemer	Supports second most conservative approach in each Policy area	55
Kraemer	Supports second most conservative approach in each Policy area	34
Kraemer	Supports second most conservative approach in each Policy area	54
Kraemer	Supports second most conservative approach in each Policy area	36, 37
Helfman	Supports overall goals, except hatcheries and artificial reefs	43
Helfman	Supports overall goals, except hatcheries and artificial reefs	59
Helfman	Supports overall goals, except hatcheries and artificial reefs	59
Helfman	Supports overall goals, except hatcheries and artificial reefs	59
Helfman	Supports overall goals, except hatcheries and artificial reefs	55
Helfman	Supports overall goals, except hatcheries and artificial reefs	34

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Helfman	Supports overall goals, except hatcheries and artificial reefs	54
Helfman	Supports overall goals, except hatcheries and artificial reefs	36, 37
Maddox	Supports 20% of Puget Sound as MPAs	22, 23
San Juan MRC	Supports most conservative approach to Natural Production Policy	43
San Juan MRC	Supports most conservative approach to Habitat policy 2	38
San Juan MRC	Supports conservative management with education & enforcement	54
San Juan MRC	Supports Ecosystem alternative 2	12, 13
San Juan MRC	Supports Research	34
San Juan MRC	Supports strong outreach program	54
San Juan MRC	General sentiment against hatcheries/art. Reefs	36, 37
Laurence Bucklin/CCA and PSA	Reject DEIS	12, 17, 30
Laurence Bucklin/CCA and PSA	DEIS not specific enough	56, 15
Laurence Bucklin/CCA and PSA	DEIS effect on economy	9
Laurence Bucklin/CCA and PSA	Requested information was not received	30
Laurence Bucklin/CCA and PSA	Harbor seal predation figures are wrong	26
Laurence Bucklin/CCA and PSA	Need to address discrepancies in DEIS before proceeding	27
Schanfald	Need to develop MPAs	22, 23
Schanfald	Problems with hatcheries	37
Schanfald	Need to address tribal/commercial fishers, not just recreational fishers	8
Schanfald	Need to address tribal/commercial fishers, not just recreational fishers	25
Drewry	Modification of bottomfish rules would devastate his charter business	9
Drewry	Separate closures by marine areas to keep SJF open	22, 23
Drewry	More research needed before making decision	12, 17, 30, 34
McClure	Applauds cooperative research	34
Gitchell	Catches 15-20 rockfish/day in South Sound during lingcod season	3
Gitchell	Questions accuracy of data	19

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Juel	Harbor Seals are eating all the rockfish	26
Juel	No point in limiting human take if seals aren't controlled	26, 22, 40
Juel	Using killer whales to limit harbor seals will restore rockfish	26
Merritt	Says RCP contains language against enhancement techniques	36, 37
Merritt	Requests modification of RCP to include artificial reefs	36
Wilson	Need more time to consider Neah Bay area MPAs	28
Bogues	Thoroughly Supports RCP	12
Sutherland	Fully Supports RCP	12
Harmon	Recreational fishing industry should not be leading force of decisions	29
Cross	Do not consider options that would reduce other fisheries (Lingcod, salmon, halibut)	3, 11, 18, 20
Knowlton	Concerns over rockfish mortality when released	1, 3
Knowlton	Pinnipeds take as many rockfish as humans did during the peak fishery, according to our diet analysis and pinniped population data	26
Hansen	Seals are decimating rockfish, open season on seals	26
Robertson	We need to reduce pinniped populations to save rockfish & salmon	26
Feston	Stop commercial net fisheries to save rockfish	8
Feston	Recreational fishing generates 20X money as commercial fishing	8, 20
Feston	Commercial/Tribal fishers should be limited	8, 20
Feston	Commercial/Tribal fishers should be limited	25
CCA	Need to extend public review/comment period	27
Risser	Against any changes to rockfish fishery	17, 18
Risser	Pinnipeds are taking more than WDFW estimates	26
Risser	Kill seals and sea lions	26
Risser	Use releasing device for fish caught from deep water	1, 4
Raymond	Applauds general efforts of WDFW to restore rockfishes	59
Raymond	Limit use of MPAs, do not limit fishing for other species	22, 23
Bear Holmes CCA	Extend public comment period	27

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Bodsky	Completely close rockfish fishery for at least 10 years	17, 18, 41
Bodsky	Most conservative approach is not enough	12, 17, 30
Bear Holmes CCA	Plan is well thought out but poorly structured	29
Bear Holmes CCA	Plan is too difficult for average person to read & understand	29
Bear Holmes CCA	Some good ideas in Plan for RRAs and outreach/education	22, 23
Bear Holmes CCA	Against MPAs and 120' limit	3, 22, 23
Botnen	Rockfish need kelp to lay their eggs in	38
Botnen	WDFW should not allow kelp harvest	38
Botnen	Why release yelloweyes if they're dead when brought up	3
Royer	Plan stinks	30
Royer	120' rule overrides people's rights	3
Royer	State blames rockfish problem on fishermen	20, 22
Royer	Habitat, pollution, net fisheries destroyed rockfish populations	40
Royer	Need board group composed of divers, fishermen, conservation groups	29
Royer	Need artificial reefs	36
Landrum	Close rockfish retention altogether	17, 18
Landrum	Require descender device for incidentally caught rockfishes	1, 4
Landrum	Close ling cod fishery	3, 18
Landrum	Close all bottom fishing >60 ft.	3
Landrum	Concentrate efforts on pollution & general health of Puget Sound	40
Landrum	Do not close fishery indefinitely like MPAs do	22, 23
Landrum	Only use wild caught fish for hatcheries	37
Smith	Close rockfish fisheries altogether	17, 18
Smith	Never allow commercial bottomfish fisheries	8
Smith	Need more enforcement for rockfish poachers	42
Sear	Need total closure of rockfish fisheries in all of WA state	17, 18
Dosono	Need enforcement and stiff penalties for violators	42
Taylor	Close Puget Sound south of Alki to all fishing for 4 years	6, 17, 18
Taylor	Commercial/tribal fishers destroyed marine fish populations	8
Taylor	Commercial/tribal fishers destroyed marine fish	25

Name- Organization	Comment Summary	See Agency Response in Appendix 5
	populations	
Taylor	Transplant rockfish to South Sound	33
Andersen	Need strict restrictions on rockfishes	17, 18
Ives	Close rockfish fishery altogether	17, 18, 22
Ives	Minimize incidental catch in other fisheries, barotrauma mortality	1, 3, 4
Ives	Create MPAs	22, 23
Brockway	Supports some conservation efforts if they allow sport fishing	2,3
Brockway	Re-open Hood Canal flatfish fishery	44
Okano	Supports plan	12, 17, 30
Kriley	recommends closing Puget Sound to commercial fishing	8
Kriley	opposes implementation of MPAs	22, 23
Kuno	opposes plan	12, 17, 30
Lindbo	supports 20 fathom rule	3
Ehrlich	supports plan	59
Altenburg	general questions regarding ghost nets, hatcheries, management	2, 3, 22, 23, 35, 36, 37
Merkel	supports most conservative option	43
Merkel	supports most conservative option	38
Merkel	supports most conservative option	14
Merkel	supports most conservative option	12, 13
Merkel	supports most conservative option	55
Merkel	supports most conservative option	34
Merkel	supports most conservative option	54
Merkel	supports most conservative option	36, 37
Olson	general support	59
Olson	don't sacrifice salmon fishing opportunities	2,3,8
Bowes	supports plan in principal, but with reservations	12, 17, 30
Dennis Pownall	Close an area rather than allow one rockfish catch	22, 23
Norman Baker	Plan has very good structure	12
Norman Baker	Need education to explain benefits of MPAs and marine reserves	22, 23, 54
Don Dybeck	Restrict hook size, not depth	21
Issac Buell	There is a lack of education for sport fishermen. A lot of people don't know there is a problem	54
Issac Buell	Preventing any harvest of rockfish will help quite a bit.	17, 18

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Edward Kilburn	Plan is excellent	12
Edward Kilburn	concerned about the cost to implement. Where will we get the money?	52
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	Who made the final decisions on the guidelines in the plan?	29
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	Lot of interest in underwater viewing but opportunities will be limited	45
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	Consider slot limit to protect larger fish	24
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	Concerned about Enforcement of plan if adopted	42
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	How will plan mesh with North of Falcon, Steelhead, Chinook and other plans?	11, 47
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	Plan is a good initial approach but the devil is in the details and more time is needed by the public	27
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	No discussion on the commercial fishery and its impact on the resource	8
David Croonquist/North Olympic Peninsula chapter of Puget Sd Anglers	Agency needs a cohesive plan not just for rockfish but also include NOAA, Canada DNR and other agencies and their activities	34, 46, 47, 49
Ward Norden	Cannot justify fishing for something that is older than I am.	17, 18
Ward Norden	Limit hook size to 5/0 or larger on jigs	21
Ward Norden	Limit weight to 3 oz inside of Ediz Hook	21
Ward Norden	Like the key species approach	43
Hans Mack	need longer time for comments	27
Hans Mack	Apply ecosystem wide approach for recovery	13, 40
Tom Pollack- CCA	Concerned about economic impact- has there been an economic study done?	9
Tom Pollack- CCA	Concerned about MPA-need definition, How will they be marked?	22, 23
Tom Pollack- CCA	Will there be money for enforcement?	42
Tom Pollack- CCA	Seeing double language in the document	39
Tom Pollack- CCA	Need more time to provide public comment	27

Name- Organization	Comment Summary	See Agency Response in Appendix 5
David Smith	Support all of the initiatives	59
David Smith	Support all of the initiatives	59
David Smith	Support all of the initiatives	59
David Smith	Support all of the initiatives	59
David Smith	Support all of the initiatives	59
David Smith	Support all of the initiatives	34
David Smith	Support all of the initiatives	59
David Smith	Support all of the initiatives	59
Doug Binder	What will be the increase of rockfish due to the removal of derelict nets?	35
Doug Binder	What is the goal for recovery?	As stated in RCP
Jim Tuggle CCA Puget Sd Anglers	Need more time for public review	27
Clint Muns, Puget Sd Anglers, Recreational Fishing Alliance	Commercial fisheries getting a pass	8
Clint Muns, Puget Sd Anglers, Recreational Fishing Alliance	Nervous about MPA s. Lack of specifics and goals. Need to provide specific evaluation points and provide a sunset when goals have been reached	22, 23
Clint Muns, Puget Sd Anglers, Recreational Fishing Alliance	Please review numbers of delayed released Chinook released each year. There may be an error in the document	74
Clint Muns, Puget Sd Anglers, Recreational Fishing Alliance	Concerned about lingcod. Plan seems to place emphasis on rockfish but other fish such as lingcod need recover efforts as well	75
Henry Valz	Concerned about rockfish especially in South Sound where after exchange is little	31
Henry Valz	Look at smarter fisheries techniques- hook size and shape	21
Henry Valz	MPAs are important for dive shops and other economic activities	22, 23, 45
Fran Eshpeter CCA and PSA	Urge more time for public review and comment	27
Fran Eshpeter CCA and PSA	concerned about loss of fishing opportunity	2,3,8, 18
Fran Eshpeter CCA and PSA	Concerned about economic impact of plan- especially the MPA portion	9
Ken Kumasawa PSA and CCA	Plan will negatively impact economy of the entire state	9
Ken Kumasawa PSA and CCA	Plan is untimed, and ambiguous	12, 30, 41

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Ken Kumasawa PSA and CCA	WDFW is the largest stressor of groundfish in the state	40
Ken Kumasawa PSA and CCA	Request an extension of time of public review coupled with working with public advisory group	27
Ken Kumasawa PSA and CCA	request reclassification of stressors and adding specific achievable solutions with timetables	40, 41
Ken Kumasawa PSA and CCA	Request a hatchery program be researched and implemented to jumpstart the recovery process	37
Ken Kumasawa PSA and CCA	Request that the agency follow administrative procedures act and conduct a full economic impact analysis of the plan	9
Mike Abbott CCA	Request time extension for public comment	27
Mike Abbott CCA	Worldwide, groundfish populations are down. What has the department done to study recovery efforts in other areas?	34
Doug Myer People for Puget Sd	Plan is comprehensive but may be too comprehensive to implement	12, 17, 30
Doug Myer People for Puget Sd	Many proposals are premature and we do not have sufficient information to act	12, 17, 30
Doug Myer People for Puget Sd	Want to see more on climate change	50
Doug Myer People for Puget Sd	Hatcheries not mentioned in scoping but are included in plan. The results may be dubious	37
Bear Holmes CCA	How is this plan connected to the Puget Sound Chinook Harvest Plan?	11
Bear Holmes CCA	CCA supports the need of a rockfish conservation plan and supports the use of rockfish recovery areas	22, 23
Bear Holmes CCA	the plan concentrates on past stressors but should focus on all of the current stressors	26, 40
Bear Holmes CCA	Review marine mammals as a stressor- should be listed as a high stressor	26
Bear Holmes CCA	Plan does not address the commercial or tribal fisheries	8
Bear Holmes CCA	Factor into the plan current efforts to remove derelict nets	35
Bear Holmes CCA	Fully detail the impact of the plan on efforts on ESA listed Chinook and steelhead	11
Bear Holmes CCA	Plan was significant costs relating to enforcement	42
Bear Holmes CCA	Need more time for public review	27

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Bear Holmes CCA	Request statement of economic or fiscal impact of the plan	9
Bear Holmes CCA	The plan has an incorrect information relating to the CCA's position on MPAs and no fishing zones	76
Laurence Bucklin/CCA and PSA	Not enough time to fully assess plan	27
Laurence Bucklin/CCA and PSA	Paragraph 2.7.7 fails to include reductions in predators, specifically harbor seals	26
Laurence Bucklin/CCA and PSA	Plan fails to address full impact on recreational fishing . What will MPAs be how many, where sited Recommend not included MPAs in the Plan	22, 23
Laurence Bucklin/CCA and PSA	Request an advisory group be established to work on final plan and that a revised draft be distributed for full public review	29
Jamie Glasgow- Wild Fish Conservancy	Will the answers to the questions be provided to everybody?	30
Jamie Glasgow- Wild Fish Conservancy	Why does the plan exclude the area between Sekiu and Cape Flattery when that area is included in the Puget Sound Groundfish Plan?	28
Jamie Glasgow- Wild Fish Conservancy	Managing in the absence of data. It is the policy of the Commission to manage the groundfish resource conservatively. The plan has several instances when the precautionary approach is not implemented (i.e. p 26) . Is the precautionary principle real or empty rhetoric?	17, 18
Jamie Glasgow- Wild Fish Conservancy	The groundfish plan has been in effect for 10 years and clearly is not successful. Will we be looking at a similar situation in 10 years? What will be different this time?	41, 52
Frank Eshpeter CCA and PSA	MPAs do not have a monitoring program or a defined end result	22, 23
Frank Eshpeter CCA and PSA	Concerned about lack of economic analysis and not following the requirements of RCW 19.85	9
Frank Eshpeter CCA and PSA	Address impact of commercial fisheries	8
Frank Eshpeter CCA and PSA	Consider positive impact of removal of ghost nets	35, 40
Tom Pollack- CCA	concerned about predation by marine mammals. If we create MPAs will we be increasing predation on rockfish?	26

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Tom Pollack- CCA	Commercial nets should be labeled and people who lose nets and do not report the loss should be fined.	35
Tom Pollack- CCA	Concerned about pollution and the impact on rockfish and people who eat them	58
Tom Pollack- CCA	MPA's- how will they be identified and monitored?	22, 23
Tom Pollack- CCA	Where will funding for the plan come from?	52
Tom Pollack- CCA	Concerned about bocaccio. Never seen one in the Sound in 50 years. Considered a junk fish. Can we bring back a nonexistent population and if so is it worth it?	39
Mike Royer	Reopen plan for more comment	27
Nick Gayeski Wild Fish Conservancy	Plan does a good job outlining the crisis in rockfish. Climate change will make it worse	50
Nick Gayeski Wild Fish Conservancy	concerned about artificial production Little evidence that if works for rebuilding or augmentation Check with OSU and Manchester folks prior to implementation	37
Micah Waite Wildfish Conservancy	Support no action on ecosystem function	12, 13
Micah Waite Wildfish Conservancy	Applaud the department for not proposing to control predators	57
Micah Waite Wildfish Conservancy	Limit commercial herring fishery to provide more food for rockfish	57
Micah Waite Wildfish Conservancy	Strongly support use of MPAs for rockfish recovery	22, 23
Micah Waite Wildfish Conservancy	A lot of steps being taken to restore salmon could benefit rockfish	59
Ron Garner PSA	bocaccio yelloweye and canary have never had big populations in Puget Sound	11
Ron Garner PSA	Look at Shelton SFD to vent rockfish	1
Ron Garner PSA	MPA section is vague. Need more data prior to implementation	22, 23
Ron Garner PSA	Need more data, milestones	56, 15
Ron Garner PSA	Depth restriction will push anglers into shallow waters increasing catch of shallow water rockfish	3, 18
Ron Garner PSA	Get rid of tribal draggers even though there are only a few left	25
Ken Kumasawa PSA and CCA	Work with other agencies to have a consultation with tribes to address methods used in tribal fisheries	25

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Ken Kumasawa PSA and CCA	Review proposals for Neah Bay area and consider as part of this plan.	28
Ken Kumasawa PSA and CCA	DFW looking at budget cuts. Will this plan add to budget problems	52, 46
Rob Tobeck- CCA	Allow lingcod anglers to retain rockfish	3, 18
Rob Tobeck- CCA	Remove bocaccio from list of key species	39, 43
Rob Tobeck- CCA	If we create MPA will marine mammals defeat the purpose?	22, 23
Rob Tobeck- CCA	If we create MPA's close are to diving as well as fishing	22, 23
Gene Cornetz Marker Buoy Dive Club	Many divers voluntarily refrain from spear fishing certain species or areas	17
Gene Cornetz Marker Buoy Dive Club	Divers seeing a recent increase in numbers of black rockfish. This observation should be incorporated into the plan.	19, 48
Ken Pinnell CCA, PSA and ASA	Removing ghost nets is critically important	35
Ken Pinnell CCA, PSA and ASA	Look at gear restrictions not depth restrictions	21
Ken Pinnell CCA, PSA and ASA	Look at impact on small businesses	9
Karlista Rickerson	Lingcod are wiped out	40
Karlista Rickerson	Removal of pilings may harm rockfish habitat	38
Karlista Rickerson	Big supporter of MPAs	22, 23
Karlista Rickerson	Saw first black rockfish in Puget Sound last year in 29 years of diving	19, 48
Karlista Rickerson	Use citizen based monitoring	34, 46
Ken Komasawa	Have you done any economic impact on small businesses?	9
Keith Sprygada- CCA and PSA	Document is vague. Need to define terms such a "healthy levels. "depleted" "Historical levels"	15, 19
Keith Sprygada- CCA and PSA	Need to establish timelines and dates for periodic review	41, 56
Wallace Cogley CCA & PSA	Plan lacks science and substitutes opinions and vague illusions	56, 15
Wallace Cogley CCA & PSA	Request more time for public review	27
Wallace Cogley CCA & PSA	Draft plan gives little consideration to commercial fishing	8

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Wallace Cogley CCA & PSA	Plan does not consider ongoing habitat protection/restoration efforts	38, 35
Wallace Cogley CCA & PSA	Little evidence is presented to show that MPAs are more effective than habitat restoration or marine enhancement	22, 23
Wallace Cogley CCA & PSA	No criteria for periodic review of results	41, 56
Wallace Cogley CCA & PSA	Plan takes a "one size fits all" approach - different parts of the Sound have different environments	53
Bear Holmes CCA	Need additional time for review	27
Bear Holmes CCA	Need additional workshops	27
Bear Holmes CCA	Plan needs more study of habitat destruction, pollution, predation and derelict gear.	40
Bear Holmes CCA	Plan focuses on past not current stressors	40
Bear Holmes CCA	Tribal take is greater than shown due to rockfish catch in derelict nets	25, 35
Bear Holmes CCA	Would like bycatch records for commercial and tribal fisheries	5, 7, 25
Bear Holmes CCA	Wants more information on yellowtail and the commercial take of this species	See table 5.3 in Palsson et al. 2009
Bear Holmes CCA	CCA supports the Plan but it needs significant modifications	27, 29
Rob Tobeck- CCA	Look at current stressors- no past ones	40
Rob Tobeck- CCA	Science is not conclusive on benefits of MPAs	22, 23
Rob Tobeck- CCA	emphasize artificial reefs. Look at oil rigs in California and how they act as nursery areas.	36
Rob Tobeck- CCA	Plan ignores pollution as a stressor	58
Rob Tobeck- CCA	Plan does not show any positive impacts	56
Dale Deierling- Snohomish Sportsman's Club	need more time for public comment	27
Dale Deierling- Snohomish Sportsmen's Club	recreational fishers getting short shrift in plan	20, 22
Chuck Hickey	Recreational anglers willing to work with department	34, 46
Chuck Hickey	Killing fish which are older than your grandparents is devastating problem	17, 18
Frank Eshpeter CCA and PSA	How can a down-rigger catch many rockfish?	2
Russell Carver- CCA & PSA	Need more time for public review	27

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Russell Carver- CCA & PSA	State should have addressed this problem years ago	30
Tom Elliott	No goals for recovery	56, 15
Tom Elliott	Any recovery must provide for harvest opportunity- if no fishing opportunity no value in the plan	2,3,8, 18
Gary Thomason	Concerned about similarities to the MLPA in California- wants assurances will not happen here	22, 23
Gary Thomason	Rockfish mortality caused by derelict nets may be an underestimate	35
Gary Thomason	Consumption of rockfish by harbor seals may be an underestimate	26
Shawn Seeger	Why has the department not taken action earlier?	30
Shawn Seeger	Any MPA needs a end date	22, 23
Shawn Seeger	What does a short term closure mean in terms of time?	22, 23
Shawn Seeger	Need to reduce incidence of new derelict nets- ban use of nets in Puget Sound.	35
Shawn Seeger	Political speak to enact MPA without having a process to reopen areas	22, 23
David Jennings	Need to address irregular recruitment patterns	48
David Jennings	Why doesn't plan extend to Bonilla-Tatoosh Line?	28
David Jennings	Department did not use all available data- look at REEF data.	34, 46
David Jennings	Need discussion on selection of key species	43
David Jennings	Concerned about China and tiger rockfish	43
David Jennings	Compare this plan to rockfish efforts in British Columbia	49
David Jennings	Science does support the use of MPAs	22, 23
Gary Thomason	MPAs are troubling- especially lack of specifics	22, 23
Gary Thomason	fishers can be a set of eyes for the department	34, 46
Gary Thomason	We have seen a decline in many species- not just rockfish- declines are related to increases in marine mammals	26
Barbara Merritt	Rockfish are easy to catch- one reason not many left	2,3,8, 18
Barbara Merritt	Voluntary MPAs have not been successful	22, 23
Barbara Merritt	MPAs-In California the ecosystem is intact even though there are many harbor seals	26
Barbara Merritt	Take a long term approach	41

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Nathan Brandow- Outer Island Expeditions	If no retention of rockfish is allowed mortality will increase -allow limited retention 1 fish rule is good	3, 18
Nathan Brandow- Outer Island Expeditions	Look at the Canadian model of large closed areas from the start	22, 23
Nathan Brandow- Outer Island Expeditions	120 foot rule is kind of silly	3
Jim Aggergaard- retired DFW	artificial reefs are an extremely good idea	36
Jim Aggergaard- retired DFW	need to address seals and other predators in the plan.	26
Jim Aggergaard- retired DFW	We definitely need to do something to protect rockfish	12
Jim Aggergaard- retired DFW	the 120 for rule is too deep and will result in wastage	3
Jim Aggergaard- retired DFW	allow deeper fishing for lingcod	3
Jim Aggergaard- retired DFW	Plan needs more specifics	56, 15
Jim Aggergaard- retired DFW	Would like another opportunity for input	27
Bear Holmes CCA	thanks for adding time and workshops	27
Laurence Bucklin/CCA and PSA	Look at growth of pinniped populations	26
Laurence Bucklin/CCA and PSA	wants more information about location of catch of rockfish by anglers	7
Laurence Bucklin/CCA and PSA	Requests additional public review following second draft plan	27
Laurence Bucklin/CCA and PSA	Plan is not a plan but a guide. Needs more specifics	56, 15
Charles Gauthier CCA	would like more information about removal of derelict nets	35
Charles Gauthier CCA	would like additional public review following completion of 2nd draft	27
Rick Kremer	Likes to fish area around Tatoosh Island for rockfish- why do you want to close this area to fishing?	22, 23
Natalie Seitz	Plan does not discuss implementation of current planning efforts. Will plan increase or decrease protections?	17
Natalie Seitz	socio-economic impacts are not addressed at all.	9

Name- Organization	Comment Summary	See Agency Response in Appendix 5
Norman Reinhardt Kitsap Poggie Club	concerned about lack of specificity	56, 15
Norman Reinhardt Kitsap Poggie Club	Look at gear restrictions- lures vs. baits	21
Norman Reinhardt Kitsap Poggie Club	Need better definition of MPA	22, 23
Tony Schwab	Plan lacks specifics	56, 15
Tony Schwab	Area south of Port Townsend is wiped out of rockfish	17, 18
Tony Schwab	Derelict nets cause havoc	35
Tony Schwab	Close all of Puget Sound to any kind of commercial harvest period	8
Randy Jones, Adventure Charters	Shipwrecks provide tremendous diving opportunities	36, 45
Randy Jones Adventure Charters	Artificial reefs offer one answer to problem- especially in the inlets and Strait of Juan de Fuca	22, 23
Randy Jones, Adventure Charters	Use lures not bait to reduce catch of rockfish	21
Fred Perkins	don't let conservation concerns end fishing	2,3,8, 18
Fred Perkins	Plan needs more specifics	56, 15
Fred Perkins	Can plan happen in 2010? Lots to be done	41, 52

Public Comments Received From April 26 to May 21, 2010.

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Bill Rehe, Sr	Get more enforcement agents	42
Dean Hoshizaki	Require venting tools.	1, 4
Dean Hoshizaki	Manage the rock fish by species.	43
Dean Hoshizaki	Manage the rock fish by marine areas at a finer granulation	53
Fayette F. Krause	Support preferred Alt 2	59
Fayette F. Krause	Support preferred Alt 1	59
Fayette F. Krause	Support preferred Alt 1	59
Fayette F. Krause	Support preferred Alt 2	59
Fayette F. Krause	Support preferred Alt 2	59
Fayette F. Krause	Support preferred Alt 2	59
Fayette F. Krause	Support preferred Alt 2	59
Fayette F. Krause	Does not support preferred alternative, outreach to all citizens will stretch dollars too far. Angler education most important	54
Fayette F. Krause	Does not support preferred alternative, Alt 2. Too costly, disease vector; stock weakening; natural habitat is available; genetic homogenization; should not be a mechanism to jump start harvest. Let natural production model achieve the harvest plan.	36, 37
Fayette F. Krause	remove derelict gear; prevent future loss.	35
Fayette F. Krause	Supports recognizing the possibility of smaller units; dangers of hatchery genetic impacts	53
Fayette F. Krause	Add words to reflect next 2 years of rockfish closures	18, 19
Fayette F. Krause	maintaining a specified level of biomass should be a guiding principle.	15
Fayette F. Krause	Supports natural production approach	59
Fayette F. Krause	Clarify whether RCAs have full harvest protection or would allow some harvest of other healthy species	67
Fayette F. Krause	Supports action 5 to use a consortium of interested parties to achieve a science-based approach.	46
Fayette F. Krause	cautious about funding for restoring degraded rockfish habitat as a result of pollution. Clarify meaning-work with other entities	58
Fayette F. Krause	Action 2 unclear. Combine with Action 3? Reducing harvests or MRs for ecosystem services.	65
Fayette F. Krause	Specifically work with OCNMS on climate change.	50
Fayette F. Krause	Supports regional monitoring on a five-year basis.	59

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Fayette F. Krause	Supports clear marking of MRs	59
Fayette F. Krause	Supports peer-review of WDFW research findings.	34
Fayette F. Krause	Actions 1 and 2 supported	34
Fayette F. Krause	Use culture only if natural production is shown not to work	37
Fayette F. Krause	Substitute may for will in the use of artificial habitats	36
Fayette F. Krause	Use >50% unfished biomass as interim protection goal	15, 17
James Farber	Why bother??????? You put a three year "plan" into effect and one year later you are changing it for a different plan	41
Larry Ohman	Improving/sustaining habitat and hatchery programs for rockfish are very good	36, 37
Larry Ohman	Requiring the use of barbless hooks and no use of treble hooks.	21
Larry Ohman	2.) Leaving the daily limit at 10 rockfish but requiring that 6 or 7 must be BLACK	18, 60
Larry Ohman	Impose restrictions as you see fit on divers.	20, 69
Larry Ohman	4.) If not already in place in area 4, ensure commercial fishing practices don't allow gear that damages habitat.	5, 8
Larry Ohman	5.) Returning bottom fish rapidly to reduce mortality if more successful than venting	4
Larry Ohman	Sport fishing rules pamphlet should be issued before the new fishing license is required.	70
Kenneth R. Buckner	I prefer Rockfish Conservation Area's (RCA's) in all cases. I do not like the idea of Marine Reserves	67
Kenneth R. Buckner	Divers must pay for conservation too.	66
Kenneth R. Buckner	Install the artificial reefs and let the rockfish and ling cod thrive	36
Larry Ohman	I would stay with the original plan if I had a say in the matter...	17
Sims, Paul P	use of the 2nd alternative looks overall to be the more useful with the exception that alternative 1 should be used in the research area.	34, 59
Sims, Paul P	NO rearing should be done as long as nets for Bottom fish are allowed in the south region	5, 8

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Sims, Paul P	NO nets in the South Region, limited netting in the North Region, indicator species controlling nets in the Neah Bay region	5, 8
Jim McDonald	I support establishment of large marine reserves for the recovery of rockfish.	22, 23
Jim McDonald	I do not support habitat restoration or hatchery production since the establishment of large marine reserves will allow for natural habitat restoration and adequate production.	22, 23
Jim McDonald	There are enough initiatives underway to reduce pollution. We don't need to spend finite resources on a goal that others are already responsible for	58
Maritza S Mera	Supports RCP as the preferred alternative in the DEIS	59
Maritza S Mera	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Maritza S Mera	Convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	55
Maritza S Mera	The declines in rockfish populations do not appear to be the result of habitat limitations. They have simply been overfished.	14, 36
Dan Kuperberg	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
David and Ann Cordero	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jana Hobbs	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Brenda Michaels	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Darcy Rue	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Franklin Eventoff	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Andrea Pike	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Tracy Ouellette	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Linda Swan	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Robert and Gail Stagman	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Kari Krom	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Anthony Buch	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jayme Selig	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Sue Chickman	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Sander Lazar	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
bruce von Borstel	People for Puget Sound, Similar to Maritza	22, 55, 14, 36

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Joe Ginsburg	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Carol von Borstel	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Laurette Culbert	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Angeline Zalben	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Melissa Ropke	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Lindell Haggin	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Linda Thompsen	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Pamela Engler	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
John Garner	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
M. David Prisbrey & Atticus Prisbrey(son)	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Terry Paull	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Ed Schein	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Bj Hedahl	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Elizabeth Stucki	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Wes Gallaugher	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Heather Grube	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Stephanie Colony	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jenny Konway	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jean Pauley	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jenny Clark	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Cal McAllister	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
John Woolley	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Franklin Eventoff	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Susan Schimling	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Ken Benoit	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Ramona Holmes	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Mike Conlan	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Larry Lowther	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Rick Davis	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
James McRoberts	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
David Woodruff	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Reingard Rieger	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Margot Boyer	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Bob Jacobs	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Wanda Cucinotta	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jack Stewart	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Richard Wood	People for Puget Sound, Similar to Maritza	22, 55, 14, 36

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Carole Heine	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jessica Vaughan	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Diane Sullivan	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Margot Haggard	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Lynn Edwards	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jerry Broadbent	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Donald Davidson	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Matt Schneider	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Tina Mulcahy	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Anita Das	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Carole Richmond	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Victoria Beschenbossel	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jane Hadley	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Julia Burwell	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Colleen Curtis	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Rory Henneck	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Mark Schiff	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Todd Shuster	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Laura Finkelstein	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Melissa Britton	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Susan Blake	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Suzanne Grant	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Mark Evans	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Brian Sullivan	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Chas Dreyfus	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Allison Ciancibelli	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Joseph and Diane Williams	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Penny Derleth	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Diane Inman	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Deb Casso	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Joanne Olsen	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Penny Olson	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Sarah Thurmond	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Sallie Teutsch	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Carolyn Savage	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Stuart Mork	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Robert Crowder	People for Puget Sound, Similar to Maritza	22, 55, 14, 36

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Joseph Bowen	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Steve Bailey	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Geoff Briggs	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Anne Hartley	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Karen Waite	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Lldiko Papp	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
A.E. White	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Diana Cardiff	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Sharon Parshall	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Mary Ann Kirsling	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jessica Klein	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Nancy Hahn	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Samuel Chamberlain	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Esther B. Wolf	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Emily Bishton	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Kim Griffin	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Karen Dingmon	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Michael and Barbara Hill	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Meg Rafferty	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Margaret Cuthbert	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Rebecca Sundberg	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Elizabeth Anne Sunrise	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Susan Birkeland	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Barbara Wood	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Sean Kelly	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Chris Pollina	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Kevin Glasgow	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Lydia Garvey	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Adina Parsley	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Laura Walters	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Doug Balcom	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Lindsay Cummings	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Annie Honrath	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Adam Myers	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Stella Pirotte	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Mali Munch	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Joseph Herrin	People for Puget Sound, Similar to Maritza	22, 55, 14, 36

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Nicole Killebrew	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Christopher Lawrence	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
David Richard	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Rein Attemann	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Glen Carroll	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Christopher Moench	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Sean Quinlan	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Alfred Benedetti	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Joann Edmonds-Rodgers	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Gerry Milliken	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Julie Lombardo	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Heather Bugenig	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Claire Mikalson	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Kathleen Wolfe	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Rand Guthrie	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
David Walseth	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Chris Alton	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Harry Kirchner	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jodi Broughton	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Bethany Stackhouse	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Joseph Harrison	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Nate Wood	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Michael Thompson	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Ellen Blackstone	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Kristin Pence	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Alixine Sasonoff	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Kyana Jones	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Paula Shafransky	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Elizabeth Gorton	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Elena Kuo-Harrison	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Tiffany Greenleaf	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Amy Tsui	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Lauren Miheli	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jeanne-Marie Peterson	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Peter Sodt	People for Puget Sound, Similar to Maritza	22, 55, 14, 36

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Marilyn Hall	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Curt Puddicombe	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Jack Stansfield	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Melanie Kenoyer	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Del E. Domke	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Maritza S Mera	People for Puget Sound, Similar to Maritza	22, 55, 14, 36
Mona Ching	Their low fertility rates, especially in their earlier years, make rockfish especially vulnerable to overfishing	14
Mona Ching	Conservation plans need to be long-sighted and data-driven	41
John Schmied	The Puget Sound Rockfish is a long lived indicator species whose populations have been hammered strictly because we haven't balanced the longevity and natural history of the fish properly with the "need" to keep folks fishing.	14, 40
John Schmied	Fishing at all costs isn't the answer.	14, 40
John Schmied	DFW needs to convene a panel of experts immediately upon adoption and put into effect a network of protected areas necessary to accomplish recovery.	23
John Schmied	It’s time to balance our personal needs with our overarching need, that of having a healthy, diverse ecosystem.	14, 40
John Rose	I support the Puget Sound Rockfish Conservation Plan, which is the preferred alternative in the draft Environmental Impact Statement (DEIS).	59
Carole Richmond	I keep seeing rockfish served in restaurants and ask the managers not to serve it, but as long as it's "legal," they will.	64
Todd Shuster	I would like to suggest limiting fishing to 60' or less.	3, 18
Stuart Mork	AS UNPLEASANT AS IT WILL BE, WE MUST DO WHATEVER IT TAKES TO RESTORE ROCKFISH POPULATIONS	59
Alexandra Klug	I can let you know how important I think supporting the Rockfish Conservation Plan is! .	59
Chris Alton	The best way to address this is to EDUCATE people about what they dump into the streets and on their lawns, and easing our dependence on automobiles that burn OIL.	58

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Michael Thompson	I strongly support all measures taken to protect any endangered species in our area, including the rockfish.	11
Ellen Blackstone	I love fish in my diet, and hope to continue to enjoy it.	64
Dayna Yalowicki	EBM will guide our uses of the oceans and coasts so they are used and managed sustainably.	13
Dayna Yalowicki	This plan will allow all Endangered Species of Puget Sound to rebuild their populations, help restore critical Puget Sound ecosystems, and help create sustainable fisheries for our future.	11
Dayna Yalowicki	we need "No Take" marine reserves to protect marine habitats and help restore all endangered species.	22, 23
Dayna Yalowicki	Please hold local public meetings each time a marine reserve (MR) or rockfish conservation area (RCA) is proposed and please promote the restoration potential of "No Take" marine reserves.	22, 23
Mr. Gregory Nerode	EBM will guide our uses of the oceans and coasts so they are used and managed sustainably.	13
Mr. Gregory Nerode	This plan will allow all Endangered Species of Puget Sound to rebuild their populations, help restore critical Puget Sound ecosystems, and help create sustainable fisheries for our future.	11
Mr. Gregory Nerode	we need "No Take" marine reserves to protect marine habitats and help restore all endangered species.	22, 23
Mr. Gregory Nerode	Please hold local public meetings each time a marine reserve (MR) or rockfish conservation area (RCA) is proposed and please promote the restoration potential of "No Take" marine reserves.	22, 23
Terri Shell, Wild Fish Conservancy	We support the extension of the area covered by the Conservation Plan to include all of Neah Bay	28
Terri Shell, Wild Fish Conservancy	We also support the addition of greenstripe rockfish to the list of indicator species, but still recommend tiger and china as indicator species	43
Terri Shell, Wild Fish Conservancy	We are pleased to see that the quantitative definitions of “healthy”, “precautionary”, and .. Now consistent with SSA and National Standard 1	15

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Terri Shell, Wild Fish Conservancy	We are concerned about vagueness in the data-limited definitions, particularly for healthy and precautionary status	15
Terri Shell, Wild Fish Conservancy	We support the Plan's recognition that Marine Reserves are central to achieving the conservation and rebuilding of Puget Sound rockfish. However, we believe that the central role of Marine Reserves in the Plan should be emphasized even more clearly and strongly.	22, 23
Terri Shell, Wild Fish Conservancy	identification of their appropriate scale, size, and spatial organization	53
Terri Shell, Wild Fish Conservancy	Formally commit to a timeline and an effort to seek funding for the formation of a group of independent scientists expert in the ecological modeling of marine resources and rockfish/groundfish biology and ecology.	41, 46
Terri Shell, Wild Fish Conservancy	it is fundamental to the planning and monitoring of species recovery that specific quantitative, population-based targets be identified	15
Terri Shell, Wild Fish Conservancy	re-iterate our strenuous objection to and concern over the use of "hatchery production to rebuild depleted rockfish stocks"	37
Terri Shell, Wild Fish Conservancy	we re-iterate our recommendation that the Department request and independent performance audit of the Hydraulic Project Approval process	72
Rachel Arnold	spearfishing be opened for those easily recognizable species that are not of concern	69
Robert A. Beausoleil	Actual numbers should be used in calculating rock fish populations.	63
Robert A. Beausoleil	I think your department that is in charge of public notification on your activities falls short of involving the public at large.	27
Robert A. Beausoleil	One item you failed to address is that many folks such as my self fed our families from the sea.	64
Robert A. Beausoleil	I would like to see something along the lines of 16 feet and under boats only,	20

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Robert A. Beausoleil	turning area 4 east into a dive park because it has the best rock fish populations is contradictory to the information you provide stating rockfish do not migrate.	28
Robert A. Beausoleil	I do not see any concern for these businesses in any of your proposals.	9
Robert A. Beausoleil	Last please display what the tribal impact is.	25
Robert A. Beausoleil	Also the commercial impact.	5, 8
Laura Hendricks, Sierra Club	EBM will guide our uses of the oceans and coasts so they are used and managed sustainably.	13
Laura Hendricks, Sierra Club	This plan will allow all Endangered Species of Puget Sound to rebuild their populations, help restore critical Puget Sound ecosystems, and help create sustainable fisheries for our future.	11
Laura Hendricks, Sierra Club	we need "No Take" marine reserves to protect marine habitats and help restore all endangered species.	22, 23
Laura Hendricks, Sierra Club	Please hold local public meetings each time a marine reserve (MR) or rockfish conservation area (RCA) is proposed and please promote the restoration potential of "No Take" marine reserves.	22, 23
Laura Hendricks, Sierra Club	We need to protect productive areas now to preserve vulnerable species. We need to protect intertidal Nearshore areas from commercial development as these environments function as important nursery habitats for fish.	22, 23
Norm Rockett	I believe the only way to restore the rockfish etc is to hatchery produce and restock.	37
Norm Rockett	Having fished the Neah Bay area both as commercial and sport I see NO reason to shut this area to fishing.	28
Norm Rockett	I believe that over fishing , both by sport and that includes DIVERS and POOR commercial practices by WDFW, (remember the True cod at Agate Pass) have led to the downfall of the Rockfish/ cod fishery on the inner Sound	14

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Trudy Bialic, PCC Natural Markets	It is vitally important that we establish “No Take” marine reserves to protect marine habitats and help restore all endangered species.	22, 23
Trudy Bialic, PCC Natural Markets	Rockfish management shall place the highest priority on the protection and restoration of the natural production of indicator rockfishes to healthy levels.	59
Trudy Bialic, PCC Natural Markets	please hold local public meetings each time a marine reserve or rockfish conservation area (RCA) is proposed.	22, 23
Curt Kraemer	expansion of geographic area covered by this plan to include the most western part of the Strait of Juan de Fuca is not supported by the biological information of the rockfish found in that region.	28
Curt Kraemer	It would have seemed reasonable that if adjustments were needed for the revised plan that serious consideration would have been given to collapsing the area to match the Puget Sound DPS.	28
Curt Kraemer	In effect this means that decisions are being made concerning rockfish issues based on the status of the animals nearly 15 years ago.	19
Curt Kraemer	This situation calls for an update in the status of the populations reflecting the latest information.	19
Curt Kraemer	status is listed for each of the stocks the reality was that there was insufficient data to establish the status of a number of the species: including browns, blacks, yelloweye, yellowtails, bocaccio, tigers, splitnose, and blues and the status of the canary was based on the trends from coastal populations.	68
Curt Kraemer	a precautionary status implies a degree of certainty that does not exist	15
Curt Kraemer	The limited creel information presented in Palsson et al, 2009 indicated that for both copper and quillback rockfish the number of larger fish has been increasing in the later half of the past decade.	15, 19

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Curt Kraemer	With the elimination of recreational harvest for all Puget Sound rockfish and the fact that there was insufficient data to determine the status of many of the Puget Sound stocks a critical aspect of the fish plan and issue that needs to be addressed in the DEIS is when will updates to the dated status determination be done and what sort of information will be used?	15
Curt Kraemer	Because so little is known about Puget Sound rockfish and what may be limiting their populations artificial habitat and hatchery actions should be viewed as experimental.	36
Curt Kraemer	However to my way of thinking relying on experimental approaches rather than natural processes (either through restoration or time) is the least conservative of the options presented.	36, 37
Curt Puddicombe Case Inlet Shoreline Association	EBM is clearly the future for managing all of our natural marine resources.	13
Curt Puddicombe Case Inlet Shoreline Association	We support “NO TAKE” marine reserves to protect marine habitats, including nearshore areas, to help restore endangered species.	22, 23
Curt Puddicombe Case Inlet Shoreline Association	We also ask the WDFW to hold local public meetings each time a marine reserve (MR) or rockfish conservation area (RCA) is proposed.	22, 23
Kim Daniels	I, as a sport fisherman @ Neah bay feel that these new regulations at Neah bay are to stringent. Maybe there should be more research done before taking away a great fishery @ Neah bay.We not only see all types of species, but a lot of them	28
D Bradley	I agree that the three species of endangered rock fish need to be protected.	11
D Bradley	DO NOT agree with closing copper or quillback rock fish in area 7 or with the 120 foot depth restriction or with decreasing ling cod size limit to 36"	3, 18
D Bradley	Atlantic they are teaching venting as a responsible way to save fish and this is arguable from both sides of the issue	1, 4
D Bradley	As for decreasing lingcod size from 40 to 36, there is no reason for this	76

Name-Organization	Comment Summary	See Agency Response in Appendix 5
D Bradley	I don't catch that many cabezon. Maybe they should have a one a day limit. Greenling should have a 2 fish a day limit as well.	76
D Bradley	Halibut: How about a longer season but with personal yearly limits of maybe 5 or 6 fish or whatever is figured to be reasonable?	76
D Bradley	dungy crabs limits shouldn't be touched until commercial and tribal fisheries are reigned in	76
Ginny Broadhurst, Northwest Straits Commission	we encourage the Department to include an action statement that supports the Northwest Straits Initiative's continued removal of derelict fishing nets in Puget Sound and encourages new funding for removal of derelict nets at depths greater than 100 ft.	35
Ginny Broadhurst, Northwest Straits Commission	I encourage the Department to acknowledge these actions in the DEIS and draft plan	35
Ginny Broadhurst, Northwest Straits Commission	We support carefully designed marine reserves for the purposes of restoring rockfish populations.	22, 23
Ginny Broadhurst, Northwest Straits Commission	We support the use of best available science, but we're not convinced that the Enhancement policies proposed by WDFW are based on best available science.	36, 37
Ginny Broadhurst, Northwest Straits Commission	Specifically, we are concerned with the policy area of "Enhancement," (3.3.8).	36, 37
Ginny Broadhurst, Northwest Straits Commission	the section fails to acknowledge that artificial habitats likely do not provide the same quality of habitat as natural habitats even though that point is raised and referenced in section 2.4.4.	36
Ginny Broadhurst, Northwest Straits Commission	Consequently, the Northwest Straits Initiative does not find a compelling reason to use artificial habitats or hatcheries to promote rockfish recovery and is concerned that these approaches may have unintended negative consequences for the recovery of rockfish.	36
Rein Attemann, PPS	confirm address for comments	Not applicable

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Phil Green, TNC	We agree with your choice of Alternative 2, the key species approach and applaud WDFW's objective that 'Rockfish management shall place the **highest priority** (emphasis added) on the protection and restoration of natural production...'(p. 66)	59
Phil Green, TNC	Many rockfish species share the same habitat so there may be little practical difference between alternative 1 and 2.	43
Phil Green, TNC	Action step 5 (p. 70), develop a science based system of marine reserves…, reiterates the value of marine reserves for protecting and restoring marine habitats	22, 23
Phil Green, TNC	We agree with your choice of Alternative 1	59
Phil Green, TNC	Develop a science based system of Rockfish Conservation Areas …' in concert with the marine reserves mentioned earlier should be given the highest priority.	22, 23
Phil Green, TNC	We agree with Alternative 2 as a good compromise	59
Phil Green, TNC	We agree with Alternative 2.	59
Phil Green, TNC	We agree with Alternative 2. We also strongly agree with Strategy 3 and Action Step 5 utilizing the peer review process 'to independently confirm the validity of research findings.'	59
Phil Green, TNC	We would promote Alternative 2. While informing all the citizens of Washington about the value of rockfish would be great, what is really needed is buy in from the fishing community	54
Phil Green, TNC	*Enhancement* (*Artificial Reef and Hatchery Production*): We suggest there should be a fifth option, **No Action**	36, 37
Phil Green, TNC	We suggest changing the '**will use'** to **'may use.'**	36, 37
Phil Green, TNC	There is no shortage of rockfish habitat, just a shortage of protected habitat. Science-based MRs and RCAs should be given a reasonable chance to succeed before artificial reefs are considered.	36

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Phil Green, TNC	Restricted fishing in the form of Marine Reserves or Rockfish Conservation Areas would be a giant step forward towards the recovery of rockfish in Puget Sound.	67
Lucas Hart	I am writing in support of Alternative 1 but would like to ask that the department place more emphasis on marine reserves within this alternative.	22, 23
Lucas Hart	Hatchery reared fish and artificial habitat do not necessarily fit within the definition of "natural production."	36, 37
Lucas Hart	I urge you to designate at least 20% of Puget Sound as marine reserve and include in these reserves all existing natural rockfish habitats with buffer zones to include other ecosystem components that rockfish depend upon.	22, 23
Lucas Hart	If artificial habitats must be used, these should only be used to reconstruct rockfish habitat that has been previously destroyed. Please do not implement artificial rockfish habitat at the expense of other species.	36
Lucas Hart	Marine reserves should also be given a sufficient amount of time to naturally recover rockfish before hatchery reared fish are introduced.	22, 23
Albert J Berger	I want to strongly object to the new complete ban on fishing for rockfish during the lingcod fishing season in Marine Area 7 (San Juan Islands).	17, 18
Albert J Berger	when the fish came to the surface it was obviously dead from barotrauma	1, 4
Albert J Berger	This new policy is a terrible waste.	3, 18
Albert J Berger	It seems to me the most appropriate regulation is to maintain the previous 1 rockfish catch limit during only lingcod season	17, 18
JK Gaydos, UC Davis SeaDoc	Applaud the use of "best available science, sound fisheries management, and professional judgment to achieve excellence in stewardship of public resources	46
JK Gaydos, UC Davis SeaDoc	Do not address far greater concern about hatchery culture in introducing unknown diseases into wild populations and reducing the fitness of wild populations as done with salmon.	37

Name-Organization	Comment Summary	See Agency Response in Appendix 5
JK Gaydos, UC Davis SeaDoc	In regards to artificial habitat, we fail to mention that ARs do not provide the same quality habitat as natural habitats and no evidence that rockfish are in decline due to limitations in suitable habitat.	36
JK Gaydos, UC Davis SeaDoc	Enhancement not the most conservative option given scientific questionability.	36, 37
Brandon Guard	I would like to convey my strong dislike for the 120 foot bottom fishing restriction.	3, 18
Ron Spahman	I must voice my disagreement with the new proposed 120 ft. bottomfishing rule. On those trips we fish 175 ft. to 250 ft. of water for Halibut.	3, 18
Danny O'Neill	feel the proposed 120 foot rule to fish bottom fish is unrealistic in that it will kill the opportunity to harvest fish for the recreational fisherman	3, 18
Danny O'Neill	I'm quite sure the commercial fishery industry will be as pleased as we are if this is proposed	5, 8
Cliff Echternkamp	I have fished halibut for twenty years at depths beyond 120 ft. and up to 400 ft. in the straits area 6 and can honestly say that I don't remember catching anything other than halibut or dog fish.	3, 18
Cliff Echternkamp	When the 120 ft. is implemented, does that apply to the tribes?	25
Cliff Echternkamp	The phone survey method that you use for your data is child's play. One more punch card for rockfish would be a lot more accurate than asking at random, over the phone, what they caught a year after the season.	63
Cliff Echternkamp	Bottom dragging has devastated popular fishing areas in area 6	5, 8
Robert R Andersen	I noticed you have included the possibility if restricting fishing for other species that effect Rockfish, Specifically Lingcod and Halibut. However, my experience from fishing the Edmonds Pier over the last two years would require restrictions on pile perch and striped perch as well.	3
Robert R Andersen	Another way to avoid a complete restriction of great pier fishing for kids to enjoy, would be to restrict fishing that effects Rockfish populations to juvenile allowed fishing only.	71
Robert R Andersen	I believe that recreational fishing for kids is very important because of the special family time it creates.	3, 18, 61

Name-Organization	Comment Summary	See Agency Response in Appendix 5
GayLynn Beighton	On behalf of the Swan Lake Watershed Preservation Group I am pleased to aggressively support the Puget Sound Rockfish Conservation Plan as revised.	59
Dave Croonquist	With a plan of the scope that this one covers, it would have been nice to have had the Rockfish Advisory Group established early in the process to help with the design.	29
Dave Croonquist	We don't know what restrictions the federal listing will put in place on recreational fisheries in Puget Sound, but it might be worth considering a delay in the implementation of the state plan pending the completion of the federal regulations.	11
Dave Croonquist	I have seen no report on the economic impact of the state plan on local business	9
Dave Croonquist	I think there needs to be a timeline for automatic reviews of the plan – probably at least every 5 years – to measure if there are positive results.	41
Dave Croonquist	With the current state budget, what will be cut to ensure that the plan can be implemented, monitored, and evaluated?	52
Dave Croonquist	There are limited references to any impacts on either non-tribal commercial or tribal fisheries that can impact rockfish resources.	25, 5, 8
Dave Croonquist	Derelict gear and by-catch issues can have an impact much greater than the catch and release fishery we start this year.	35
Dave Croonquist	There is talk of Marine Protected Areas and Rockfish Conservation Areas but no guidelines for size, location, and length of time that they might be in place.	22, 23
Dave Croonquist	I don't see any wording concerning the need(s) for Washington Dept of Natural Resources input into the plan	46, 51
Dave Croonquist	The Dept of Ecology will also have impacts on any plans, too.	46, 51
Dave Croonquist	There is no discussion in the plan about the overlap of the impact of other recovery projects, i.e. green sturgeon, eulachon, Chinook salmon, steelhead, Bull might fit into the Puget Sound Recovery program that is running under the Governor's supervision. Trout, shoreline management, etc, at the state and federal level and how the plans	11, 47

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Dave Croonquist	I think there should be other public meetings soliciting additional input beyond what you heard tonight and received off the first draft public hearings.	27
Carol Wood	not about rockfish	Not applicable
Linda Larsen	Asian families who come from off the island to fish on Tramp Pier catching anything they can, and keeping everything they do catch.	62
Andy Batcho	Please do what's necessary (including shutting down all PS & Straits ground fishing) to protect (actually restore) Puget Sound ground fish for future generations! Conservation Zones also seem to make a great deal of sense.	59s
Mike Kim	Please do not enact a general rockfish closure for the entire Puget Sound. Consider a conservation plan that protects rockfish where they are most threatened, and allows responsible recreational fishing in areas that demonstrate healthy populations.	17, 18
Robin Kirkman, Owner-Operator Juan de Fuca Charters	You guys still let the draggers fish to Angeles Point, which decimated the rockfish in the first place.	5, 8
Robin Kirkman, Owner-Operator Juan de Fuca Charters	get rid of the draggers	5, 8
Robin Kirkman, Owner-Operator Juan de Fuca Charters	curtail all rockfish fishing in Areas 5 and 6, and probably the San Juans	17, 18
Robin Kirkman, Owner-Operator Juan de Fuca Charters	A big problem I have with Area 5 is your fish limits split at Slip Point, from 3 to 1.	60
Robin Kirkman, Owner-Operator Juan de Fuca Charters	What good are the draggers doing in the straits, other than decimating the bottom?	5, 8
Richard Aksamit	I am opposed to any more restrictions on Halibut fishing in the Strait	3
Richard Aksamit	have seen bottom netters scouring the bottom leaving dead or dying rockfish in their wake.	5, 8

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Bev Evanger	Why not just outlaw fishing in Washington and leave us alone	61
David Greenway	I would like to let you know that I oppose any further fishing restrictions.	30, 17
David Greenway	why is it I see commercial and Indian crabbing year round and I'm so limited with my season	25, 5, 8
Ryan Knowlton	...Harvest levels have decreased in recent years, but fishing remains a risk to rockfish. ... Alternative 1 (Most Conservative): Preferred O	30, 17
SHARY BOZIED	I support the preferred alternative in the draft Environmental Impact Statement (DEIS).	59
SHARY BOZIED	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
SHARY BOZIED	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
SHARY BOZIED	Overfishing of the rockfish has caused its decline	14
Herbert Curl	I wholeheartedly support the proposed Puget Sound Rockfish Conservation Plan	59
Herbert Curl	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Herbert Curl	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Herbert Curl	Overfishing of the rockfish has caused its decline	14
Jamie Wine	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Jamie Wine	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Jamie Wine	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Jamie Wine	Overfishing of the rockfish has caused its decline	14
Patricia Perry	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Patricia Perry	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Patricia Perry	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Patricia Perry	Overfishing of the rockfish has caused its decline	14
Tom Stapp	The fact that the habitats are still viable, means this species can recover if given the chance	36
Tom Stapp	The recovery plan is good as it provides a broad suite of tools for rockfish recovery and a framework for conducting rockfish stock assessments and management measures	59
Tom Stapp	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Dawn Flannum	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Dawn Flannum	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Dawn Flannum	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Dawn Flannum	Overfishing of the rockfish has caused its decline	14
Mr. Shelley Dahlgren, PhD	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Mr. Shelley Dahlgren, PhD	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Mr. Shelley Dahlgren, PhD	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Mr. Shelley Dahlgren, PhD	Overfishing of the rockfish has caused its decline	14
Aditee Kumthekar	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Aditee Kumthekar	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Aditee Kumthekar	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Aditee Kumthekar	Overfishing of the rockfish has caused its decline	14
Elena Kuo-Harrison	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Elena Kuo-Harrison	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Elena Kuo-Harrison	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Elena Kuo-Harrison	Overfishing of the rockfish has caused its decline	14
Tonda Kiffin	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Tonda Kiffin	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Tonda Kiffin	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Tonda Kiffin	Overfishing of the rockfish has caused its decline	14
Sherry Manning	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Sherry Manning	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Sherry Manning	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Sherry Manning	Overfishing of the rockfish has caused its decline	14
Gabriela Carvalho	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Gabriela Carvalho	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Gabriela Carvalho	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Gabriela Carvalho	Overfishing of the rockfish has caused its decline	14
Robert Blumenthal	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Robert Blumenthal	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Robert Blumenthal	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Robert Blumenthal	Overfishing of the rockfish has caused its decline	14
Melodie Martin	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Melodie Martin	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Melodie Martin	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Melodie Martin	Overfishing of the rockfish has caused its decline	14
Ellen Watson	adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Ellen Watson	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Ellen Watson	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Ellen Watson	Overfishing of the rockfish has caused its decline	14
Dan Halos	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59
Dan Halos	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Dan Halos	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Dan Halos	Overfishing of the rockfish has caused its decline	14
Diana Smith	Adopting and effectively implementing the proposed Puget Sound Rockfish Conservation plan will be extremely important.	59

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Diana Smith	Establishing natural recovery methods such as marine protected areas and rockfish conservation areas need to be the top priorities.	22, 23
Diana Smith	WDFW needs to convene a panel of experts immediately upon adoption to begin planning the network of protected areas necessary to accomplish recovery.	23
Diana Smith	Overfishing of the rockfish has caused its decline	14
Michael Jones, PA Meeting	Do something to seals and sea lions in the Straits as they have down on the Columbia River (lethal removal).	26
Michael Jones, PA Meeting	I was also wondering if this thing goes for halibut in a few years if you guys are thinking about restricting our salmon fishing too with the depth.	3, 11, 47
Tim McDonald, PA	think you guys need to do something different on your counting where you're coming up with your figures, there's a whole bunch of fictitious numbers that aren't in our favor.	63
Tim McDonald, PA	we need to have a better understanding with the Indian tribes, that they kind of adhere to some of the same stuff that we are getting shoved down our throat	25
Tim McDonald, PA	about what you are going to do after you implement this 120□ restriction that you are going to put on us	3, 18
Ward Norton, PA	I've noticed in your plan is that I don't see you being very proactive as far as improving recruitment of the juvenile rockfish into the spawning population over a period of years, especially the deep water rockfish.	37
Ward Norton, PA	And, what I would like to note and suggest is that the salinity barriers have been created two unique opportunities for your agency to improve recruitment of these rockfish that is denied the federal government that my sources at the Oregon Department of Fish and Wildlife and the Hatfield Research Center would love to in the coastal waters,	37

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Ward Norton, PA	One of the things that I would suggest to be considered would be inside of Puget Sound and also Hood Canal would be a lingcod season, a movement of the lingcod season to the first of February and lasting through April because that is when the larger lingcod are generally in shallower water because right now with the 120□ limit	75
Ward Norton, PA	Numbers of large 30+ pounds of lings in Hood Canal is just tremendous.	75
Ward Norton, PA	And, this, uh this, the healthy area apparently is north of Eldon. South of Eldon you have the popularized problems but north of Eldon	44
Doug Meyers, PPS at PA	wanted to commend the Department for first taking the step of creating that citizen's advisory committee because I thought it was very critical and resulted in some varied market improvements to the management plan from the first version	29
Doug Meyers, PPS at PA	I think the plan is wise to not focus specifically on the recreational fishing aspect, but does have plans for how to deal with pollution and the derelict gear and we left everything on the table even though there was not a clear consensus on the exact amount of what to do.	40, 58
Doug Meyers, PPS at PA	I think it is crucial that we move quickly toward developing a system of marine reserves and rockfish conservation areas that are large enough and close enough together to be able to create a genetic diversity of recovering species while still allowing appropriate fisheries to take place for those species which can handle it.	22, 23
Russ Mellon. PA	catch record cards for any species that you are trying to track should be the predominate method and that can be done electronically the day after a season closes so that that data is fresh and accurate.	63

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Russ Mellon. PA	I would recommend that we protect the endangered rockfish, the deepwater rockfish, by identifying the areas that can be geographically identified spot areas or whatever you want to call them protection areas so that those areas aren't fished by anybody deep water, and then, halibut fishermen and salmon fishermen would be allowed to fish at any depth during those seasons outside of those protected areas	11
Russ Mellon. PA	absolutely no dragging,	5, 8
Russ Mellon. PA	I don't think the telephone survey method is effective for identifying any catch history, and I don't think it should be allowed and continued.	63
Bruce Gagnon, PA	I wanted to comment on a few things, first of all the catch record that the data you guys are using I think is very flawed and what I'd like to see is more accurate data instead of just an educated guess because you can see it's very flawed by the reaction you got here from the show of hands on the telephone survey.	63
Bruce Gagnon, PA	And, I really have a problem with the way that it has been designed to just continue to limit the amount of rockfish that we can take especially the black bass when I know the stocks are healthy.	60
Bruce Gagnon, PA	My question is why is Neah Bay different than those other areas when they have healthy stocks?	28
Bruce Gagnon, PA	I don't know about you guys, but when I fish halibut, I don't catch those specie	3
Bruce Gagnon, PA	I would like to see the Commission start to work with the tribes because they have, most of the tribes around here have the legal right to go and harvest those seals and sea lions,	25
Mark Dawber, PA	Really, you have to go to some other means, use some other means of getting the data when you start to protect that other compound in it.	63
Mark Dawber, PA	It seems as though the fish data is being derived to a great extent by, in one form or another, the investigating recreational catches: the cards, the phone calls, whatever.	63

Name-Organization	Comment Summary	See Agency Response in Appendix 5
David Caldwell, PA	Yeah, I was wondering for Puget Sound north, is the population different from San Juans like Area 4, 5, 6, is the population of rockfish different in those, than rather the San Juans and could we, could it be separated area 4, 5, 6 have that Strait of Juan de Fuca and then the San Juan Islands, have that as the north Puget Sound?	53
David Caldwell, PA	I mean that would be the only time we were catching rockfish, and I mean, I don't really have, don't really see a problem enclosing the 120 and deeper for the lingcod fishing and stuff, I mean there are good holes that are deeper	3, 18
Robert Beausoleil, PA	One is about the notification of how we get the information from you folks. I think it is woefully inadequate	27
Robert Beausoleil, PA	the second thing I think is happening here is your making classes of fishermen	20
Dave Croonquist, PA	I'm concerned or interested in knowing who was the driving force behind adding the Marine Area 4B to the plan.	28
Dave Croonquist, PA	the agency could do a much better job of getting the word out	27
Dave Croonquist, PA	The problems with the fish catch data, I think, is probably reflected in the rockfish catch the same way it is in the halibut catch	63
Dave Croonquist, PA	What's going to be the economic impact of this plan on the fishing community?	9
Dave Croonquist, PA	I'd like to suggest a 5-year plan review	41
Dave Croonquist, PA	There's no projections on the cost of the project	52
Dave Croonquist, PA	I don't see any large indications of what impact the commercial, the non-tribal commercial fishing folks are going to have in this,	5, 8
Dave Croonquist, PA	I appreciate hearing that the derelict gear program is being looked at	35
Dave Croonquist, PA	we ought to know who can pay the bill to take that net off of a reef	35

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Dave Croonquist, PA	I have some concerns over the rockfish conservation area, marine protected area concept with the new regulations passed this year, the 20 fathom (120' depth restriction) for fishing for bottomfish.	22, 23
Dave Croonquist, PA	I don't see any indication in the report about input from the Department of Natural Resources on any habitat work being done	46, 51
Dave Croonquist, PA	There's also concern over pinniped predation on rockfish	26
Dave Croonquist, PA	I don't think there are enough public meetings for this second draft.	27
Shannon Dewater, PA	I can barely afford to fish out of Sequim where I live now	61
Shannon Dewater, PA	The only time I've ever caught rockfish in any abundance is when I targeted them. I don't catch them when I'm halibut fishing. I target 150 feet of water to 170 feet of water is where I catch all my halibut, and I don't ever catch a rockfish unless I'm targeting wings at 90 feet. From 90 feet to 100 feet is where I target wings, and that's when I start catching rockfish	3
Bill Cargo, PA	The guy over there looking at the boats, the phone calls they're bogus, if you think any more than that you're nuts.	63
Bill Cargo, PA	You're going to have to get on board with the creel checks.	63
Bill Cargo, PA	So that's the first thing I do is mark my card down before I get back to the dock.	63
Bill Cargo, PA	I mean you've got the enforcement people – not enough	42
Bill Cargo, PA	We could just file out punch cards electronically. Get that off the table. Sure, I'm telling you as a sport fisherman I see my punch card at the end of the season, I don't have to turn this in, I can just call up or go on line and punch in numbers. What do you think I'm going to punch in?	63

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Bill Cargo, PA	Do you think I'm going to punch in that I caught a hundred crab last year during my legal season on the summer catch so that you take away the winter crab fishery?	63
Bill Cargo, PA	you make a revised dog gone thing to include Cape Flattery it's absolutely out of this world that you would make accommodations and try to tell me it's for great eco-tourism to make money	28
Bill Cargo, PA	The predominant ones that happen to be black rockfish, and they're healthy. And, you've got the wrong indicators.	60
Bill Cargo, PA	There's a million ways to catch halibut; you understand the migratory patterns of halibut, be comfortable with it and everything, but the traditional contemporary way that we fish halibut out in Area 6, Area 5 is we concentrate because the way we're fishing with modern gear and downriggers and fish fighters and GPS, we go out in the deep sandy bottoms; no structure, because we don't want structure around	3
Robert Aunspach, PA	we don't want to see a blanket regulation that restricts us from fishing a viable resource that has the numbers to support it, i.e., halibut, salmon.	3, 11, 47
Robert Aunspach, PA	look long and hard before we make any decisions made because it's going to affect the community in its fishing industry by hundreds of thousands of dollars,	9
Robert Aunspach, PA	There's structure out there where we know where there's certain types of fish that we know we need to protect, and we should maybe protect those areas, but our…the Strait of Juan de Fuca here Area 6 we do not catch rockfish over 120 feet. If we want to target rockfish, we go under 120 feet.	22, 23
Richard Aksamit, PA	if you want to keep on tacking on regulations, eventually you just won't have any fishing licenses	61
Coleman Byrnes, PA	I've watched fisheries after fisheries in my lifetime go down the drain	19
Coleman Byrnes, PA	I'm a big fan of rockfish, and I hope you do whatever it needs to protect them	59
Chris Mohr, Van Riper's Resort, PA	just think to treat Port Townsend like you treat Neah Bay is absurd.	53

Name-Organization	Comment Summary	See Agency Response in Appendix 5
Meeting		
Chris Mohr, Van Riper's Resort, PA Meeting	Now, with the new revision you're talking about sucking Area 4B into this proposal? That's ridiculous	28
Chris Mohr, Van Riper's Resort, PA Meeting	I guess my comment would be I would like to see you take something, maybe Freshwater Bay and go west and treat that as a third management area	53
Chris Mohr, Van Riper's Resort, PA Meeting	The other thing is, you know, the Marine Mammal Act, it's, we've saved a lot of marine mammals. Let's face it, they're thriving. Our rockfish populations are going in the toilet	26
Chris Mohr, Van Riper's Resort, PA Meeting	the phone survey thing doesn't work	63
Dale Lane, PA	this data business it's a complete joke as far as I'm concerned.	63
Dale Lane, PA	Why in the hell can't they put on the punch card that you have to turn in your punch card within 15 days of the halibut season or you lose your privilege to fish the following year?	63

Appendix 5. Agency Responses to Public Comments

Response Number	Policy Area	Topic	Response
1	Fishery Management	barotrauma	The Pacific Fishery Management Council conducted an analysis that represents the best and most recent science regarding the effects of barotrauma on rockfish. We used these numbers to evaluate regulation changes proposed for rockfish including closure of the fishery and the depth restriction for bottomfishing. Future research is needed to examine delayed mortality of rockfishes, especially the efficacy of rapid submergence, non-removal from the water, and other techniques. WDFW also uses information collected from state and federal creel surveys to evaluate the effects of barotrauma to the depths of capture reported by anglers. Venting fish with needles, also known as fizzing, generally does not improve the survival of fish including rockfishes. The survival of vented rockfish is not different from the survival of unvented rockfish. See Response Numbers 3 and 4.
2	Fishery Management	bycatch	WDFW data does confirm that rockfish encounters by salmon-targeting fishers are much lower than bottomfish targeting anglers. WDFW also confirms that the encounter rate is low by anglers using downriggers. However, these encounter rates are not zero. WDFW will evaluate encounter rates, catch by gear, and the impacts on rockfish stocks.
3	Fishery Management	bycatch, depth restrictions	The mortality of rockfish increases with the increasing depth of capture, and most rockfish perish when captured from depths of 120 feet or greater. WDFW analysis indicates that under the new rockfish and bottomfishing depth restrictions, we would reduce rockfish mortality from previous regulation conditions. Minimizing bycatch of stocks

Response Number	Policy Area	Topic	Response
			in poor condition is a priority identified by several strategies and actions in the PSRCP. WDFW recognizes that rockfish are caught during lingcod and other recreational fisheries, and WDFW will consider depth and gear restrictions to limit the effects of barotrauma on rockfishes caught during all commercial and recreational fisheries. At present, salmon and halibut fisheries are not affected by the 120 foot depth restriction.
4	Fishery Management	barotrauma	Rockfish bycatch will be unavoidable in many marine fisheries, and if rapid submergence or venting (fizzing) proves useful, it will be used to mitigate unintended catches. Venting fish with needles, also known as fizzing, generally does not improve the survival of fish including rockfishes. The survival of vented rockfish is not different from the survival of unvented rockfish.
5	Fishery Management	commercial bycatch	WDFW does not have current, detailed data on the encounters of rockfish by commercial fishers. However, because of the value of rockfish, we expect that most rockfish that are captured are sold to add value to the fisher. The PSRCP has specific strategies and actions to increase commercial catch accounting or to reconsider continuing commercial fisheries. WDFW has taken actions to eliminate targeted commercial fisheries on rockfish, is proposing to close commercial otter trawl, set net, and long-line fisheries, and is proposing to modify shrimp trawl fisheries to better document bycatch.
6	Fishery Management	bycatch	WDFW has prohibited the retention of rockfishes in the recreational fishery in most areas of Puget Sound where rockfish populations are not capable of supporting a bycatch or targeted fishery. WDFW is allowing for the harvest of black and blue rockfishes in the western

Response Number	Policy Area	Topic	Response
			Strait of Juan de Fuca (see Response No. 60).
7	Fishery Management	bycatch	WDFW provided copies of recreational catch and released catch data to the Puget Sound Rockfish Advisory Group. Other catch information is available in Palsson et al. (1990), “The Biology and Assessment of Rockfishes in Puget Sound”.
8	Fishery Management	commercial fishing	WDFW has prohibited targeted commercial fisheries for rockfish and bottomfish in most of Puget Sound. Commercial fisheries for groundfish targeted flatfishes, codfishes, dogfish, and other species living on mud and sand habitat. In a 1985, environmental impact statement, WDFW found that bottom trawling disturbed soft-bottom habitats and caused some bycatch mortality. One note, trawlers have been observed catching and dumping kelp from their trawls. While the perception might be that they are fishing in rocky habitats where this kelp grows, substantial amounts of kelp and seaweed are carried from the sun-laden nearshore to darker and deeper depths where it decomposes. Bottom trawlers may catch this drift kelp and avoid fishing where it’s rocky where they would damage their nets. During the past ten years, the trawl fishery has declined and has been focused to deepwater areas and is only allowed in portions of North Puget Sound. In 2011, WDFW closed commercial bottom trawl, set net, and long line fisheries in Puget Sound and limited several other bottomfish and shellfish fisheries. WDFW also prohibited the retention of any rockfish taken by commercial fishing gears. WDFW will review commercial fisheries for their impact on rockfish and other fish species,

Response Number	Policy Area	Topic	Response
			costs of management, and public benefit. The FEIS and PSRCP identify many key strategies and actions to address the impacts of commercial fishing on rockfish and their habitats.
9	Fishery Management	economic analysis	This plan does not directly address the economic impacts of small business or communities. An economic impact analysis is not required by the State Environmental Protection Act (SEPA), the process with which the rockfish DEIS is being developed. There will likely be short-term economic impacts resulting from the regulations that will result from this plan. However, the ultimate goal is to recover rockfish stocks and maintain them at sustainable levels that will promote long-term economic benefit. Without implementing the PSRCP and its subsequent regulations in the near-term, we would likely continue to experience depleted stocks, increase the chance for more rockfishes listed as threatened or endangered species, and lessen the chances of long-term rockfish recovery. These conditions would result in long-term economic loss.
10	Fishery Management	ESA species	Bull trout has been added to Table 4
11	Fishery Management	ESA species	WDFW seeks to minimize or eliminate the listing of species under the Endangered Species Act. WDFW works closely with NOAA and other concerned agencies to provide required protections to any listed species through regulations, rebuilding plans, critical habitat identification, and cooperative research and monitoring. WDFW will work with NOAA Fisheries to permit fisheries and develop state regulations that do not impede the recovery of listed rockfish or other ESA-listed species. WDFW

Response Number	Policy Area	Topic	Response
			deliberates with NOAA in regard to the Puget Sound Chinook Harvest Plan and other plans to assure that fisheries do not impede the recovery of a listed species.
12	all	all	WDFW considered several factors including impact on affect species, feasibility, and costs when selecting the preferred alternative. WDFW recommends the most conservative alternatives (Alternative 1) for Habitat, Fishery Management, Outreach and Education, and Enhancement policy areas. Protecting the natural productivity and habitats of all rockfish species will be the most effective manner to sustain and rebuild rockfish populations, that all fisheries account for rockfish encounters, and that all citizens recognize the need for healthy rockfish stocks. For Natural Production; Ecosystem; Monitoring, Evaluation and Adaptive Management; and Research policy areas, WDFW has chosen less than the more conservative alternatives (Alternatives 2) because of costs and the practicality of achieving measurable success. WDFW chose to focus on indicator species for these policy areas because managing for all species would be nearly impossible because of cost and sampling restrictions. The indicator species approach identifies at least one species in each rockfish assemblage and, then assumes that protection measures for the indicator species would likely benefit the non-indicator species.

Response Number	Policy Area	Topic	Response
13	Ecosystem	ecosystem-based management	The PSRCP is not "ecosystem-based management" in itself, but does contribute to an ecosystem approach. The inclusion of rockfishes in other fishery plans and the identification of ecosystem stressors do address many concepts in ecosystem-based management. Ecosystem-based management calls for sophisticated models to include not only the biological components of the ecosystem, but the economic and human sectors as well. WDFW is working with NOAA Fisheries to develop an ecosystem model of Puget Sound. WDFW is also implementing conservation initiative with many features of ecosystem-based management as a new approach to perpetuating the fish and wildlife resources of Washington.
14	Fishery Management	Fishing impacts	Past fishing practices was identified by WDFW as a key stressor affecting the abundance and size structure of rockfish populations in Puget Sound. While other stressors affect rockfish populations, large differences between no-take marine reserves and fished areas show that dispersed phenomena such as marine mammal predation and pollution do not cause such differences between abundance and size between marine reserves and fished areas. Minimizing all fishery effects on rockfish stocks is a common sense approach to promote stock rebuilding and future sustainability.
15	Fishery Management	Stock status definitions	More specific definitions of stock conditions were available in the Biology and Assessment of Puget Sound Rockfishes; these definitions have now been revised and are included in the PSRCP. The difficulty in defining stock status by Pacific Fishery Management Council and federal standards is that they depend upon data-rich stock assessments which are not available or

Response Number	Policy Area	Topic	Response
			practical in Puget Sound. Because catch-at-age, maturity, and mortality rate data are unavailable for most rockfish stocks in Puget Sound, biomass-specific stock targets and allowable catch guidelines cannot be developed until data on catches, survey abundance, age distributions, mortality rates and other variables can be obtained. While the stock status definitions do provide refer to national standards for fisheries stock assessments, rockfish stocks in Puget Sound will need to be managed under data-limited standards. Palsson et al. (2009) took the American Fishery Society's Criteria for Marine Fish Stocks as Risk as biological reference points for stock indicators. Managing data-limited fisheries is a problem in coastal and other fisheries management, especially with long-lived and late-maturing species such as rockfishes. WDFW will work with its partners to provide specific benchmarks and stock assessment approaches to evaluate management actions and stock status.
16	Fishery Management	Federal authority	The AG's opinion has not been requested as the province of federal fisheries management is quite clear and ends at Cape Flattery. Waters east of Cape Flattery are co-managed between WDFW and the treaty tribes of Puget Sound. NOAA Fisheries does recognize Puget Sound as Essential Fish Habitat and has a nexus for managing Puget Sound through the Endangered Species Act.
17	Fishery Management	Cautionary management	The WDFW policy for groundfish management in Puget Sound calls for conservative management. This policy is elaborated in the Puget Sound Groundfish Management Plan that elevates the level of conservation when stocks are in low or unknown condition and that minimizes the risk of overharvest

Response Number	Policy Area	Topic	Response
			to fulfill the agency mandate to preserve, protect, perpetuate, and manage foodfish. WDFW has identified important species of rockfish that are in precautionary and depleted status. Since the PSGMP was adopted, WDFW took a bold action and reduced the daily allowable harvest of rockfish to one, prohibited the retention of yelloweye and canary rockfishes, eliminated spearfishing for rockfish in waters east of the Sekiu River, continued minimizing the commercial harvest of rockfish. These actions resulted in minimizing most directed fisheries for rockfish. Since the enactment of the one fish daily bag limit, WDFW has continued to observe or get reports of anglers catching large numbers of rockfish in order to get the biggest one. Until more precise quantitative models of stock abundance or positive signs of rebuilding are developed, WDFW is opting to prohibit the retention of rockfish as a conservation measure. The effects of this no-retention measure will be periodically reviewed and appropriate fishing regulations will be invoked.
18	Fishery Management	non-retention	See Response 17 and: WDFW has prohibited fishing for rockfish by prohibiting their retention as a conservative measure to promote the recovery of rockfishes in Puget Sound that will reduce the mortality of rockfish. WDFW recognizes that some rockfish will be released into the water that will die due to the effects of barotrauma and hooking mortality. This measure will discourage anglers targeting and sorting of rockfish and will be a disincentive for fishers from "topping" off their fishing activities by keeping one rockfish. WDFW has also prohibited fishing for bottomfish in waters deeper than 120' to minimize the mortality of released

Response Number	Policy Area	Topic	Response
			rockfish because of barotrauma. How long these restrictions will be in effect in not known at this time, and a specific term will not be presented in the PSRCP as this plan is long-term strategic plan.
19	Fishery Management	Timeliness of stock status information	In September 2009, WDFW released a report "The Biology and Assessment of Rockfishes in Puget Sound" (Palsson et al. 2009). This is a peer-reviewed report that reviews the biology, ecology, fisheries, stock status, and limiting factors affecting rockfishes in Puget Sound. The analysis of stock status uses objective criteria to evaluate stock status using fishery data through 1999 and scuba, trawl, and quantitative video survey data from as early as 1987 though 2005. It is not accurate to say that the assessments stop at 1999 because the survey data extend past that year and generally confirm the declining trends observed in the fishery dependent time series. Recently, there are indications that good recruitment has increased the abundance of subadult of copper, quillback, and black rockfishes in some but not all areas of Puget Sound. WDFW will periodically update and improve stock status determinations. Regardless, without multiple strong year classes providing a diversity of age ranges over at least their generation time, stock statuses of important rockfish species will continue to be in poor condition and require strong management measures. The distinction between stocks in precautionary status based upon stock indices and unknown conditions can be found in The Biology and Assessment of Puget Sound Rockfishes in the species assessments of Chapter 6.

Response Number	Policy Area	Topic	Response
20	Fishery Management	Fish allocation	During the past 40 years, recreational fishing has been the dominant fishery for rockfish in Puget Sound. WDFW has managed rockfish as a recreational species in many areas of Puget Sound since the early 1980s and since the 1990s has eliminated directed commercial fisheries for rockfish. WDFW uses its rule making ability to control the time, place, and manner of fisheries to protect fish stocks and conduct orderly fisheries. WDFW has set different seasons and rules for spearfishers and anglers for lingcod and previously, for rockfish. WDFW has not regulated the size of recreational boats fishing in marine fisheries. New depth restrictions allow fishing in shallow water <120 ft that are closer to shore that may foster the access of anglers with smaller vessels to continue fishing for bottomfish.
21	Fishery Management	Gear restrictions	Gear restrictions are a possible mechanism to minimize the encounters of rockfish. Research in Oregon and elsewhere show promising results, but gear restrictions are not presently evaluated or enforceable. Research is suggested in this area and can be incorporated in future management actions. WDFW has already limited most saltwater gear to one line with up to two, single-point, barbless hooks.
22	Fishery Management and Ecosystem	Marine Protected Areas	Investigators have examined the responses of rockfishes and other marine fishes to harvest protection in many of the WDFW marine reserves. Previous studies comparing fished and unfished areas have found higher fish densities, sizes, or reproductive activity in marine reserves than in comparable nearby fished sites. WDFW will develop a science-based system of marine reserves and rockfish conservation areas (RCAs) that, with other actions, achieves the

Response Number	Policy Area	Topic	Response
			natural production objective by protecting significant amounts of rockfish stocks, their habitats and ecosystems. WDFW will engage scientists, fishers, and interested parties to develop goals and objectives for a system of marine reserves and RCAs.
23	Fishery Management and Ecosystem	Marine Protected Areas-evaluate, create	The PSRCP has identified a system of marine reserves and rockfish conservation areas (RCAs) as one of several conservation strategies to support the natural production of rockfishes. Marine reserves and RCAs can be used to rebuild rockfish populations and protect and restore the genetic, age, and size diversity of rockfish populations. WDFW will engage tribal co-managers, scientists, and stakeholders to develop a scientifically based system of marine reserves and RCAs. WDFW will begin this process as soon as possible and seek additional funding to establish panels of experts and to conduct the extensive outreach necessary to build a robust and accepted marine reserve system. We will seek information on experiences and lessons learned from similar processes in California, Oregon, British Columbia, and nationally. The development of a marine reserve system will be included with a monitoring and research program to assure that marine reserves are performing to identified standards.
24	Fishery Management	Slot limit	Because rockfish suffer greatly from barotrauma, most die when caught from waters deeper than 120 feet and many die when captured from shallower depths. Minimum, maximum, or slot size limits are not useful for rockfishes because of barotrauma.
25	Fishery Management	tribal fishery	WDFW co-manages most marine resources in Puget Sound with the recognized treaty tribes of Washington

Response Number	Policy Area	Topic	Response
			having usual and accustomed fishing grounds in Puget Sound. WDFW is actively engaged with the tribal co-managers in managing rockfish and other marine resources, and tribal consultations have been held during the development of the PSRCP. The current harvest by tribal fisheries of rockfish is low, amounting to an average 100 lbs of rockfish per year representing less than 2% of the average Puget Sound harvest of rockfishes since 1991. WDFW does not have specific information on the tribal bycatch of rockfish. The PSRCP does not include tribal fisheries but WDFW will use the plan as a foundation for the Department when developing state-tribal fishery plans.
26	Ecosystem	mammals	Marine mammals are now very common in Puget Sound and populations have dramatically rebounded since the enactment of the federal Marine Mammal Protection Act of 1973. Predation by marine mammals is a component of natural mortality experienced by rockfishes and other marine organisms and is a natural function of the food web in Puget Sound. Consumption estimates were presented in the DEIS regarding harbor seals that were in error and incorrectly indicated that consumption estimates of rockfish by harbor seals could be directly estimated. Based on seal abundance, average weight, and daily consumption of harbor seals, the annual prey consumption is 22.8 million pounds (12,700 mt) annually. In the San Juan Islands, where there are approximately 7,000 seals, rockfish occurred in 12% of seal diets annually and 23% during the winter (Lance and Jeffries 2007). However, these statistics were based upon the frequency of occurrence and not weight. They also

Response Number	Policy Area	Topic	Response
			could not distinguish species of rockfish but found that most were subadult or ages 1 or 2. The possibility remains that these younger rockfish may have been the numerous Puget Sound rockfish (*Sebastes emphaeus*) that area abundant in the San Juan Islands. Lance and Jefferies (2007) concluded that the consumption patterns of seals may have an important impact on reduced stocks of rockfish in the San Juans. These estimates cannot be applied to other regions where rockfish are not as abundant. In Hood Canal and southern British Columbia, rockfish comprised 1% or less of seal diets (Olesiuk 1993. London et al. 2002). Despite the seemingly high overall prey consumption of marine mammals, their consumption estimates should be put into perspective that benthic and pelagic fishes and many invertebrates comprise the diets of these mammals. The abundance of benthic bottomfishes in Puget Sound is approximately 220 million pounds alone. The culling of marine mammals may have unknown ecosystem impacts such as unbalancing components of the food web and removing the natural selection that occurs from predators. Marine reserve studies in Puget Sound also show rockfish can persist in long-term marine reserves despite the presence of marine mammals indicating the natural defense mechanisms (poisonous spines) and predator avoidance behavior of rockfishes is effective in minimizing marine mammal predation. Because of federal mandates and practices, reducing the abundance of marine mammals is not a practical alternative to reducing stressors of rockfish in Puget Sound.

Response Number	Policy Area	Topic	Response
27	All	Notice	WDFW responded to the need for more time for citizens to consider the DEIS and the PSRCP by extending the public comment period from 30 days to 76 days and by adding 3 more public workshops. WDFW issued a Revised DEIS on April 6, 2010 incorporating key responses to the initial DEIS and the comments of the Rockfish Advisory Committee. This revised DEIS opened another 30 day comment period, and WDFW held an additional meeting in Port Angeles. WDFW followed reasonable procedures to notify the public using its website, media releases, responding to local newspapers, and speaking at local meetings. In all, WDFW received many comments from over 350 people who responded by email, letters, and attending public meetings.
28	All	Neah Bay	Based upon comments received during the initial EIS, WDFW issued a supplemental DEIS on April 6, 2010 which included a modification to the PSRCP to include Neah Bay so the area of coverage is coincident with the Puget Sound Groundfish Management Plan. State management of the inland waters of Washington commences at the Bonilla-Tatoosh line, so it is appropriate to include this area in the PSRCP. See also comment 53 on stock areas.
29	All	Rockfish Advisory Group	WDFW created a 13 member Rockfish Advisory Group that met seven times between December 2009 and May 2010. They helped WDFW revise and improve the language of the PSRCP through an advisory process. Many active discussions resulted from this process on virtually every strategy and action in the PSRCP. WDFW made the final decisions regarding the preferred alternatives, strategies, and actions with advice from the Rockfish Advisory Group.

Response Number	Policy Area	Topic	Response
30	All	Plan Stinks	As directed by former Governor Locke, the Fish and Wildlife Commission, and the Director of WDFW, the agency is compelled to complete a Rockfish Conservation Plan. The plan was developed through a legal and public process under the provisions of the State Environmental Protection Act (SEPA). This process allows for the public to comment on environmental alternatives as well as the agency's preferred alternatives. Important problems and conditions have been identified by professional and peer-reviewed science that supports the alternatives identified to improve the condition of rockfish stocks, protect their habitats, and restore their role in the ecosystem. WDFW will respond to individual comments received during public meetings and open public comment periods for the DEIS.
31	Fishery Management	Age truncation	WDFW does specifically identify the problem of age truncation in DEIS Section 2.8.1. WDFW identifies that rockfish stocks with diverse sizes and ages are desirable characteristics of healthy rockfish populations. WDFW proposes marine reserves and Rockfish Conservation Areas to achieve age and size diversity in a portion of the population.
32	Natural Production	Larval Limitation	Culturing and releasing larval rockfish from one area to another or producing larval rockfish in one basin or another may have a potential to alter natural patterns in genetic diversity. Puget Sound south of Port Townsend has been identified as a Distinct Population Segment for copper, quillback, and brown rockfishes (Federal Register 2009, 2010). Presumed barriers to gene flow from North Sound to South Sound likely maintain this population segmentation and should not be altered. See

Response Number	Policy Area	Topic	Response
			Response 33.
33	Natural Production	Genetics	WDFW recognizes the complexities of genetic selection both from fisheries, culture, and other sources and emphasizes natural production and maintaining diverse rockfish populations. Research on rockfish genetics is underway by a number of researchers, and any hatchery culture will be undertaken with a genetic management plan.
34	Research	Research	WDFW opts for the more conservative (Alternative 2) research option focusing efforts on indicator rockfish species. Opting to research all rockfish species would be costly and likely too difficult to achieve. WDFW will examine non-indicator species to confirm that they are receiving similar conservation benefits as indicator species WDFW will continue to have its research findings and procedures reviewed by peers and experts in publications, panels, and other processes. WDFW recognizes the value of collaborating with researchers to achieve its plan goal and specifically in achieving a science-based system of marine reserves and rockfish conservation areas, a robust monitoring system, intact and functioning habitats and ecosystems, and a program to address scientific issues as they arise. As appropriate, WDFW will use volunteers to help tackle monitoring, research, and education. WDFW scientists already interact with local, national, and international scientists specializing in marine resource assessment and management and will draw upon collective knowledge to inform WDFW efforts.

Response Number	Policy Area	Topic	Response
35	Habitat	Derelict Gear	Derelict gear is the gear abandoned by recreational and commercial fishers due to intentional discarding or accidental loss. Both tribal and non-tribal fishers contribute to derelict gear, but the mortality of fish to derelict gear has not been apportioned to any user group. Palsson et al. (2009) calculated a simple annual capture of rockfish from derelict gear amounting to 61,000 fish. This estimate has been revised to approximately 10,000 per year with new and better clarification of the science of the estimates. Regardless, the derelict gear impact to rockfish is a significant impact to rockfish populations. The Northwest Straits Commission is actively removing over 5,000 derelict nets in Puget Sound and will soon minimize the problem of derelict gear. WDFW and its partners will continue to act to minimize the accumulation of derelict gear through reporting systems, gear modifications, and laws and rules as appropriate.
36	Enhancement	Artificial Reefs	Artificial reefs have been constructed in Puget Sound to attract rockfish and other species associating with rocky habitats. They have been constructed of concrete rubble, automobile tires, a ferry, and quarried rock. Past WDFW experience has found that quarried rock was the preferred material to attract rockfish and other rocky habitat species. Artificial reefs in Puget Sound have been shown to attract rockfish and lingcod but how well they function or their impacts on other resources are questionable. WDFW will consider these impacts as it considers whether and where to use artificial reefs in the future. WDFW will use artificial habitats consistent with the hierarchy of habitat protection and mitigation. New artificial reefs may require separate State Environmental

Response Number	Policy Area	Topic	Response
			Policy Act procedures or other permits (see Response 51).
37	Enhancement	Hatcheries	The Fish and Wildlife Commission adopted a public policy for marine fish culture that limits the use of hatcheries to recover depleted marine species or for research to prepare for recovering depleted species. If a rockfish stock is designated as depleted, hatchery techniques may be employed as a rebuilding tool. Genetic and disease impacts will be investigated and considered under any marine fish culture scenario.
38	Habitat	Alternative 1	WDFW will protect all habitats of all rockfish species and life stages through its hierarchy of protection and mitigation approaches for habitat. WDFW intends to protect and, where needed, restore degraded habitats to natural levels. This will ensure that the physical spaces and pathways needed for rockfish to thrive are available. WDFW will assure that HPA and other habitat protection measures are effective.
39	Fishery Management	bocaccio	Palsson et al. (2009) listed bocaccio as precautionary noting the decline in frequency of this species in the recreational fishery. Palsson et al. did not consider bocaccio as a distinct stock in Puget Sound as there was no direct genetic evidence that there was a self-replicating population in Puget Sound. NOAA assumed that bocaccio formed a distinct population segment in Puget Sound assuming their population is structured similar to copper, quillback, and brown rockfishes that have been shown to have distinct population

Response Number	Policy Area	Topic	Response
			segments in Puget Sound. Given this limited population, the declining frequencies observed in the recreational catch combined with other declining rockfish indicators, the NOAA Biological Review Team concluded that this species is endangered in Puget Sound. WDFW sent a letter to NOAA citing a lack of evidence and other issues regarding the distinct population segment for bocaccio, but NOAA did not change its Endangered or DPS designation.
40	Ecosystem	Multiple stressors	WDFW recognizes that multiple stressors including past fishing practices, derelict fishing gear, pollution, climate change, and habitat alteration are human caused and may be acting in concert to reduce rockfish populations. Other natural factors such as disease, predation, and oceanographic factors may limit or promote rockfish populations. Taken together, past fishing practices, and derelict gear are highly influential stressors, and this plan and ongoing actions are acting to investigate and reduce man-induced factors. In the revised PSRCP, WDFW increased it preferred level of conservation from status quo to the more conservative alternative for Ecosystem policy issues.
41	All	Term of Plan	The Puget Sound Rockfish Conservation Plan is a long-term plan for the management of rockfishes. The progress in achieving the goal, strategies, and actions will be examined at least on a five-year basis.
42	Monitoring	Enforcement	Enforcement of existing and new regulations to protect rockfish and other species is a prime goal of WDFW. WDFW will work to increase the enforcement effort in marine waters through education and other tools to effectively enforce regulations protecting rockfish.

Response Number	Policy Area	Topic	Response
43	Natural Production	Indicator Species	The term key species has been changed to indicator species. The approach to identifying the indicator species and assemblages has been expanded and redefined in the revised PSRCP. Directly assessing and managing uncommon, cryptic, or rare species will be a challenge because of high costs, a lack of survey techniques, and expected high uncertainties. WDFW has opted to focus on indicator species for its Natural Production, Ecosystem, Monitoring, and Research policy areas. Indicator species may be selected because they are or once were common in Puget Sound, are or were important to recreational or commercial fisheries, provide ecological functions, or are at extreme low levels of abundance. Three assemblages have been identified including Nearshore Sedentary, Pelagic, and Deepwater. The selected indicator species are copper, quillback, black, Puget Sound, yelloweye, canary, bocaccio, and greenstriped rockfishes. Table 1 of the Rockfish Conservation Plan identifies the assemblages, indicator species, and non-indicator species. In its focus on indicator species, WDFW is aware that other species may not respond to the conservation afforded to indicators species. To help assure that other species will thrive, WDFW will extend habitat conservation and fishery management to all species and will conduct monitoring to assure that non-indicator species are receiving the conservation benefits of indicator species. At present, China, tiger, and vermilion rockfishes will not be indicator species.

Response Number	Policy Area	Topic	Response
44	Habitat	Hood Canal	Hood Canal is subjected to chronic and episodic hypoxia. In 2003 and 2006, major fish kills were caused by too little oxygen for fish to breathe and sustain life. Approximately one quarter of rockfish and lingcod were killed at an index site and many other types of fish and invertebrates perished, including flatfish. WDFW closed Hood Canal for bottomfishing in 2002 and continues this closure until long-term solutions and understandings of the hypoxia problem are addressed. Though some resources are in abundance, especially in the northern portions of Hood Canal, keeping fishing pressure off of these species will give the greatest chance for the whole Hood Canal to recover.
45	Education and Outreach	Watchable Wildlife	Watchable Wildlife opportunities are a valuable economic sector of natural resource management that until recently have been underappreciated. Some of the most popular dive sites in Washington are marine reserves where large and diverse rockfish and other marine fishes offer viewing, photography, and other wildlife benefits. This diving activity also brings economic activity to local businesses in the food, lodging, boating, and diving sectors. Other outreach and viewing opportunities could be developed in the future including webcams or “critter cams”.
46	All	Partnerships	WDFW will strive to use the best available science and practices to conduct management, research, monitoring, education, and outreach. WDFW recognizes the complexity in managing marine resources in Puget Sound, and that the expertise to conduct the best available science and practices will require advice from scientists, managers, and citizens from outside the agency. The Rockfish Conservation Plan

Response Number	Policy Area	Topic	Response
			identifies that WDFW will work with tribal co-managers; agencies such as the Puget Sound Partnership, Department of Natural Resources, Department of Ecology, National Oceanographic and Atmospheric Administration, Environmental Protection Agency, US Army Corps of Engineers, and others; academic institutions; non-governmental organizations such as Coastal Conservation Alliance, People for Puget Sound, NW Straits Commission, and county Marine Resource Committees; and citizens to achieve the goal, strategies, and actions of the plan. Expert panels will likely be formed for stock assessment, marine reserves and rockfish conservation areas, research, and other appropriate topics.
47	All	Other Plans	The Rockfish Conservation Plan was developed under the auspices of the Puget Sound Groundfish Management Plan. Actions taken under the PSRCP will be coordinated with other existing plans for fish, habitat, ecosystems, and ESA recovery plans.
48	Monitoring	Recruitment	WDFW currently monitors the recruitment of common rockfishes in waters south of Port Townsend on a regular basis and elsewhere as opportunities arise. Agency biologists have been following a large year class of black, copper, and quillback rockfishes born in 2006 in the central basin and 2008 in Hood Canal. This work shows the erratic nature of recruitment and will need to be extended to other species and areas.
49	Monitoring	Transboundary	WDFW regularly engages in discussions with scientists and mangers conducting rockfish research and management from the Canadian Department of Fisheries and Oceans. This is achieved through the Technical Subcommittee (TSC) process of the Pacific States Marine

Response Number	Policy Area	Topic	Response
			Fisheries Commission, co-attendance at meetings and workshops, and individual discussions. In addition, WDFW has engaged in co-operative research in transboundary waters that has focused on rockfishes and other groundfish.
50	Ecosystem	Climate Change	Insufficient information exists to fully address the potential impacts of climate change. Climate change is addressed in the DEIS in section 2.7.4 and in Palsson et al. (2009). We will work with partners and experts including academic, federal, and other scientists to predict and respond to the limitations and opportunities that may result from climate change including increasing water temperatures and changes in current patterns, freshwater input, and wind patterns. WDFW is developing a Climate Change Strategic Plan that will be implemented through a climate change coordinator.
51	All	Permitting	As appropriate under the various jurisdictions within Puget Sound, WDFW will obtain legally-required permits for storm water, wetlands, water quality, hydraulic, shoreline, and other project permits.
52	all	Costs	WDW will implement this plan in a phased approach paying for some management, monitoring, and other costs with funds already authorized by the Washington State Legislature. WDFW will partner with other organizations and seek new funding opportunities from internal and external sources to achieve the strategies and actions of the PSRCP.
53	Natural Production	Stock Areas	Stock units will be generalized unless sufficient information exists to show population segmentation. However, WDFW will manage units within stock areas to reflect differences in local abundance, amounts of habitat, and other factors. We cannot expect that all

Response Number	Policy Area	Topic	Response
			rockfish will have the same stock units as each other. In the final PSRCP, we identify six stock units depending upon the species considered. WDFW will consider the appropriate degree of scale in managing fisheries and instituting marine reserves and rockfish conservation areas.
54	Education and Outreach	Education	The PSRCP identifies the importance of education about rockfish issues not only for fishers but for all Washington citizens who are concerned about the health of Puget Sound. Therefore, WDFW endorses the most conservative alternative and will seek partnerships to carry out this broad objective. Responses obtained from the DEIS demonstrate a broad range of citizens are interested in the recovery of rockfish in the Puget Sound ecosystem.
55	Monitoring	Monitoring	There are several types of monitoring, and WDFW will work with its partners to build an effective system to monitor fisheries, indicator species, marine reserves and rockfish conservation areas, and other programs aimed at sustaining rockfish populations and evaluating the effectiveness of the PSRCP. Techniques may include scuba, remotely-operated vehicles, survey trawls, traps, creel surveys, and non-lethal devices. Because of costs and other limitations, WDFW will focus its monitoring on indicator species but will occasionally monitor non-indicator species.
56	All	Specificity	The DEIS and PSRCP identify the goal to restore and protect our natural heritage of Puget Sound rockfish populations. The plan indentifies eight policy categories and objectives for each. Within each policy category, a series of strategies and actions are listed. This plan is a long-term plan, and because of the

Response Number	Policy Area	Topic	Response
			complexities and data limitations, specific benchmarks were not included. As the plan is executed, WDFW will work with its partners to establish short and long-term benchmarks, some quantitative, others qualitative to measure the success of the plan. WDFW will review the progress in achieving the plan on a five-year basis or more frequently as needed.
57	Ecosystem	Food web	NOAA Fisheries is developing a food web model for Puget Sound that can be a tool for understanding how predators and prey function in Puget Sound. However, practical applications of this model are far into the future, and we generally have a poor understanding of how, or if, predators control marine fish populations. Removing one predator may have unknown consequences for other species in the ecosystem. How fisheries for one species affect others is still poorly understood but may be altered in the future as more information is available.
58	Ecosystem	Pollution	WDFW and NOAA Fisheries in Puget Sound have been worldwide leaders in discovering how pollution affects fish and other marine organisms. Recent research has focused on how pollutants are transferred through the food web and accumulated at higher trophic levels. WDFW will adjust its management as new information becomes available. Pollution effects are identified in the DEIS as an ecosystem stressor. WDFW will work with state and local health authorities who are responsible for issuing health advisories and for restoring degraded habitat. WDFW will work with partners to educate the public about safe and best practices to minimize the effects of pollution. WDFW will help influence the selection and practices of remediation efforts undertaken by other agencies.
59	All	Supports Plan	Comment supports the plan or the

Response Number	Policy Area	Topic	Response
			identified component of the plan.
60	Fisheries Management	Black rockfish	WDFW has conducted a number of surveys and analyses regarding black rockfish in the Strait of Juan de Fuca and along the Washington coast. Along the Washington coast, black rockfish are in a healthy condition, and this abundance is likely spilling over into the western Strait of Juan de Fuca. WDFW surveys indicate that black rockfish abundance diminishes towards the east, likely as a result of the diminishing abundance of giant kelp which they seem to prefer. We recognize black rockfish are common in the eastern portion of MCA 5 which is why WDFW provides for a limit of one black or blue rockfish. We have a more liberal 3 fish limit in the western portion of MCA 5 and even more liberal 6 fish limit in Neah Bay, and ten fish limit in the coastal portion of MCA 4. Modifying catch limits to match sustainable rockfish stocks is identified in the Fishery Management Strategies and Actions and the management framework for black rockfish exemplifies this. The daily catch limit of black rockfish was decreased in Neah Bay because the stock of blue rockfish, a very similar species to black rockfish, is not as strong as black rockfish. Protecting weaker stocks is also a facet of the PSRCP. Black rockfish retention is not allowed in MCAs 6-13 as their abundance has decreased during most of the past 20 years. There is good news in that two strong year classes appear to be increasing black rockfish abundance in many Puget Sound areas, but it will take years for this portion of the stock to rebuild with multiple year classes of spawning adults.
61	Fishery Management	Increasing Regulations and Costs	Rockfish are an incredibly diverse group of rockfish. The PSRCP reflects this diversity and new management actions

Response Number	Policy Area	Topic	Response
			will complicate the fisheries for these and other species. In 2007, the Washington Legislature implemented fifty cent surcharge on saltwater licenses for rockfish research, and license fees have and may increase to pay for increased costs and to support management programs. While increased regulations and costs may discourage fishers from pursuing harvest activities in the short term, implementing the PSRCP will bring about stability in fish populations, fisheries, and local economies in the long-term. We need to make this investment in planning, regulations, and costs now.
62	Monitoring	Poaching	Fishing regulations apply to all non-tribal fishers in Washington. When you observe suspected illegal activity, especially on a continuous basis, contact Fish and Wildlife Officers by calling the poaching hotline at 800-477-6224 during business hours or to report in-process violations on weekends, holidays, and after hours, call your local State Patrol office. Reports are confidential and are forwarded to a Fish and Wildlife Officer for investigation. Please note the date, time, location, number of fishers, and a description of the persons.

Response Number	Policy Area	Topic	Response
63	Monitoring	Catch Accounting	WDFW relies upon a two-phase procedure to estimate the recreational harvest of marine fish and Dungeness crab. One phase is the creel survey of anglers returning to public boat launches throughout Puget Sound east of the Sekiu River. The second phase is a telephone survey of licensed anglers in Washington State. The creel survey provides an estimate of how many fish are caught per angler trip and the phone survey provides an estimate for how many trips are taken during a two month period. The two surveys are matched to two-month periods, types of fishing gear, and intended species of harvest. Creel samplers do not interview every returning angler—they are assigned to sample sites in proportion to the expected amount of fishing effort and sample from 1 to 20% of the returning fishers. Once at the site, samplers attempt to sample all the returning anglers without regard to boat, method, or target species. The phone survey selects license holders at random and queries respondents about how many, when, and the type of marine fishing trips they have taken. The estimate of fishing trips for a Marine Catch Area (MCA) for each two-month period, fishing mode, and target species are multiplied by the average catch per angler for the same types of trips. The result is an estimate of the harvest or released catch for each species. Note that this creel survey does not include anglers originating from private moorages or anglers fishing from shore. Separate catch record cards have been suggested for rockfish. We would need to request this change through the State Legislature. We would need legislation to add rockfish from the catch record card,

Response Number	Policy Area	Topic	Response
			to issue a separate card, and to be able to impose a penalty for those cards that aren't returned on time. The Commission could adopt a mandatory reporting system, but cannot impose a fee on those who do not comply (such as the $10 fee imposed on crab fishers for failure to return their CRC). We would have to conduct a separate study to determine what correction factors we would need to use. For crab, we have been using a follow-up phone survey of non-respondents to calculate non-response bias – this is ongoing but will likely wrap up this year or next. Of course we do get complaints from the public about the separate crab cards adding another layer of complexity, and particularly about the ten-dollar penalty associated with late returns. Given that there is an incentive to not report catches, implementing another CRC system without a penalty would be difficult to enforce and could result in even less accurate catch information.
64	Natural Production	consumption of rockfish	A desirable action and outcome of the PSRCP it to provide for fishing opportunities for other species consistent with rockfish fishery management guidelines. Healthy stocks in the right circumstances will provide for fishing opportunities, but until stocks improve, we will implement conservative management (see Response 14). Consumers of rockfish and other sensitive species have the choice to purchase and dine on species that have been caught in certified sustainable fisheries. There are several "green" certifying organizations.
65	Ecosystem	ecosystem functions	WDFW's preferred Ecosystem alternative is the More Conservative option (#2) that emphasizes protecting the ecosystem functions of indicator rockfish species. In

Response Number	Policy Area	Topic	Response
			particular, Actions 2 and 3 state that fishing may have to be reduced or marine reserves implemented to protect rockfishes within intact and functioning ecosystems. Alternative 2 emphasizes that fisheries may be reduce to achieve this strategy and Alternative 3 emphasizes that marine reserves may be implemented to achieve this strategy.
66	Outreach and Education	ecotourism	There is no direct license fee for divers or other watchers of wildlife. However, ecotourists may pay for WDFW parking access and contribute to local economies by purchasing and maintaining dive gear and spending money on travel. WDFW and the Washington Legislature have considered conservation fees for non-consumptive users in the past and may in the future. Divers spearfishing and collecting shellfish do pay recreational license fees.
67	Fisheries Management	MRs and RCAs	Marine reserves (MRs) are intended to be permanently closed areas affording rockfish and other marine species protection so that portions of rockfish stocks can grow and function in the absence of fishing pressure. Rockfish Conservation Areas (RCAs) are intended to rebuild rockfish stocks and restore the natural age, size, and genetic diversity of a portion or the stocks. RCAs will be crafted to individual species, stocks, and circumstances and may or may not be permanent depending upon the goals and objectives of each RCA. Because of the slow growth and infrequent recruitment of rockfish and the complex nature of food webs, it would not make sense to close and open all areas for a short period to provide for short-term fisheries. RCAs and MRs may protect local features of interest or broad, representative types of habitats.

Response Number	Policy Area	Topic	Response
68	Fisheries Management	coastal stock assessments	Palsson et al. (2009) used the results from US coastal stock assessments to inform stock status determination for Puget Sound stocks of yelloweye, canary, black, yellowtail, and bocaccio. Palsson et al. (2009) also examined stock trend information from British Columbian waters for canary and bocaccio rockfishes. Palsson et al. (2009) did not use coastal or Canadian assessments for blue, China, splitnose, or brown rockfishes as stated in a comment. Palsson et al. (2009) did use biological information for many species to establish vulnerability categories but not for status and trends. Using stock assessment information from adjacent areas is a prudent scientific measure. Palsson et al. (2009) did not recognize any direct evidence for population structuring for these species and considered the use of adjacent trends informative for establishing stock conditions in Puget Sound. A Biological Review Team formed by NOAA Fisheries took another approach for five ESA petitioned rockfish species lacking any direct evidence of genetic structuring for Puget Sound that was subsequent to the development of the Biology and Assessment of Puget Sound Rockfishes. As identified in Palsson et al. (2009), many species of rockfish had insufficient information to determine stock condition and as a conservative measure, designated unknown stock status to these stocks, meaning that the management for these species would consider lower exploitation rates and cautious management measures for these species. The result of this assessment was to close fishing for rockfishes in most of Puget Sound and to impose a closure for fishing for

Response Number	Policy Area	Topic	Response
			bottomfish in waters deeper than 120'.
69	Fisheries Management	spearfishing	Spearfishing is generally a selective fishing gear that might be focused towards harvestable numbers of rockfishes. However, the large majority of fishers in Puget Sound are anglers who recreate and provide economic activity over a broad region. WDFW seeks to provide a diversity of fishing opportunities.
70	All	Sport Rule pamphlet	WDFW puts its sport rule pamphlet into effect on May 1st of each year. Recreational fishing licenses are valid one month before on April 1st. WDFW tries to distribute the pamphlet coincident with the issuance of new licenses. Publishing the pamphlet earlier would be difficult because the rules and content of the pamphlet are dependent on several management agreements that are not complete until late March. Changing the date of the license issuance would present problems in catch accounting for a number of seasonal fisheries. Most rules, however, are set earlier, and WDFW involves and informs the public of its emergency and permanent rules through the WDFW Commission process, the WDFW website, public meetings, and media releases.
71	Fishery Management	Pier Fishing, juveniles	Because pier fishing is in shallow water, fishers are not subject to the greater than 120' depth prohibition on fishing for bottomfish. Presently, all fishing for rockfish is prohibited in MCAs 6-13 because of weak stocks of rockfish. This

Response Number	Policy Area	Topic	Response
			prohibition affects all ages and recreational fisheries.
72	Habitat	HPA performance audit	The Joint Legislative Audit and Review Committee or the Legislature request performance audits and may conduct the audit. The Washington State Audit Office may also conduct a performance audit. Your legislator or those offices may be contacted to request a performance audit of the HPA process.
73	Habitat	Floating woody debris	Floating kelp, not woody debris has been identified as recruitment habitat for splitnose and tiger rockfishes.
74	Fishery Management	Hatchery-released salmon	The statement refers to hatchery reared and released salmon in Puget Sound and were developed by the WDFW Hatchery Division.
75	Fishery Management	Other groundfish	This plan focuses on rockfish and both are managed under the terms of the Puget Sound Groundfish Management Plan. However, other species such as lingcod, halibut, cabezon, and crab will be considered in ecosystem management or other plans.
76	Habitat	Marine reserves	The plan identifies management strategies and actions including developing marine reserves and rockfish conservation areas that the Department will pursue. These strategies and actions have been influenced by a variety of advisors and stakeholders.