# MSC Public Comment Draft Report

*for*

# Washington and California Pink Shrimp Fisheries—scope extension

**MRAG Americas, Inc.**

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MSC Fishery Certification Requirements (FCR) Version 2.0 (process)

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# Glossary

| | |
|---|---|
| APA | Administrative Procedures Act |
| BRD | Bycatch Reduction Device |
| BRT | Biological Review Team |
| CA | California |
| CAB | Conformity Assessment Body |
| CDFG | California Department of Fish and Game |
| CDR | Client Draft Report |
| CEP | Coordinated Enforcement Process |
| CoC | Chain of Custody |
| CPS | Coastal Pelagic Species |
| CPUE | Catch per unit effort |
| CR | Certfication Requirements |
| ct/lb | count per pound |
| CZMA | Coastal Zone Management Act |
| DPS | Distinct Population Segment |
| EEZ | Exclusive Economic Zone |
| EFH | Essential Fish Habitat |
| EO | Executive Order |
| ESA | Endangered Species Act |
| ETP | Endangered, Threatened, Protected Species |
| F | Fishing Mortality |
| FCMA | Fishery Conservation and Management Act |
| FEP | Fisheries Ecosystem Plan |
| FMP | Fishery Management Plan |
| GCR | Guidance on Certification Requirements |
| HAPC | Habitat Areas of Particular Concern |
| HT | Heavily Trawled Sites |
| IMM | Intertek Moody Marine |
| ISBF | Introduced Species Based Fisheries |
| ITQ | Individual Transferable Quota |
| IQ | Individual Quota |
| LRP | Limit Reference Point |
| LT | Lightly Trawled Sites |
| MBTA | Migratory Bird Treaty Act |
| MMPA | Marine Mammal Protection Act |
| MOU | Memoranda of Understanding |
| MPA | Marine Protected Area |
| MRP | Marine Resources Program |
| MSA | Magnuson-Stevens Act |
| MSC | Marine Stewardship Council |
| MSY | Maximum Sustainable Yield |
| NAFO | Northwest Atlantic Fisheries Organization |
| NEPA | National Environmental Policy Act |
| nm | Nautical Miles |
| NMFS | National Marine Fisheries Service |
| NMSP | National Marine Sanctuary Program |
| NOAA | National Oceanic and Atmospheric Administration |
| NSAC | Northern Shrimp Advisory Committee |
| NWFSC | Northwest Fisheries Science Center |
| OAR | Oregon Administrative Rules |
| OCZMA | Oregon Coastal Zone Management Association |
| ODFW | Oregon Department of Fish and Wildlife |
| OFWC | Oregon Fish and Wildlife Commission |
| OLE | NOAA Office of Law Enforcement |
| OPAC | Ocean Policy Advisory Council |
| OR | Oregon |
| OSP | Oregon State Police |
| OTC | Oregon Trawl Commission |
| PFMC | Pacific Fishery Management Council |
| PSMFC | Pacific States Marine Fisheries Commission |
| PI | Performance Indicator |
| PRA | Paperwork Reduction Act |
| PSA | Productivity-Susceptibility Analysis |
| RBF | Risk Based Framework |
| RCA | Rockfish Conservation Area |
| RFA | Regulatory Flexibility Act |
| SICA | Scale Intensity Consequence Analysis |
| SG | Scoring Guidepost |
| SPR | Spawning Potential Ratio |
| SST | Sea Surface Tempreatures |
| TRP | Target Reference Point |
| UoC | Unit of Certification |
| USFWS | U.S. Fish and Wildlife Service |
| VMS | Vessel Monitoring System |
| WA | Washington |
| WCGOP | West Coast Groundfish Observer Program |
| WDFW | Washington Department of Fish and Wildlife |
| WOC | Washington, Oregon, California |

# 1. Executive Summary

This Public Comment Draft Report sets out the results of the Marine Stewardship Council (MSC) assessment of the Washington and California pink shrimp (*Pandalus jordani*) trawl fisheries against the MSC Principles and Criteria for Sustainable Fishing. This evaluation has been undertaken by way of a "scope extension" to the currently certified Oregon pink shrimp fishery. As such, only those components not held in common with the Oregon fishery have been evaluated, and the commensurate background sections revised. See Intertek Moody Marine 2013 for the complete report on the components of the fishery that were not re-evaluated during the scope extension process. This report is incorporated herein by reference.

Intertek Moody Marine (IMM) was contracted in 2011, by the Oregon Trawl Commission to undertake the recertification assessment of the Oregon pink shrimp trawl fishery, which was originally certified in December 2007.

There was only one unit of certification identified, and assessed during the recertification process:

**Species:** Pink (Ocean) Shrimp (*Pandalus jordani*)
**Geographical Area:** West Coast USA, Oregon, Washington, California (WOC)
**Method of Capture:** Otter Trawl
**Fleet:** Oregon permitted vessels fishing in WOC and US Exclusive Economic Zone (EEZ) waters, landing in Oregon ports
**Stock:** This certification assesses the west coast ocean shrimp stock which extends from south east Alaska to California waters. The assessment considers the health of the coast wide stock and the effects of the Oregon permitted harvests on that stock
**Management System:** Oregon Department of Fish and Wildlife
**Client Group:** Oregon Trawl Commission

The assessment was undertaken in accordance with the MSC Certification Requirements (v. 1.2, January 10th, 2012) and using the MSC Guidance to MSC Certification Requirements (v. 1.0, August 15, 2011) which sets out the assessment and certification process. In early 2015, the Oregon Trawl Commission requested that IMM transfer the Oregon MSC certificate to MRAG Americas, in order that MRAG Americas could undertake the 2nd surveillance audit for the fishery (MRAG Americas 2015) in combination with a site visit to extend the scope of the assessment to include the Washington (WA) and California (CA) components of the fishery.

The scope extension process adds two additional Units of Assessment to the fishery, as follows:

**Species**: Pink (Ocean) Shrimp (*Pandalus jordani*)
**Geographical Area**: West Coast USA, Oregon, Washington, California
**Method of Capture**: Otter Trawl
**Fleets (2):** Washington permitted vessels fishing in WOC and US Economic Zone (EEZ) waters, landing in Washington and Oregon ports; and California permitted vessels fishing in WOC and EEZ waters, landing in Washington, Oregon, and California ports.
**Stock**: This certification assesses the west coast ocean shrimp stock which extends from south east Alaska to California waters. The assessment considers the health of the coast wide stock and the effects of all permitted harvests on that stock
**Management Systems (2):** Washington Department of Fish and Wildlife (WDFW); and California Department of Fish and Wildlife (CDFW).
Client Group: Pacific Seafood

The following steps have been undertaken as part of the scope extension process:

- A Gap Analysis per FCR 7.22.4 to confirm which assessment components are the same and different to the certified Oregon fishery (http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/pacific/oregon-pink-shrimp/expedited-assessment-california-and-washington-pink-shrimp/20150205_EXP_NOT_SHR094.pdf).
- Announcement of the assessment, including scope extension assessment team, use of the default assessment tree (v1.3), and notification of the site visit.
- Undertaking of the site visit
- Production of the client draft scope extension report that describes the background to the fisheries, the fishery management operations and the evaluation procedure and results. The client and subsequent draft and final reports include only the information required for the scope extension evaluation according to FCR PE 3.1.2. The original Oregon Pink Shrimp Public Certification Report (Intertek Moody Marine 2013) contains the remaining evaluation of those components held in common among the three state fisheries.
- The stakeholder consultation on proposed peer reviewers
- Peer Review Confirmation
- Production of the Peer Review Report
- Response to Peer Review comments, and report revisions where necessary
- Production of the Public Comment Draft Report

The assessment of the WA and CA fisheries was performed by Amanda Stern-Pirlot, Susan Hanna, and Robert J. Trumble. Amanda Stern-Pirlot was the Assessment Team Leader. According to the gap analysis, differences between the WA and CA fisheries and certified OR fishery were found primarily in Principle 1, Harvest strategy component, and Principle 3, all components. In addition, the team reconsidered the evaluation of Information Performance Indicators within Principle 2 to ensure there were no gaps. As these are state managed fisheries, there are separate scoring tables for Washington and California for all newly evaluated Principle 3 PIs. Principle 1 Harvest strategy component PIs are scored together for both states since Principle 1 must be assessed in its entirety at the stock level.

A site visit was conducted in Newport, Oregon during March 9th-11th. During that time the assessment team met with scientists, fishery managers and stakeholders as well as clients and harvester representatives. The site visit served a dual purpose: for this scope extension assessment and for the 2nd surveillance audit of the certified Oregon fishery (MRAG Americas 2015) There were no meetings requested from additional stakeholders (ENGOs) and no written submissions were received.

The following strengths and weakness were identified with respect to each Principle/Component newly evaluated:

Principle 1 Harvest Strategy Component

Strengths:

- The stock is considered healthy and the short-term outlook is positive. Studies have demonstrated that recruitment is mainly controlled by environmental factors and the effects of fishing are relatively minor.
- The shrimp fishery is being managed responsibly and adaptively. Although stock abundance is largely controlled by environmental factors, the long-standing harvest strategies and management tools provide additional protection for recruitment and the spawning biomass.

- Target and limit reference levels have recently been established based on CPUE and environmental indices that are appropriate for ensuring the fishery does not adversely affect spawning stock size under poor environmental conditions.
- The work conducted by the scientific staff responsible for the assessment of the stock and the impacts of the fishery is exemplary. Their dedication and excellent rapport with harvesters is widely recognized within the industry.

Weaknesses:

- There is no FMP for the Washington or California pink shrimp fisheries.
- Information relevant to the assessment of stock status is limited to fishery dependent data. Past experience with trawl survey data (fishery independent) has determined that they are not useful for estimating trends in stock abundance.

Principle 3

Washington:

Strengths

- The management system actively anticipates and identifies emerging conservation issues.
- Management incorporates a strong and effective consultation process.
- The management system provides incentives for sustainable fishing.
- Management decision making is adaptive and responsive to changing conditions.
- There is a high level of compliance with regulations.

Weaknesses

- The management system lacks a pink shrimp FMP that contains explicit short-term and long-term objectives.
- The management system lacks a formal research plan.
- The management system is not subject to a regular external review.
- There exists the potential for activation of latent permits and subsequent increases in effort.

California:

Strengths

- The management system actively anticipates and identifies emerging conservation issues.
- The management system provides incentives for sustainable fishing.
- There is a high level of compliance with regulations.

Weaknesses

- Consultation processes are not well developed.
- The management system lacks a pink shrimp FMP that contains explicit short-term and long-term objectives.
- Management decision making is slow to respond to changing conditions.
- The management system lacks a formal research plan.
- The management system is not subject to a regular external review.

- There exists the potential for activation of latent permits and subsequent increases in effort.

Based on the information available to date, the Washington Pink Shrimp Trawl Fishery achieved overall scores of 86.3 for Principle 1, 89.7 for Principle 2 (carried over from the Oregon fishery evaluation, as no gaps in P2 were identified for the WA and CA components) and 85.3 for Principle 3. The California Pink Shrimp Trawl fishery achieved overall scores of 89.7 for Principle 1, 89.7 for Principle 2 (carried over from the Oregon fishery evaluation, as no gaps in P2 were identified for the WA and CA components) and 77.1 for Principle 3. As such, the Washington fishery is recommended for certification against the MSC Standard, as no indicator scored less than 60, and all overall principle scores were above 80. The California fishery is not recommended for certification, as, although no single indicators scored less than 60, the Principle 3 score is below 80 (77.1).

Six conditions of certification were originally placed on the Oregon fishery for PIs 1.1.2 (Reference Points), 2.3.1 (ETP, Outcome Status), 2.3.3 (ETP, Information/Monitoring), 3.2.1 (Fishery Specific Objectives), 3.2.4 (Research Plan), and 3.2.5 (Monitoring and Management Performance Evaluation). These conditions apply as well to the Washington fishery, and would have applied to the California fishery if it were certified. Two additional conditions (3.1.2—Consultation, Roles and Responsibilities, and 3.2.5—Monitoring and Management Performance Evaluation (information dissemination scoring issue) would also have applied to the California fishery. The conditions and milestones for Washington are detailed in Appendix 1.2 of this report.

All comments and information presented by the peer reviewers was considered and the report revised as necessary prior to the publication of the Public Comment Draft Report (PCDR) in July of 2015.

# 2. Authorship and Peer Reviewers

The WA and CA pink shrimp scope extension assessment team consists of three individuals: Amanda Stern-Pirlot (Assessment Team Leader, P2 expert), Susan Hanna (P3 expert), and Bob Trumble (advisor and P1 expert):

**Ms. Amanda Stern-Pirlot**. Amanda Stern-Pirlot is an M.Sc graduate of the University of Bremen, Center for Marine Tropical Ecology (ZMT) in marine ecology and fisheries biology. Ms. Stern-Pirlot joined MRAG Americas in mid-June, 2014 as MSC Certification Manager and senior fisheries consultant, a role involving oversight of and participation in MSC assessment activities. She has worked together with other scientists, conservationists, fisheries managers and producer groups on international fisheries sustainability issues for the past 10 years. With the Institute for Marine Research (IFM-GEOMAR) in Kiel, Germany, she led a work package on simple indicators for sustainable within the EU-funded international cooperation project INCOFISH, followed by five years within the Standards Department at the Marine Stewardship Council (MSC) in London, developing standards, policies and assessment methods informed by best practices in fisheries management around the globe. She has also worked with the Alaska pollock industry as a resources analyst, within the North Pacific Fisheries Management Council process, focusing on bycatch and ecosystem-based management issues, and managing the day-to-day operations of the offshore pollock cooperative. She has co-authored a dozen publications on fisheries sustainability in the developing world and the functioning of certification schemes as an instrument for transforming fisheries to a sustainable basis.

**Dr. Susan Hanna.** Dr. Hanna is professor emeritus of marine economics at Oregon State University. Her research and publications are in the areas of fishery economics, fishery management, fishery policy and property rights. She has served as a scientific advisor to the Pacific Fishery Management Council, Northwest Power and Conservation Council, National Marine Fisheries Service, National Oceanic and Atmospheric Administration and the U.S. Commission on Ocean Policy. She has been a member of the National Research Council's Ocean Studies Board and several NRC Committees. Dr. Hanna has participated in several Marine Stewardship Council assessments as both assessment team member and reviewer. She has been an assessment team member for Bering Sea/Aleutian Islands and Gulf of Alaska Pollock, Bering Sea/Aleutian Islands and Gulf of Alaska Pacific Cod, Bering Sea/Aleutian Islands and Gulf of Alaska Flatfish, U.S. West Coast Groundfish Trawl, and Oregon Dungeness Crab fisheries. She has served as a reviewer for the first Bering Sea/Aleutian Islands and Gulf of Alaska Pollock assessment, the first Oregon Pink Shrimp assessment, and the assessments of Fogo Island Cold Water Shrimp and Louisiana Blue Crab.

**Dr. Robert Trumble**. Bob Trumble joined MRAG Americas in 2000 as a senior research scientist and became Vice President in 2005. He has wide-ranging experience in marine fish science and management, fishery habitat protection, and oceanography. Previously, he served as Senior Biologist of the International Pacific Halibut Commission in Seattle, Washington, in various research and management positions at the Washington Department of Fisheries, and with the US Naval Oceanographic Office. Dr. Trumble has extensive experience working with government agencies, commercial and recreational fisheries groups, Indian tribes, and national and international advisory groups. He received appointments to the Scientific and Statistical Committees of the South Atlantic Fishery Management Council and the Pacific Fishery Management Council, the Groundfish Management Team of the North Pacific Fishery Management Council, the affiliate faculty of Fisheries at the University of Washington, and the Advisory Committee of the Washington Sea Grant Program. Dr. Trumble received a Ph.D. in Fisheries from the College of Fisheries, University of Washington.

These individuals collectively have the knowledge and competencies applicable to this fishery assessment.

## Peer reviewer

Per MSC requirements for scope extension, only one peer reviewer was required for this report. Rich Lincoln served as peer reviewer:

**Rich Lincoln.** Mr. Rich Lincoln has wide ranging experience in marine and freshwater fisheries policy, management, science and assessment. His expertise includes evaluating the adequacy of biological assessments and their incorporation into fisheries regulatory decisions; resource monitoring and evaluation; use of alternative gear and regulatory approaches to minimize catch and impact on non-target species and habitat; threatened and endangered species recovery planning; monitoring and management culture-based production in meeting target species and ecosystem objectives; use of monitoring, control and surveillance systems to meet fisheries management objectives; fisheries co-management systems; and stakeholder engagement processes. Rich has extensive experience with the development and application of MSC's fishery assessment requirements and guidance and has been involved in the review of numerous MSC fishery assessments. He has served on a number of US and international fisheries management panels and committees including current membership on the Pacific Fishery Management Council and previous membership on the Pacific Salmon Treaty's Fraser River Panel. Mr. Lincoln received a B.S. in Natural Resources from the University of Michigan.

# 3. Description of the Fishery

## 3.1 Unit(s) of Certification and scope of certification sought

The MSC Certification Requirements, Section 27.4.4 state that in order for a fishery to be eligible for certification, it must be in conformity with Principle 3, Criterion A1 and Principle 3, Criterion B14:

- Principle 3, Criterion A1: A fishery shall not be conducted under a controversial unilateral exemption to an international agreement
- Principle 3, Criterion B14: Fishing operation shall not use destructive fishing practices such as fishing with poisons or explosives.

The assessment team and MRAG Americas have confirmed that the WA and CA Pink Shrimp Trawl fisheries conform to these criteria and are within scope as required by the MSC.

The MSC Guidelines to Certifiers specify that the unit of certification is *"The fishery or fish stock (=biologically distinct unit) combined with the fishing method/gear and practice (=vessel(s) pursuing the fish of that stock) and management framework."* The fisheries proposed for certification are therefore defined as:

| | |
|---|---|
| Species: | Pink (Ocean) Shrimp (*Pandalus jordani*) |
| Geographical Area: | West Coast USA, Oregon, Washington, California (WOC) |
| Method of Capture: | Otter Trawl |
| Fleets (2): | (1) Washington permitted vessels fishing in WOC and US Economic Zone (EEZ) waters, landing in Washington, Oregon, and California ports; and (2) California permitted vessels fishing in WOC and EEZ waters, landing in Washington, Oregon, and California ports. |
| Stock: | This certification assesses the west coast ocean shrimp stock which extends from south east Alaska to California waters. The assessment considers the health of the coast wide stock and the effects of all permitted harvests on that stock |
| Management Systems: | (1) Washington Department of Fish and Wildlife (WDFW); and (2) California Department of Fish and Wildlife (CDFW). |
| Client Group: | Pacific Seafood Group |

The client group represents California and Washington permitted harvesters operating within the coastal and federal waters of the states of Washington, Oregon and California who are permitted to land in California and Washington ports. Only those vessels landing to Pacific Seafood are eligible to use the fishery certificates, subject to change under certificate sharing arrangements.

For the states, these are currently non-tribal limited entry fisheries. All qualifying shrimp trawl fishers with a license to fish off of, and land pink shrimp in, Washington are eligible under this certification. Washington implemented limited entry to qualifying shrimp trawlers in 1994. At that time about 120 vessels qualified, but if a fisher didn't renew the license, it was eliminated. In 2013, 83 renewed their license. In the decade prior to 2014, there were 13 to 20 vessels active off WA, and there were 33 vessels in 2014 (Wargo 2015).

There has been some interest by Washington Tribes in participating in the ocean shrimp fishery. The Washington coastal tribes have rights to pink shrimp based on United States v. Washington, No. 9213, subproceeding 89-3 Implementation Order, issued August 28, 1995. In 2005, a Pink

Shrimp Harvest Management Plan Between the State of Washington and the Makah Tribe was prepared (WDFW 2005). No tribal fishing has yet occurred.

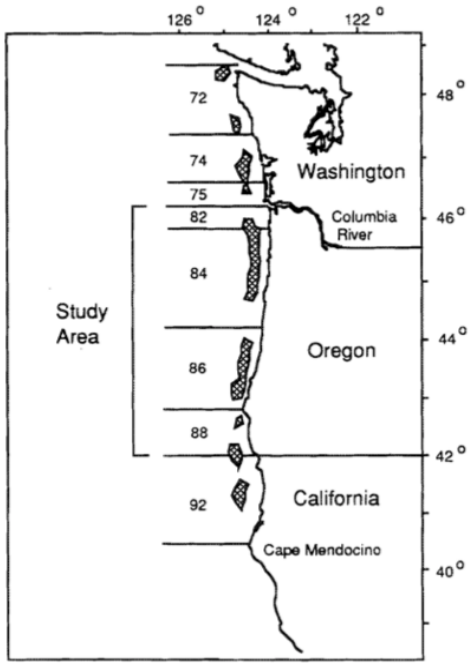
Other eligible fishers have been identified within the unit of certification and a certificate sharing letter has been issued by Pacific Seafood. All harvesters permitted to land in Washington are considered as other eligible fishers when they do not land pink shrimp at the client group.

## 3.2 Overview of the fishery (Adapted from Intertek Moody Marine 2013)

3.2.1. Summary of management operation and area.

The pink shrimp trawl sector off the U.S. West Coast operates in marine waters off Washington, Oregon, and Northern California. The main commercial concentrations of pink shrimp off the coast are shown in Figure 1 (from Hannah 1995).

Legislative actions taken at the federal level during the 1970's had a large impact on state fisheries like the pink shrimp trawl fisheries in the three states. The 1973 Congressional "Eastland Resolution" committed the federal government to providing "all support necessary" to strengthen the US fishing industry (Heinz Center 2000). This was followed in 1976 by the passage of the Magnuson Fishery Conservation and Management Act (FCMA), which extended US fisheries jurisdiction to 200 miles offshore and established the system of eight regional fishery management councils that is still in place. The Pacific Fishery Management Council (PFMC) was charged with managing Federal fisheries off the coasts of Washington, Oregon, and California. Under the FCMA (later amended and renamed the Magnuson-Stevens Fishery Conservation and Management Act or Magnuson-Stevens Act) and in conjunction with federal capital assistance programs, West Coast fishing capacity expanded dramatically in both number of vessels and harvest efficiency (Young 2001).




The expansion of fishing effort and the accompanying decline in catch per unit effort (CPUE) in the pink shrimp fishery prompted coast-wide concern among both fishing industry and state management agencies. In 1981, the states working through the PFMC developed a draft Fishery Management Plan (FMP) for the ocean shrimp fishery off Washington, Oregon, and California. The idea of the FMP was to be compliant with the national standards specified in the Magnuson-Stevens Act and to introduce coast-wide uniformity of regulations across the three states. Since the shrimp fishery occurs primarily in the federal Exclusive Economic Zone (EEZ) it was thought that a federal plan would best serve the public interest as well as provide a broadened base of support for needed research (Abramson et al., 1981).

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The draft FMP evaluated five alternative management strategies in the context of potential Council jurisdiction, and a sixth in the context of state implementation of the plan. Based on cost considerations, as well as a perceived potential for the three states to collaborate in the management of their pink shrimp fisheries, the PFMC recommended foregoing a federal FMP in favor of coordinated management by the three states. The states subsequently agreed on

coordinated management measures, for example timing of seasons and limited entry programs, to control fishing effort. The Pacific States Marine Fisheries Commission (PSMFC) and state agencies have continued to work together to address emerging fisheries resource and management issues. Formal agreements between the states have been implemented through Memoranda of Understanding (MOU) and/or reciprocal rule making (TAVEL Certification 2007).

3.2.2. Species types, management history, fishing practices, historical fishing levels, and other resource attributes and constraints.

Species types. The smooth pink shrimp also known as the ocean shrimp, *Pandalus jordani*, is the dominant species making up more than 99% (Hannah and Jones 2005) of the shrimp catch. This species is easily separated from its closest congener, the northern shrimp, *Pandalus borealis*, by the absence of a sharp abdominal spine, which faces rearward on *P. Borealis* (Butler 1964). Except for some of the larger species of pandalid shrimp, it would be difficult to isolate and identify the few other pandalid species from thousands of ocean shrimp in a typical trawl catch off the U.S. Pacific coast (Hannah and Jones 2005).

Management history. The commercial trawl fishery for pink shrimp began in California in 1952 after commercial quantities were found in 1950 and 1951 by CDFW research vessels. The California Fish and Game Commission (CFGC) established the first set of regulations for the new fishery in 1952, which included season, net type, and mesh size restrictions. Ocean shrimp take was governed by catch quotas established in each regulatory area from 1952 to 1976. Quotas were based on recommendations of the CDFW and were set each year by the CFGC. From 1952 to 1963, ocean shrimp fishermen were limited to the use of beam trawls with a minimum mesh size of 1-3⁄8-inches (38-millimeters) between the knots. Following the1963 season, the use of otter trawls with the same size mesh was also permitted. The quota system was abandoned in 1976 and the following regulations were enacted in an effort to protect the resource: 1) a season closure from November 1 through April 14 to protect egg-bearing females; 2) a net mesh size of 1-3/8-inches (36-millimeters) to allow for escapement of small zero- and one-year-old shrimp; 3) a count per pound of 170 or less intended to protect one-year-old shrimp; and 4) a minimum catch rate of 350 pounds (159 kilograms) per hour to protect shrimp when the population was at a low level (Frimodig et al. 2009).

In 1981, the California regulations were changed based on an agreement with Oregon Department of Fish and Wildlife (ODFW) and Washington Department of Fisheries (now Washington Department of Fish and Wildlife (WDFW)) to establish uniform coast-wide management measures. The resulting regulations, which are still in effect today, included an open season from April 1 through October 31, a maximum count per pound of 160, and a minimum mesh size of 1-3⁄8-inches measured inside the knots (1-1/4-inch mesh is currently allowed for vessels fishing off California and landing in California ports). Additionally, the state of Oregon has a “reciprocal landing law” which prohibits the landing of ocean shrimp taken in California waters using nets with a mesh size less than 1-3⁄8-inches (36-millimeters). The ocean shrimp fishery off the United States west coast is managed by the three states, but incidental groundfish catch limits, trip limits, size limits, a vessel monitoring system starting in 2008, and area restrictions protecting essential fish habitat for groundfish are enforced in the federal open access trawl fishery under Title 50 of the Code of Federal Regulations (Hannah and Frimodig 2006).

Fishing practices. Pink shrimp trawl vessels off Washington range in size from 38 to 105 feet, with an average length of 65 feet, and can use single and double-rigged shrimp trawl gear. The pink shrimp season is open April 1 through October 31 and vessels deliver catch to shore-side processors. Vessels generally fish in depths ranging from 50 to 140 fathoms. Pink shrimp trawl

vessels retain the portion of their catch that is marketable. The portion of the catch that is not marketable or for which regulations prohibit landing is discarded at-sea (Wargo 2014).

All shrimp boats in California pulled a single rig of one net and two doors prior to the 1974 season, when vessels towing a double rig from outriggers (one net on each side of the boat) entered the fishery. The double-rigged vessels are approximately 1.6 times more effective than single-rigged vessels. Double-rigged vessels made up approximately 25 percent of the California fleet in the late 1970s, and increased to nearly half the fleet during the 1980s and 1990s. Surveys conducted by ODFW researchers in the early 1990s on the Oregon fleet revealed that nearly 90 percent of the vessels were double-rigged. In recent years, nearly all of the ocean shrimp fishermen in California, Oregon, and Washington used a double-rigged vessel (Hannah and Frimodig 2006).

In 2003, a voluntary federal buyout instituted for trawl vessel permits removed almost half the capacity of the west coast trawl fleet. The buyback program was funded as a loan to the trawl sector to be repaid through the assessment of a landings tax (NMFS 2004).

The Pacific coast pink shrimp fisheries are linked to the West Coast groundfish fishery through multiple use vessels and multiple permit ownership. Many groundfish fishermen also hold permits for, and fish in, the pink shrimp fisheries, as well as the Dungeness crab fisheries. Recent changes in the West Coast groundfish management affected the potential activation of dormant pink shrimp permits. An individual transferable quota (ITQ) program was implemented for the West Coast groundfish trawl fishery in 2011. Under the program, the mechanism used to allocate total quotas changed from bimonthly trip limits to individual quota shares. With quota shares, vessels owners have greater flexibility to time their groundfish landings in ways that permit greater participation in the pink shrimp fishery (PFMC 2011a).

In order to reduce bycatch, especially of rebuilding groundfish stocks and prohibited species (salmon, Pacific Halibut (*Hippoglossus stenolepis*), and Eulachon (*Thaleichthys pacificus*)), pink shrimp vessels are required to use bycatch reduction devices (BRDs) when targeting pink shrimp. Pink shrimp vessels are allowed to land up to a particular weight of groundfish per day multiplied by the number of days fished, but cannot exceed a per trip threshold. However, since mandatory BRDs were introduced during 2003, groundfish species are rarely landed by pink shrimp trawl vessels (Wargo 2014; Kalvass 2014; NOAA Fisheries 2014).

Historical fishing levels. The Washington coastal pink shrimp fishery dates back to the late 1950's. In the early years, the number of vessels in the fishery generally numbered less than two-dozen; and until the 1970's, landings did not exceed two million pounds. During the following two decades, the fishery expanded with abundant shrimp and good markets. In 1988, just over 18 million pounds of pink shrimp were landed by 53 vessels. In 1990, nearly 100 vessels landed about 15 million pounds at an ex-vessel price per pound ranging from 45 cents to 64 cents. However, within a few years a dramatic decline in local abundance caused many fishers to leave the fishery. The fleet numbered just over 50 vessels in 1994, and fewer than 30 four years later. Since the late 1990's, trawling for pink shrimp has improved some with recent landings increasing from around 10 million pounds per year to a record 30 million pounds in 2014 (WDFW 2015i). The market remains relatively flat with ex-vessel values ranging from 15 to 35 cents per pound, but the 20 to 30 fishers still active annually in the fishery have benefited from an apparent increase in pink shrimp abundance (WDFW 2015i).

Annual landings for ocean shrimp in California historically were highly variable through 2006, ranging from 140,000 pounds (64 metric tons) to 18,700,000 pounds (8,490 metric tons) in the 55 years of the fishery. Average annual landings increased each decade from the start of the fishery in the 1950s up to the end of the 1990s (Figure 2).

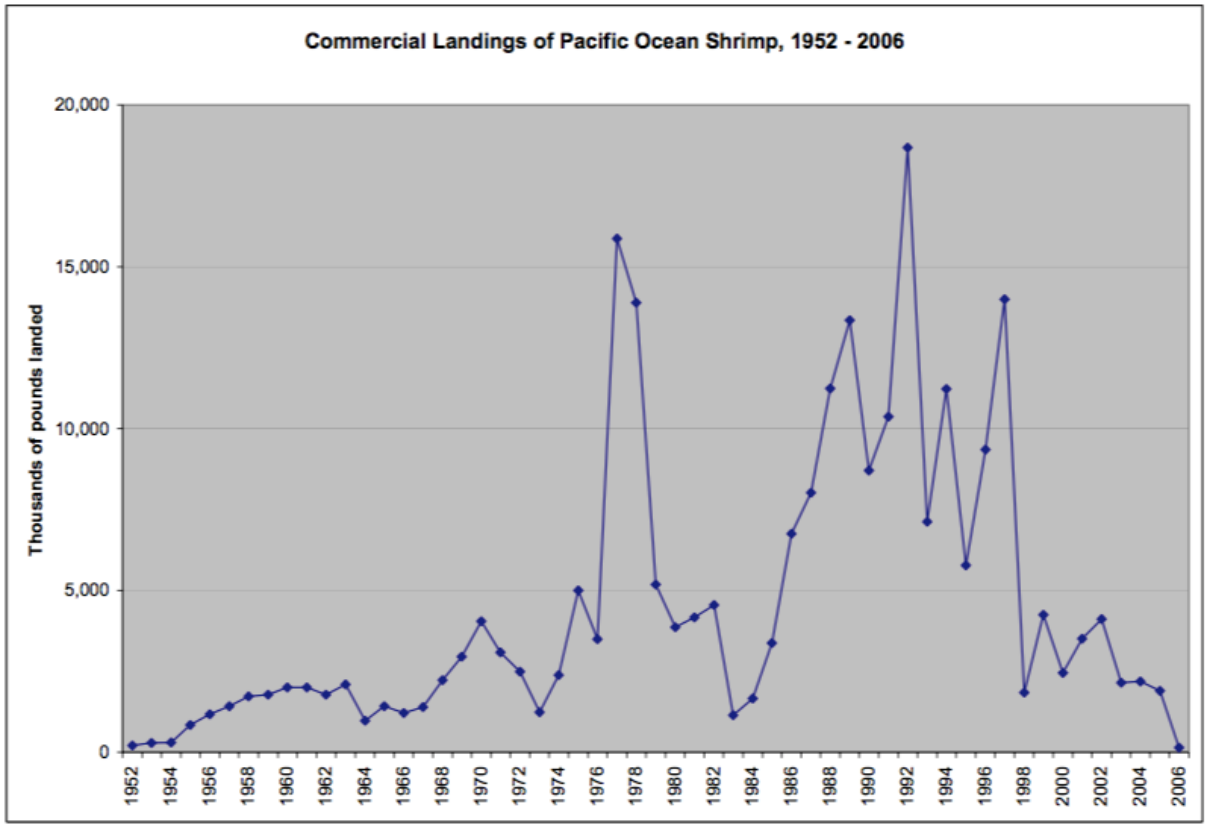


**Figure 2. Pacific ocean shrimp commercial landings in California from 1952 to 2006. Data source: CDFW commercial landing receipts.**

However, there was a four-fold decrease in average annual landings from 1998 through 2006 compared to the late 1980s and early1990s. The number of active vessels mirrored the trends in annual landings. A record high of 121 active vessels were recorded in both 1994 and 1996. Since 2000, the number of active vessels has decreased nearly every year to only four vessels in 2006 (Frimodig et al. 2009).

Other resource attributes and constraints. Although pink shrimp were long known to occur off the Oregon coast, the first documentation of commercial concentrations was made by exploratory cruises conducted by the Oregon Fish Commission (now ODFW) in 1951 and 1952. In its early years small landings and lack of processing capacity kept the fishery from achieving economic viability. Three factors promoted its development as a commercial fishery. The first was a 1957 government incentive provided by the Oregon legislature, reducing the landings tax from 0.75 to 0.10 cent per pound. As a result, 1957 is considered the beginning of the commercial shrimp fishery in Oregon. The second was the introduction of automatic peeling machines that replaced the slower hand peeling methods and allowed processing to become profitable. The third was the availability of larger more powerful double-rig vessels that enabled larger catches. These combined actions spurred expansion of the Oregon fishery, first on the north coast (Washington), then following shortly after on the south coast (California) (Abramson et al., 1981).

3.2.3. User rights (both legal and customary), the legal/administrative status of the operation and involvement of other entities including responsible government agencies.

Washington. The trawl fishery for pink shrimp in Washington is a limited entry fishery as noted above. An ocean pink shrimp delivery license is required by the State of Washington to operate the gear and it allows the operator to retain shrimp taken in the waters of the Exclusive Economic

Zone (EEZ) and land in Washington State ports (WAC 220-52-050). Fishers are allowed to fish for, retain, land, or deliver shrimp taken with trawl gear with a valid WDWF shrimp trawl fishery permit issued by the Director of WDFW.

The fishery is not under the authority of the Pacific Fishery Management Council, and as such no federal permit is required for pink shrimp. Groundfish may be landed if compliant with the open access groundfish regulations based on the Pacific Coast Groundfish Management Plan, developed by the Pacific Fishery Management Council (PFMC) and enforced by the National Marine Fisheries Service NMFS). Shrimp vessels interested in landing some groundfish are required to participate in the federal observer program. In practice, none of the Washington fishers choose to do so (Wargo 2014). The WDFW staff collect shrimp landing information on fish tickets. These data are sent to the PSMFC, which summarizes the fish ticket records into annual fishery statistical reports.

As mentioned above, the Washington coastal tribes have rights to pink shrimp based on United States v. Washington, No. 9213, subproceeding 89-3 Implementation Order, issued August 28, 1995.

California. In California, ocean shrimp may only be taken by trawl nets for commercial purposes in ocean waters pursuant to CDFW Code statutes and under authority of fishery permits established in Sections 120 through 120.3 of these regulations. Pink shrimp permit holders are also subject to the provisions of §189, Title 14 and FGC §8841. Any groundfish landed must be in compliance with the open access groundfish regulations based on the Pacific Coast Groundfish Management Plan, developed by the Pacific Fishery Management Council (PFMC) and enforced by the National Marine Fisheries Service (NMFS). The CDFW staff collect shrimp landing data on fish tickets. The PSMFC summarizes the fish ticket records into annual fishery statistical reports by state.

## 3.3 Principle One: Target Species Background (Adapted from Intertek Moody Marine 2013)

### 3.3.1. The Pink Shrimp Resource

The ocean shrimp is the dominant species making up more than 99% of the shrimp catch (Hannah and Jones 2005). The smooth pink shrimp hereafter referred to as the pink shrimp *Pandalus jordani* are easily separated from its closest congener, *Pandalus borealis*, by the absence of a sharp abdominal spine which faces rearward on *P. Borealis* (DFO 2004). Except for some of the larger species of pandalid shrimp, it would be difficult to isolate and identify the few other pandalid species from thousands of ocean shrimp in a typical trawl catch off the Oregon coast (Hannah and Jones 2005). Pink shrimp is not considered a low trophic level (LTL) species (Essington and Pláganyi 2013).

Ocean shrimp live on areas of mud-sand habitat from 37 - 460 m and occupy well-defined areas or beds. Their geographic range and distributional patterns are well described in the literature. Based on earlier genetic studies, it is thought that ocean shrimp consist of one coast-wide stock extending off the coasts of British Columbia to California (Collier and Hannah 2001). While they are found from Unalaska in the Aleutian Islands as far south as San Diego, California, commercially fishable quantities occur from Vancouver, British Columbia to Point Arguello, California (Collier and Hannah 2001). Commercial quantities can be found over the same range (Dahlstrom 1970); however, there can be considerable inter-annual variation in shrimp density within individual grounds which can lead to reductions in fishing effort in some areas and

concentration in others (Hannah and Jones 2005). Overall stock area appears to exhibit considerable inter-annual variation (Hannah 1993).

Distribution of ocean shrimp is influenced by environmental variables, notably coastal ocean currents associated with the Davidson current and currents associated with spring and summer onshore winds and upwelling (Hannah 1993). Shrimp larvae may drift for several weeks in alongshore currents. Depending on current direction and strength with respect to larval dispersal, recruiting shrimp can be distributed in either a northerly or southerly direction from their point of larval release. Strong El Niño events such as the one occurring during 1982-83 may shift shrimp populations to the north. Some highly productive shrimp beds are often associated with oceanic gyres with circular current patterns, which tend to concentrate shrimp (Hannah and Jones 2005).

Migratory behavior is mostly passive, although nightly vertical migrations take place as shrimp move to midwater depths to feed. Their diel vertical movements may also assist with movement and dispersal of shrimp by alongshore currents (Pearcy 1970).

Life History. The life history of ocean shrimp has been subject to many different studies and is generally well understood (Abramson et al. 1981). Age, sex, growth, and maturity have been well documented, and are monitored by ODFW throughout the fishing season (Hannah and Jones 2005). Shrimp are protandric hermaphrodites maturing in their second year of life as males, then change sex to function as females. Sex change by age class may vary in response to demographic characteristics of the shrimp population. When there is a lack of older females there is an increase in "primary" females at age 1 (Charnov and Hannah 2002).

Growth rates vary by sex, year-class, and by region. Natural mortality is high and apparently varies by age class (Collier and Hannah 2001) and has been related to predator abundance (Hannah 1995). Comparative studies have characterized temporal and geographic variation of shrimp fecundity (Hannah 1995).

Spawning and nursery areas. Mating of shrimp takes place during September and October. Females carry extruded eggs until larval hatching in March to early May (Abramson et al. 1981). Larvae appear to be pelagic and subject to coastal currents as they are at liberty for about 2.5 to 3 months. Ocean shrimp mating, spawning, and larval development occur over a broad geographic area. Shrimp larvae occupy deeper portions of the water column as they develop. Once settled, migrations may be vertical (diel) but it is thought they remain within the same geographic area or bed (Rothlisberg 1975).

Information on abundance, distribution, and composition of the stock. All state sampling programs collect landing data on the ocean shrimp fishery. Presently, only Oregon monitors the fishery by collecting logbook data and biological samples from landed catch. In addition, ODFW conducts special studies periodically to characterize abundance, distribution, and composition of the stock (Hannah and Jones 2005). Annual fishery independent shrimp trawl surveys were conducted off the Oregon coast during the mid to late 1970's; however, these were not thought to be a reliable indicator of stock abundance (Abramson et al. 1981).

Environmental effects (both physical and biological) on population dynamics. Several studies have been conducted over the past 20 years that characterize environmental effects of the oceanographic changes (Hannah 1993; Rothlisberg and Miller, 1983; Rothschild and Fogarty, 1989) and predator impacts (Gotshall 1969a; Alton and Nelson 1970; Gotshall 1969b; Francis 1983; Rexstad and Pitkitch 1986; and Hannah 1995) on ocean shrimp populations. Oceanographic factors appear to explain most of the variation seen in recruitment and abundance of adults. One of the indicators of spring transition of ocean currents is sea level height (SLH).

Higher than average SLH during the springtime indicates a persistence of northerly flowing longshore currents typical of winter conditions. Recruitment is highly negatively correlated to April SLH during the period of transition from winter strong northerly flowing longshore currents to the summer period characterized by weak longshore currents, upwelling, and offshore surface currents. When winter like current conditions extend into the spring beyond the average timing of transition, newly released shrimp larvae are thought to be advected to the north away from favorable habitat where shrimp settle and grow. On the other hand, very strong periods of upwelling may result in shrimp larvae being advected offshore and are likewise lost from favorable habitat (Hannah and Jones 2005)

For the last several years, fishable concentrations of ocean shrimp in waters off Oregon have been almost exclusively off the northern half of the state. If recruitment off southern Oregon recovers, ocean shrimp in California waters may increase as well (Frimodig 2008).

### 3.3.2. Stock Assessment

The Washington-Oregon-California pink shrimp resource is considered a single stock (Abramson et al 1981) not amenable to traditional, fishery assessment models. A comprehensive coast-wide stock assessment for pink shrimp was conducted and documented in the Fishery Management Plan for Pink Shrimp (Abramson et al. 1981). Coast-wide assessments were made using a Schaefer-type production model for Washington, Oregon, and California catch and effort for the period 1959-1980 (Abramson and Tomlinson 1972). Analysis of the use of this model by Geibel and Heimann (1976) outlined the difficulties of setting meaningful quotas for a stock that appears to be more sensitive to environmental variation than to effects of the fishery. General production, yield per recruit and catch-at-age models have been largely unsuccessful in assessing stock status and establishing meaningful reference limits for management of the pink shrimp fishery. However, environmentally based models have been useful for predicting and explaining variation in recruitment and have failed to detect any consistent impact of the fishery on future stock abundance. The shift from traditional fishery models to environmentally based models in this instance is considered a significant advancement.

During the start of the pink shrimp fishery off California, population estimates of the various ocean shrimp beds were obtained by CDFW sea-surveys from 1959 to 1969. Catch quotas were set at one quarter of the estimated population. Since the cost of sea-surveys was quite high, another method of estimating the population was needed. A mathematical population model, designed by CDFW statisticians, was used to estimate the population size. The population model set the quota from 1969 until 1976, but it was subsequently dropped the following year because of the variable recruitment, growth, and natural mortality rates associated with ocean shrimp. No further attempts to estimate population abundance have been made in California (Hannah and Frimodig 2006).

Pink shrimp abundance off the coast of Washington is unknown but assumed stable by WDFW. Agency reductions in force in 1993 eliminated active pink shrimp management and a mandatory logbook program was discontinued. Catch information is available but, by itself is insufficient for assessing stock strength (WDFW 2015).

Most of the recent stock assessment work on the Pacific Coast has been conducted by the ODFW because Oregon is the center of abundance and fishery landings of the resource. WDFW and CDFW do not have the staff resources to attempt a stock assessment off their respective coasts, but cooperate in managing the fisheries (Wargo 2014).

The Pacific coast pink shrimp harvest strategy used by Oregon to assess stock status has employed empirical stock references (e.g. catch per unit effort (CPUE), size/sex/age

composition) and a recruitment model, which is based on environmental control. Assessments presently take the form of in-season and annual monitoring and analysis of these references from the Oregon fleet (e.g. ODFW 2012). Catch, effort, CPUE, age, size and sex composition, year-class strength, and geographic distribution of catch are compared and evaluated against historical data and indicators of Biological Concern listed in the draft Shrimp Fishery Management Plan (FMP) (Abramson et al. 1981). Briefly, the points of concern were: 1) long-term increases in count-per-pound; 2) long-term decrease in average age of females or increase in primary females; 3) long-term decrease in catch with equal or increased effort; 4) long-term decrease in productive shrimp grounds and; 5) indication of two year-class failures over a three-year period (Abramson et al. 1981). The recruitment model is used to forecast recruitment of age-1 shrimp for the next year's fishery.

Periodically, ODFW analyzes historical data from the fishery, updates long-term recruitment and spawning stock indices and re-examines existing environmental models to determine if there is any evidence that fishing has negatively impacted recruitment. Environmentally based models have successfully explained much of the variability in shrimp abundance, and the evidence indicates that it is the ocean environment, not the fishery, that is the primary driver of abundance. Because there is no apparent stock-recruitment relationship that is affected by the fishery, no formal limit or target reference points have been established.

The assessment approach for pink shrimp was designed recognizing that stock dynamics are largely driven by environmental factors. As such, the major uncertainties deal with predicting environmental effects on future stock conditions; the dynamic nature of ocean conditions and population responses to them are impediments for the development of reliable longer-term forecasting. The standardization of effort to single rig equivalents, and its use in the calculation of CPUE, accounts for some uncertainty in the fishery performance data as an indicator of biomass. Confidence limits for the larval survival index (recruitment model) address the uncertainty associated with the point estimates of annual values.

Oregon’s annual assessments are reviewed internally and there is coordination with Washington and California biologists. Furthermore, research publications documenting the factors that control recruitment (e.g. predation, environment) are subjected to rigorous internal and external review.

Standardized fishing effort, an indicator of fishing mortality (F), is well below the long-term average which indicates that F is relatively low and has been declining, especially in recent years. However, effort increased in 2011, largely due to the introduction of groundfish trawl ITQ that, under favorable shrimp abundance and higher price per pound, allowed latent effort to be redirected to the fishery. This is likely to continue in the near future, should these favorable conditions persist (ODFW 2012a).

Standardized CPUE, an indicator of relative stock biomass, has exceeded 500 pounds per hour over the past decade and, from 2009 to 2011, increased markedly to more than 1,200, 1,500 and 1,400 lb/hr, respectively (ODFW 2012a), the highest recorded. The average CPUE from 1980 - 2010, a period of relative stability in the fishery, was about 400 pounds per hour.

Age composition of the catch varies annually, but is typically dominated by age-1 shrimp (ODFW 2012a). With the recruitment of strong year classes, age-2 can dominate in some years as hold-over from the previous year.

The shrimp catch landed during 2014 was heavily dominated by age-1 shrimp; a big change from what was landed in 2011-2013 when age-2 shrimp predominated. The ODFW recruitment model indicated that conditions were right for a record recruitment of age-1 shrimp in 2014, and this

was confirmed. The age-1 shrimp were abundant coast -wide, but were apparently most abundant and small in southern areas, with areas from the Cape Lookout bed and north generally having a well-balanced age composition (Hannah and Jones 2015a).

Any impacts of the fishery that might have occurred tend to be obscured by environmental noise and are considered negligible. Impacts, be they fishery and/or environmental, which might have led to a decline in abundance appear to be mitigated over recovery times of one generation or less (TAVEL Certification 2007).

Given that the role of the environment as the major factor affecting stock dynamics has been demonstrated, and that the current stock size is at an all-time high, it is evident that the spawning stock is not significantly affected by the fishery and recruitment has not been impaired.

### 3.3.3. Recent History of Fishing and Management

The pink shrimp fisheries of Washington, Oregon, and California are managed by the WDFW, the ODFW, and the CDFW, respectively. Catch information sharing and observer coverage are coordinated through the PSMFC and NMFS.

Compared to other trawl fisheries, the pink shrimp fishery provides fishers a stable commercial opportunity. Management of the fishery is passive; a scheduled season runs from April through October each year, and there is no quota or total allowable catch. Regulations are in place to restrict mesh size, count per pound, and the incidental harvest of other species (Wargo 2014).

Washington: In Washington, management of the fishery is passive. The fishery is allowed only in the EEZ and prohibited in State waters (0-3 mi). Permitted fishers are allowed to land as much as they can as long as they follow season, area, size, and gear regulations. Vessels have been required to keep fishing logs since 2011 and provide such information to WDFW staff. The data have been processed but not analysed yet (Wargo 2014). There are approximately 83 pink shrimp permits for the coastal fishery but only a quarter to a third of these have been actively fished each year. The majority of the shrimp fleet is based at Westport, but a few of vessels operate out of Ilwaco. Pink shrimp are sold to buyers and processors in Westport, Tokeland, and Ilwaco. The Washington coastal fishery typically lands about seven to eight million pounds annually. Most fishing occurs off the central and southern coast of Washington (WDFW 2015).

Commercial trawl landings and total direct value since 1990 are presented in Figure 3 below:

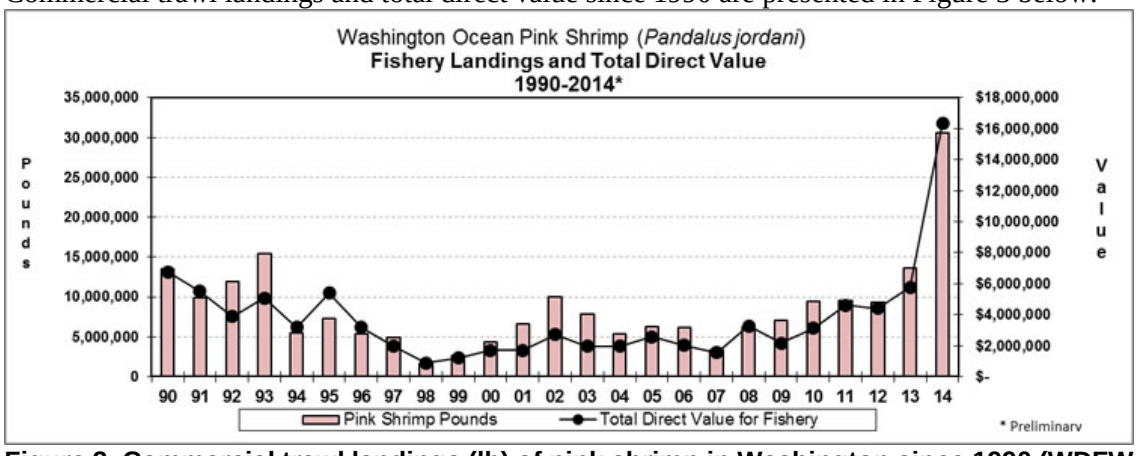


**Figure 3. Commercial trawl landings (lb) of pink shrimp in Washington since 1990 (WDFW 2015i).**

According to WDFW staff, a record amount of pink shrimp is expected to be landed in Washington during 2014, based on very high catches per tow. Some 20-minute tows resulted in 10,000 lb. of pink shrimp (Wargo 2014).

California. Like the fishery in Washington, California's management of the fishery is passive. Annual landings in California took a major dip between 2003 and 2009, marked by a record low in 2006 and no catch in 2007 or 2008. A combination of factors may explain those reductions in landings, such as a weak market attributed to competition from other warm water and cold water shrimp fisheries, competition from aquaculture production of warm water species worldwide, increased fuel prices, limited shrimp processors available on the U.S. west coast, and environmental conditions negatively affecting recruitment in the southern region. Catches since 2006 are presented below and show a significant rebound the most recent three years:

**Table 1. Landings and value of pink shrimp in California ports since 2006.**

| Year | Landings (1,000 lb.) | Ex-vessel price | Ex-vessel value |
|---|---|---|---|
| 2007 | 636.9 | $0.474 | $301,695 |
| 2008 | 2,084.4 | $0.525 | $1,094,707 |
| 2009 | 2,609.2 | $0.30 | $782,877 |
| 2010 | 3,904.1 | $0.326 | $1,274,496 |
| 2011 | 7,375.1 | $0.50 | $3,693,282 |
| 2012 | 6,152.2 | $0.45 | $2,741,635 |
| 2013 | 8,501.6 | $0.44 | $3,734,842 |

Source: PacFin at URL: http://pacfin.psmfc.org/pacfin_pub/all_species_pub/woc_r308.php:

A federal groundfish fishing capacity reduction, or permit buyback, program, was implemented by the National Marine Fisheries Service in 2003 in an effort to increase productivity, promote economic efficiency, and to help conserve and manage the resources in the groundfish fishery. The program involved a reduction in the fishing capacity of both the Dungeness crab, *Metacarcinus magister*, and ocean shrimp fisheries. As a result, 85 ocean shrimp permits were relinquished coastwide: 31 from California and 14 from Washington (as well as 40 from Oregon).

The most significant management action recently taken has been the implementation of regulations requiring the use of finfish excluders to protect over-fished stocks of rockfish. Typically, rockfish and other species represented about 5% of the total value of the shrimp fishery. In 2000, the Pacific Fishery Management Council determined Canary Rockfish (*Sebastes pinniger*) to be overfished under the terms of the Sustainable Fisheries Act (WDFW 2014).

In response to this determination Washington, Oregon, and California committed to reducing the incidental take of Canary Rockfish in their respective state managed ocean pink shrimp fisheries. Finfish excluders were deemed the most effective approach. Initially, the use of excluders was voluntary through a program that provided fishers time to experiment with the different types and designs, make modifications, and advise mangers on regulations. Through this program, finfish excluders were made mandatory mid-season in 2001 and 2002; and permanently beginning in 2003. The landings of Canary Rockfish and other finfish species now comprise less than 0.01 percent of the total value (WDFW 2014).

## 3.4 Principle Two: Ecosystem Background

As Principle Two was not re-assessed during the scope extension, this background information is available in Intertek Moody Marine 2013 and incorporated here by reference only.

## 3.5 Principle Three: Management System Background

### 3.5.1. Area of Operation of the Fishery

The US West Coast pink shrimp fishery operates within state and federal waters off the states of Washington, Oregon and California. State waters extend to 3 nautical miles (nm) offshore; federal waters extend from 3 to 200 nm offshore. The fishery occurs predominantly within federal waters of the US EEZ. Harvesters are allowed to fish anywhere within US federal waters beyond state limits but may land their catch only in the states for which they have landing permits (Wargo 2014).

Pink shrimp are fished in areas of relatively flat, soft substrate at depths ranging from 75-145 fathoms (ODFW 2012g). The fishery targets areas where stocks are concentrated, called beds. These beds increase and decrease in size as population abundance varies. Figure 1 illustrates the area of operation of the fishery and the extent of variation of the size of shrimp beds between 1983 and 1988 (Hannah 2011). In 2013, the majority of the catch was taken from the northern California to Washington areas (Wargo 2014; Frimodig 2014).

### 3.5.2. User Groups and Rights

The pink shrimp fishery is currently non-tribal commercial, prosecuted by Washington, Oregon and California fishers. A small number of Washington and California fishers are also permitted to land in Oregon ports. All three states have a limited entry permit system that limits the number of vessels participating.

At the federal level, NMFS and the PFMC are both bound by Federal Executive Order 13175 (2000), which requires meaningful consultation and collaboration with Indian tribal governments. The sovereign status and co-manager role of Native American tribes over shared federal and tribal fishery resources is recognized. At the regional level, this role is reflected in a designated tribal seat on the Pacific Fishery Management Council (PFMC 2014). However, tribal use of the pink shrimp resource has not occurred.

### 3.5.3. Legal Context

**3.5.3.1. Washington**. In Washington, the management system operates within state laws: Title 77 Revised Code of Washington (RCW); and administrative rules: Title 220 Washington Administrative Code (WAC). Fishery management decisions are made by the Washington Fish and Wildlife Commission (WFWC) and implemented through the Washington Department of Fish and Wildlife (WDFW). The WFWC receives its authority from the passage of Referendum 45 by the 1995 Legislature and public at the 1995 general election.

**3.5.3.2. California**. The California Fish and Game Commission's (CFGC) regulations are included within Title 14 Natural Resources within the California Code of Regulations. These regulations are available in printed format, with quarterly updates. Additionally, the regulations can be found on the Office of Administrative Law's webpage www.oal.ca.gov. The CFGC's regulatory process is governed by the California Administrative Procedure Act (APA). APA is a series of acts of the California Legislature, first enacted June 15, 1945. Chapter 3.5 of the APA requires California State agencies to adopt regulations in accordance with its provisions. The APA allows the public to participate in the adoption of State regulations in order to ensure that

the regulations are clear, necessary, and legally valid. The APA provides that any interested person may petition a State agency to change regulation. These changes include the adoption of a new regulation or the amendment or repeal of an existing one.

**3.5.3.3. National.** At the national level, management of state fisheries takes place within, and is coordinated with, a larger framework of federal laws, through the interface with the regional fishery management council system. Federal fishery management is carried out under the authority of the Magnuson Stevens Fishery Conservation and Management Act (MSA), first passed in 1976 and most recently reauthorized in 2006 (MSA 2007). It is the principal law governing the harvest of fishery resources within the federal portion of the U.S. 200-mile zone. Under the MSA, the Pacific Fishery Management Council (PFMC) recommends management actions to the National Marine Fisheries Service (NMFS; also called NOAA Fisheries) for approval. Ultimate decision authority for fishery management lies with the Secretary of Commerce.

In addition to the MSA, the PFMC adheres to a suite of "other applicable laws" (Buck, 1995; PFMC 2011b):

- National Environmental Policy Act (NEPA): requires environmental impact assessments of federal actions and compliance with other laws and executive orders (EO).

- Endangered Species Act (ESA): prohibits actions that are expected to jeopardize the continued existence of any endangered or threatened species under NMFS' jurisdiction or result in harmful effects on critical habitat.

- Marine Mammal Protection Act (MMPA): requires protection of marine mammals. NMFS is responsible for whales, dolphins, porpoise, seals, sea lions and fur seals. The U.S. Fish and Wildlife Service (USFWS) is responsible for walrus, sea otters, and the West Indian manatee (PFMC 2011b).

- Migratory Bird Treaty Act (MBTA): a shared agreement between the United States, Canada, Japan, Mexico, and Russia to protect migratory birds, prohibiting their taking, killing, or possession. The directed take of seabirds is prohibited.

- Coastal Zone Management Act (CZMA): requires all federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable

- Administrative Procedures Act (APA): provides for public participation in the rulemaking process

- Paperwork Reduction Act (PRA): regulates the collection of information from the public

- Regulatory Flexibility Act (RFA): requires assessment of the regulatory impact on small entities through a regulatory flexibility analysis. The analysis is combined with the regulatory impact review (RIR) and NEPA analyses.

- EO 12866 (Regulatory Planning and Review): establishes guidelines for promulgating new regulations and reviewing existing regulations and requires agencies to assess the costs and benefits of all regulatory action alternatives.

- EO 12898 (Environmental Justice): requires federal agencies to identify and address "disproportionately high adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations in the United States" as part of an environmental impact analysis associated with an action.

- EO 13175 (Consultation and Coordination with Indian Tribal Governments): requires regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications and the avoidance of unfunded mandates imposed on tribes.

- EO 13132 (Federalism): requires federal agencies to consider the implications of policies that may limit the scope of or pre-empt states' legal authority. Such actions require a consultation process with the states and may not create unfunded mandates for the states.

- EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds): supplements the MBTA by requiring Federal agencies to work with the U. S. Fish and Wildlife Service (USFWS) to develop memoranda of agreement to conserve migratory birds and to evaluate the effects of their actions on migratory birds in NEPA documents.

### 3.5.4. Administrative Context

#### 3.5.4.1 Washington Fish and Wildlife Commission

The Washington Fish and Wildlife Commission (WFWC) The WFWC consists of nine members serving six-year terms. Members are appointed by the governor and confirmed by the senate. The WFWC formulates fishery management policies and sets fishing seasons and other regulations. Ultimate approval authority for WFWC decisions rests with governor. Some regulations, such as the maximum count per pound, are set in statute. The Commission is the supervising authority for the Department. Through formal public meetings and informal hearings held around the state, the Commission provides an opportunity for citizens to actively participate in management of Washington's fish and wildlife.

The WFWC website (URL:http://wdfw.wa.gov/commission/) contains information on Commission membership, as well as meeting minutes, a schedule of upcoming meetings, and meeting procedures. It also provides a link to email questions and comments to the Commission. Through formal public meetings and informal hearings held around the state, the Commission provides an opportunity for citizens to actively participate in management of Washington's fish and wildlife.

#### 3.5.4.2 Washington Department of Fish and Wildlife

The Washington Department of Fish and Wildlife (WDFW) is charged with carrying out the policies set by the WFWC and as required by statute. WDFW consists of a director appointed by the WFWC and a state-wide staff of about 1,480 employees. The mission of the WDFW is "To preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities." In addition to its administrative headquarters in Olympia Washington, the Department is divided into six regions. Region 6, the Coastal Region, has field responsibility for coastal shellfish, including pink shrimp.

The WDFW is involved in multiple state, federal and regional policy processes related to the shrimp fishery. Washington is a member of the Pacific Fishery Management Council (PFMC) (comprising Oregon, California, Washington and Idaho), North Pacific Fishery Management

Council (NPFMC) (Alaska), and Pacific States Marine Fishery Commission (PSMFC) (Oregon, California, Washington, Idaho and Alaska).

### 3.5.4.3 Washington Department of Fish and Wildlife Police

The WDFW Police Officers (FWOs) are general authority peace officers deployed to six regions throughout the state and a Marine Division. During the 2005-2007 biennium, the Enforcement Program has employed 156 full-time employees (FTEs). Of these, 138 are commissioned FWOs and 16 are non-commissioned employees; two aircraft pilots, two vessel/vehicle shop staff and eight administrative support and professional staff. Currently, 89% of the Enforcement Program staff is field deployed. There are 2.5 FTEs that work in Westport and Ilwaco that opportunistically enforce pink shrimp regulations (Chadwick 2015).

Officers also hold federal U.S. Fish and Wildlife and National Marine Fisheries Service (NMFS) commissions, and have jurisdiction over federal violations, the most important of which are the Endangered Species Act and the Lacey Act. Officers work joint patrols and coordinate with these agencies and the U.S. Coast Guard (WDFW 2015g).

### 3.5.4.4. California Fish and Game Commission

The California Fish and Game Commission (CFGC) was the first wildlife conservation agency in the United States, predating even the U.S. Commission of Fish and Fisheries. The CFGC consists of five members serving six-year staggered terms. The Commissioners are appointed by the Governor subject to confirmation by the California Senate according to Government Code subsection 1774(c). The CFGC formulates fishery management policies and sets fishing seasons and other regulations.

Currently the Commission has three committees: the Marine Resources Committee (MRC) and Wildlife Resources Committee (WRC), which were created in statute (Sections 105 and 106 of the Fish and Game Code), and the Tribal Committee. Each is chaired or co-chaired by no more than two Commissioners. These assignments are generally made annually by a majority vote of the Commission at the time of election of the CFGC President.

### 3.5.4.5. California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is charged with carrying out the policies set by the CFGC and as required by statute. CDFW consists of a director appointed by the CFGC. The mission of the CDFW is “to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.” In addition to its administrative headquarters in Sacramento California, the Department is divided into six regions. Region 7, the Marine Region, has field responsibility for coastal shellfish, including pink shrimp.

The CDFW is involved in multiple state, federal and regional policy processes related to the shrimp fishery. Washington is a member of the Pacific Fishery Management Council (PFMC) (comprising Oregon, California, Washington and Idaho), and Pacific States Marine Fishery Commission (PSMFC) (Oregon, California, Washington, Idaho and Alaska).

### 3.5.4.6. California Department of Fish and Wildlife Marine Region

The Marine Region, or CDFW Region 7, contains nine major ports or port areas, including Eureka, Fort Bragg, Bodega Bay, San Francisco, Monterey, Morro Bay, Santa Barbara, Los Angeles, and San Diego. Marine Region’s mission is to protect, maintain, enhance, and restore

California's marine ecosystems for their ecological values and their use and enjoyment by the public through good science and effective communication. Of the 142 staff, 112 may be active in the field (Kalvass 2014). The headquarters of the Marine Region is in Monterey California, and the office covering pink shrimp is in Eureka. For species not covered under federal fishery management plans, which includes pink shrimp, the state's jurisdictional boundary is the entire Exclusive Economic Zone (out to 200 nautical miles).

### 3.5.4.7 California Department of Fish and Wildlife Police

The CDFW wardens are general authority peace officers deployed to seven regions throughout the state, including the Marine Region. Officers also hold federal U.S. Fish and Wildlife and National Marine Fisheries Service (NMFS) commissions, and have jurisdiction over federal violations, the most important of which are the Endangered Species Act and the Lacey Act. Officers work joint patrols and coordinate with these agencies and the U.S. Coast Guard (McVeigh 2015).

### 3.5.4.8. Pacific States Marine Fisheries Commission

The Pacific States Marine Fisheries Commission (PSMFC) is an interstate compact agency established by consent of Congress in 1947. Member states are California, Oregon, Washington, Idaho, and Alaska, each represented by three Commissioners. The purpose of the PSMFC is "to promote the better utilization of fisheries – marine, shellfish, and anadromous – of mutual concern, and to develop a joint program of protection and prevention of physical waste of such fisheries in all of those areas of the Pacific Ocean over which the compacting states jointly or separately now have or may hereafter acquire jurisdiction" (PSMFC 2014).

PSMFC has no regulatory or management authority. Instead, it serves as a neutral convener for discussion, interstate coordination, state-federal coordination, grants administration, funds disbursement, research and management coordination and database management. The pink shrimp fish ticket data from Washington and California (as well as Oregon) in entered into the PSMFC' Pacific Fisheries Information Network (PacFIN) system, and reports for fish product landings and value (including pink shrimp) are available. The PSMFC also participates as a non-voting member of the PFMC and the NPFMC (PSMFC 2014).

### 3.5.4.9. Pacific Fishery Management Council

The WDFW and CDFW coordinate state fishery management with the regional PFMC. The PFMC is responsible for managing Pacific Ocean fisheries in the 317,690 $nm^2$ federal EEZ off the coasts of California, Oregon and Washington. The Pacific fisheries comprise about 119 species of salmon, groundfish, coastal pelagic species (sardines, anchovies, and mackerel), shellfish, and highly migratory species (tunas, sharks, and swordfish) (PFMC 2004).

The Council has fourteen voting members, consisting of four state fishery agency directors, the regional administrator of NMFS (NW or SW Region, depending on the issue under consideration), 4 state obligatory appointments, four at-large appointments, and one tribal appointment representing Federally recognized fishing rights from California, Oregon, Washington, or Idaho (MSA 2007). The state obligatory and at-large appointments are made by the Secretary of Commerce based on nominations from the governors of the four member states, with a maximum of three terms. The tribal appointment is made by the Secretary of Commerce in consultation with the Secretary of the Interior and tribal governments based on a list of nominees submitted by the tribal governments, with representation to be rotated among the treaty tribes (MSA 2007).

The Council meets five times a year. All meetings are open to the public, except for discussions of personnel or other administrative matters. Meeting locations rotate among member state cities. Advisory bodies also meet at various times between Council meetings. The Council briefing books containing meeting agendas, agenda item summaries, and background information are available to the public online in advance of each meeting. Post-meeting summaries of Council decisions are also available online, as are complete minutes of meetings (PFMC 2010a).

### 3.5.5. Fishery Management Objectives

As stated earlier, in 1981 the three coastal states worked through the PFMC to develop a draft regional FMP for the ocean shrimp fishery off Washington, Oregon, and California (Abramson et al. 1981). That draft FMP stated specific management objects:

1. Prevent Long-Term Biological Damage to the Stock
2. Maximize the Long-Term Value of the Shrimp Catch
3. Minimize Costs of Fishing for and Processing Pink Shrimp
4. Minimize Costs of Managing the Pink Shrimp Fishery
5. Avoid Regulations that may cause Intra-Fishery Conflicts
6. Minimize Adverse Impacts of Regulation on the Social Structure of Coastal Communities
7. Avoid an Unfair Distribution of Income and Wealth from Pink Shrimp Fishing and Processing

Since that time, state agencies have continued to work together, primarily through communication and coordination of agency scientists and enforcement personnel, to address emerging fisheries resource and management issues.

5.5.5.1. Washington. The mandate for WDFW and the WFWC as it relates to pink shrimp is found at RCW 77.04.012: Wildlife, fish, and shellfish are the property of the state. The commission, director, and the department shall preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore waters. The department shall conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource. In a manner consistent with this goal, the department shall seek to maintain the economic well-being and stability of the fishing industry in the state. The department shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in this state.

The Commission may authorize the taking of wildlife, food fish, game fish, and shellfish only at times or places, or in manners or quantities, as in the judgment of the commission does not impair the supply of these resources.

To achieve its mission, WDFW will continue to focus its activities on the following four goals:

Goal 1: Conserve and protect native fish and wildlife
Goal 2: Provide sustainable fishing, hunting, and other wildlife-related recreational and commercial experiences
Goal 3: Promote a healthy economy, protect community character, maintain an overall high quality of life, and deliver high-quality customer service
Goal 4: Build an effective and efficient organization by supporting our workforce, improving business processes, and investing in technology

The legislature finds (RCW 77.04.013) that all fish, shellfish, and wildlife species should be managed under a single comprehensive set of goals, policies, and objectives, and that the decision-making authority should rest with the Fish and Wildlife Commission.

No specific written management objectives or management plan have been developed yet for the Washington pink shrimp trawl fishery. The State of Washington did, however, have a formal pink shrimp management plan (WDFW 2005) with the Makah Tribe for the 2005 shrimp season (although the Makah never fished). The goals were:

- Preserve, protect, and perpetuate the coastal pink shrimp resource to provide for their sustainable harvest.
- Maintain consistent, conservation-based regulations for state and tribal fisheries
- Maintain effective resource management while minimizing management costs
- Protect the reproductive capacity of the pink shrimp stocks
- Minimize harvest of small, unmarketable shrimp
- Minimize bycatch mortalities of other species
- Use simple, enforceable, management tools

It is reasonable to assume the same goals would apply in the future.

5.5.5.2. California. Under the California Marine Life Management Act (MLMA), a fishery management plan is defined as a document that describes the nature and problems of a fishery along with regulatory recommendations to manage the fishery. In essence it is a planning document that contains all the necessary information to make informed decisions on sustaining marine resources while allowing harvest opportunities. Due to the large number (375) of marine fisheries in California, and the considerable time and effort involved in the preparation of FMPs, guidelines were establish to set priorities. Accordingly, §7073 of the Fish and Game Code requires a Master Plan that specifies the process and resources needed to prepare, adopt, and implement FMPs for sport and commercial marine fisheries managed by the state.

Fishery management plans will provide:

- Biological information about the marine resources under consideration
- Habitat needs and issues
- Through the MLMA, the Legislature delegates greater management authority to the Fish and Wildlife Commission and the California Department of Fish and Wildlife
- Harvesters and their habits
- Conservation and management measures already in place
- The ecological role of the resource
- The environmental effects that might have to be considered
- The most appropriate management tools

Under the MLMA, FMPs are to include at least the seven following elements:

- Description of the fishery
- Fishery science and essential fishery information
- Basic fishery conservation measures
- Habitat provisions
- Bycatch and discards
- Overfishing and rebuilding
- Procedure for review and amendment of an FMP

The costs associated with FMPs can be significant (Kalvass 2015). The level of funding necessary to develop FMPs will depend upon many factors including the number of species, their geographic range, and the management alternatives suggested. Based on management plans currently in development, the costs to develop an FMP may range from $1.4 million for updating

an existing plan on a single species to $6.6 million for a new FMP dealing with many species. Implementation costs are expected to represent the greatest share of an FMP's total costs. The funding required for FMPs is a fundamental issue needing resolution. Commercial fishermen, sport fishermen, and non-consumptive users will all likely provide some portion of the funding.

Chapter 3 of the Master Plan prioritizes fisheries for which a FMP will be developed. For shellfish the species with the longest life span and high exploitation rates received highest priority. Pink shrimp were not in the top 13 named for FMP development. In fact, pink shrimp will have very low priority because they are short lived (3+years). As a result, no specific official written management objectives or management plan are available for the California pink shrimp trawl fishery.

### 3.5.6 Fishery Regulations

Fishery regulations designed to achieve the management objectives include a number of input controls described in detail in Section 3.2. These include mandatory commercial fishing vessel licenses, limited entry shrimp fishing permits, season limits, maximum count per pound, bycatch reduction devices and incidental catch limits. In addition, the fishery is subject to conservation area restrictions, landings fees, and on-board observer coverage.

### 3.5.7 Fishery Management Decision Processes

3.5.7.1. Washington.
WDFW follows the state laws that govern its rule making activity. Chapter 34.05 RCW requires that agencies conduct a process that ensures public involvement opportunities and considers the economic impact of its rules. The WDFW offers several formal and informal ways to provide input or comments on proposed rules (WDFW 2014b).

Rules are codified under the WAC. The WDFW accepts public input throughout the rule-making process. For example, before WDFW begins the process of changing fishing rules, the agency often holds public workshops, forms advisory committees, and seeks public input to help formulate its rule proposals. Then WDFW offers a formal public comment period for each rule-proposal project once it files its Notice of Proposed Rule Making (Form CR-102), with the Office of the Code Reviser. WDFW posts CR-102s on its agency website within two days of filing, and the Office of the Code Reviser publishes CR-102s in the Washington State Register. CR-102s include information for submitting comments on proposed rules, and they provide the time, date and location of Commission meetings where the public can testify about proposed rule changes (WDFW 2014b).

When a person comments on a rule during the formal public comment period or at a Commission meeting, the comments become part of the public record. The Commission takes these comments into consideration when deciding whether to adopt rules as proposed or to revise the rules if appropriate. Everyone who comments on a proposed rule will get a copy of the Department's official response to the comments.

In addition to the process outlined above, the public can petition the WFWC to change a rule or reconsider a specific rule adoption. However, the Governor has directed agencies (via Executive Order 10-06) to suspend all non-essential rulemaking until January 1, 2012. In compliance with this rule-making moratorium, the Commission has limited its rule-making actions to only those rules that fit within certain exceptions the governor provided. If the public desires, one can go forward with a formal petition, by downloading the form at http://www.ofm.wa.gov/reports/petition.pdf (WDFW 2014b).

3.5.7.1. California

The CFGC's regulatory process is governed by the California Administrative Procedure Act (APA). APA is a series of acts of the California Legislature, first enacted June 15, 1945. Chapter 3.5 of the APA requires California State agencies to adopt regulations in accordance with its provisions. The California APA allows the public to participate in the adoption of State regulations in order to ensure that the regulations are clear, necessary, and legally valid. The APA provides that any interested person may petition a State agency to change regulation. These changes include the adoption of a new regulation or the amendment or repeal of an existing one (CFGC 2014).

The Bagley-Keene Open Meeting Act of 1967 implements a provision of the California Constitution which declares that "the meetings of public bodies and the writings of public officials and agencies shall be open to public scrutiny", and explicitly mandates open meetings for California State agencies, boards, and commissions. The Act facilitates accountability and transparency of government activities and protects the rights of citizens to participate in State government deliberations.

Except as otherwise provided, the CFGC shall provide an opportunity for members of the public to directly address the CFGC on each agenda item before or during the CFGC's discussion or consideration of an item. However, the Act allows a great many exceptions to this provision (CFGC 2014). Select provisions include:

- Notice of State body meetings shall be provided at least 10 days in advance
- Notices shall include a specific agenda for meetings, including the items of business to be transacted or discussed, and no item shall be added to the agenda subsequent to the notice
- Agendas of public meetings and other writings, when distributed to the members of a State body for discussion or consideration at a public meeting of such body, are public records under the California Public Records Act
- State bodies may, however, take action on non-agendized items of business under certain circumstances, most notably upon a determination by a majority vote of the State body that an emergency situation exists
- Any person attending an open and public meeting of a State body shall have the right to record and broadcast (audio and/or video) the proceedings.
- Each member of the State body shall be provided a copy of the Act upon his or her appointment to membership or assumption of office
- No State agency shall conduct any meeting or function in any facility prohibiting admittance to any person on the basis of race, religious creed, color, national origin, ancestry, or sex

### 3.5.8. Stakeholder Consultations

3.5.8.1. Washington.

The WDFW offers several formal and informal ways to provide input or comments on proposed rules as noted above (WDFW 2014b). WDFW technical staff also informally contacts pink shrimp fishery stakeholders to inform or seek input on rule changes that may come under consideration (Wargo 2014).

3.5.8.2. California

The CFGC has three committees: the Marine Resources Committee (MRC) and Wildlife Resources Committee (WRC), which were created in statute (Sections 105 and 106 of the Fish and Wildlife Code), and the Tribal Committee. Each is chaired or co-chaired by no more than two Commissioners. These assignments are generally made annually by a majority vote of the

Commission at the time of election of the President. The goal of these committees is to allow presentations and discussions on regulatory proposals that allow greater time and detail than what is possible at full Commission meetings. The committee meetings are less formal in nature and provide for additional access to the Commission. Additionally, the committees follow the requirements of Bagley-Keene. It is important to note that the committee chairs cannot take action independent of the full Commission. Instead, the chairs make recommendations to the full Commission at regularly scheduled meetings (CFGC 2014a).

When the public requests for the Commission to take position on proposed legislation, the Commission's "Legislation" policy states that the position must first be approved by the respective committee and then presented to the full Commission at a public meeting for final consideration (CFGC 2014).

Since 2010 all state agencies have been operating under Executive Order B-10-11, which requires effective government-to-government consultation between agencies and California Tribes on policies that affect California tribal communities (CA Office of the Governor, 2015). The CFGC operates under a draft tribal consultation policy intended to create a means by which it can work effectively with tribes to sustainably manage natural resources of mutual interest. Implementation of the policy includes communication, collaboration, record keeping and training (CFGC 2015c).

The CFGC conducts its business at twelve meetings a year, alternating decision meetings with its Marine Resources Committee and Wildlife Resources Committee meetings. These meetings span from one to two days are strategically located throughout the State to encourage public outreach and participation. The annual meeting schedule must be announced sixty days prior to the first meeting of the calendar year, though it remains subject to change (CFGC 2014).

3.5.8.2. Regional Level

At the regional level, the PFMC process is based on consultations with member states through state agencies, PFMC appointees, advisory committee members, and meetings. The process of state participation in the formulation of federal management measures encourages complementary approaches between federal and state approaches (PFMC 2004; 2007). Consultations among state agency staff, industry stakeholders and ENGOs occur informally through regular stakeholder meetings, interactions at PFMC settings, interactions with congressional staff, and various other meetings.

### 3.5.9. Monitoring, Control and Surveillance

An opportunistic system of monitoring, control and surveillance is in place, involving the WDFW and CDFW police units, NMFS West Coast Groundfish Observer Program (WCGOP), and US Coast Guard. Harvest control rules (seasons, maximum counts per pound and bycatch reduction devices) are clear and enforceable.

Neither WDFW nor CDFW provide port sampling of catch or actively monitor size composition. Shrimp harvest logbooks are required of all vessels (CDFW 2015a; FGC 8841) and would provide data to support analysis of fishing location and effort, but resource constraints have prevented the logbook database from being kept up to date (Kalvass 2015).

On March 13, 2009, the National Marine Fisheries Service proposed to list the eulachon Southern Distinct Population Segment (which consists of all eulachon spawning south of the Dixon Entrance and Nass River, BC) as threatened under the Endangered Species Act (74 FR 10857; 50 CFR Part 223: 10857-10876). WDFW felt there was a paucity of genetic data and limited understanding of how freshwater and oceanic environments affect eulachon population structure.

They stated that, without direct observation, it was impossible to estimate the amount of bycatch in the Washington shrimp trawl fishery. Furthermore, it was recognized that fishery exploitation could not be calculated due to an unknown terminal run size. The ODFW and WDFW sought and were awarded funds in 2010 by the NOAA Fisheries Service to support a bi-state, multi-part project to address these limitations. The shrimp trawl observer project is one of four parts of the project and is intended to assess and reduce the impacts of shrimp trawl operations on eulachon smelt by initiating an observer program, with also required vessel fishing logbooks, to estimate the bycatch rates in Washington‘s ocean shrimp trawl fishery and by developing and testing modifications to ocean shrimp trawl gear or operations (WDFW 2014a).

The WCGOP monitors the biological parameters of the total catch through at-sea monitoring of pink shrimp trips, the target is to obtain 20% coverage, however to date this has not yet been achieved (NWFSC 2010); coverage is 14 -15% (McVeigh 2015).

Both WDFW and CDFW Police conduct opportunistic dockside catch samples to check for compliance with count-per-pound regulations (Chadwick 2015; Farrell 2015) and in California may do on water checks of gear specification requirements. In California, up to 12 wardens could have interactions with the fishery, with 4-6 doing most of the work (Farrell 2015). Compliance with the count-per-pound regulation is reinforced by market preferences for larger shrimp (Hannah 2012; Pettinger 2012; Thompson 2012). At-sea compliance with regulations (seasons, closed areas, licenses) is monitored by the U.S. Coast Guard (PFMC 2012e).

Vessels fishing in the federal EEZ are subject to federal rules and sanctions (cf. NMFS 2011a, 2011b, 2011c). NOAA Office of Law Enforcement (OLE) monitors compliance with over 35 federal statutes, including declaration reports, vessel monitoring systems (VMS), and closed areas (NOAA OLE 2012). Federal rules apply to federally managed species that interact with the state management systems. For the shrimp fishery, these rules pertain primarily to bycatch of federally managed species or species protected under the Endangered Species Act (ESA 1973). Representatives from state enforcement agencies in Washington, Oregon, and California, and the federal government (PFMC 2012b) serve on the PFMC Enforcement Consultants committee. Coordination of state and federal laws is accomplished through this body.

Sanctions for non-compliance exist, are defined in law and enforced through at-sea and dockside monitoring. Compliance rates, however, are high; there have been almost no reported violations in the pink shrimp fishery over at least the past five years. For example: California Marine Enforcement Assistant Chief Bob Farrell’s last direct knowledge of citations was about 10 years ago: one citation for an illegal net resulting in a $30,000 fine and one for fish within the closed zone for $10,000. He is not aware of any citations within the last 3+ years (Farrell 2015). Sargent Dan Chadwick, WDFW Coastal Region, stated the pink shrimp trawl fishery in Washington has not had any enforcement issues since about 2006. That year a complaint was received about landings of small shrimp. An emphasis patrol was conducted, and the landings from six boats were examined, resulting in one citation for exceeding the quantity of undersized shrimp (Chadwick 2015).

The high compliance rates in the pink shrimp fishery can be attributed to the emphasis on prevention, an educational approach to informing participants in the fishery about regulations, the collaborations with industry in developing effective gear design, control rules that are clear and enforceable and a coordinated monitoring and enforcement infrastructure (Farrell 2015; Chadwick 2015).

### 3.5.10. Stakeholder Education and Outreach

Education and outreach in the pink shrimp fishery comprises formal reporting and informal communication.

5.5.10.1. Washington.
Formal reporting to all interested stakeholders is provided through various means. WDFW staff have met twice per year, pre- and post-season in Westport with fishers, processors and other interested stakeholders to review status of observer program progress on the federal eulachon listing and recovery, and educate them on terms of the ESA or other relevant laws and regulations. Staff also interact via mail with fishers in Ilwaco and Westport. Staff distributes an industry newsletter each year to recap the past years performance convey other related fishery management news. The ODFW newsletter is included (Wargo and Ayres 2015). The fishery is described on the WDFW website at URL: http://wdfw.wa.gov/fishing/commercial/shrimp/.

5.5.10.2. California.
CDFW maintains an Associate Marine Biologist to inform the public for Region 7 (Marine) and a statewide Education and Outreach staff. Should any issues involving the pink shrimp fishery arise, these staff in coordination with the CDFW Marine Invertebrate Project Manager, would facilitate the discussion with stakeholders (Kalvass 2015).

### 3.5.11. Review and audit of management

The performance of the fishery is periodically informally discussed by CDFW and WDFW staff with their respective states' processors and fishers. Two-way communication between management and industry bring up issues that may need to be acted upon.

### 3.5.12. Research Plans

The pink shrimp fisheries in Washington or California do not have separate formal research plans providing a strategic approach to research (Wargo and Ayres 2015; Kalvass 2015). Both states informally rely on ODFW's annual research plans, adaptive management of research, and publication and distribution of research results provided through the Annual Pink Shrimp Review, ODFW research reports, and manuscripts published in peer-reviewed literature (Hannah and Jones 2000; Gallagher et al. 2004; Krutzikowsky et al. 2006; Hannah and Jones 2007; Hannah et al. 2010; Hannah et al. 2011; Wargo 2014; and Kalvass 2014) to support their respective management decisions.

# 4. Evaluation Procedure

## 4.1 Harmonised Fishery Assessment

The fishery under consideration is not part of a harmonised fishery assessment. However, it is being assessed as a "scope extension" to the certified Oregon Pink Shrimp fishery. As such, components held in common are not re-evaluated for this assessment. This can be considered to be a form of 'pre-harmonization' in that the gap analysis carried out prior to commencing assessment analysed the CA and WA units of the fishery in relation to the certified OR unit to identify which components were thought to be held in common. Those parts held in common are not re-evaluated here, meaning the results of the previous Oregon assessment are accepted.

## 4.2 Previous assessments

The Oregon pink shrimp trawl fishery was initially certified under the MSC program in December of 2007. At that time the assessment was conducted using the MSC Principles and Criteria for Sustainable Fishing, Issue 2 (November 2 2002) and the Fisheries Certification Methodology (FCM) (v.5), using a team developed assessment tree, as required at that time. The fishery was certified with four conditions, all of which have been subsequently closed and the performance indicators have been re-scored to 80. The Oregon fishery was recertified in February, 2013. At that time the assessment was conducted using the MSC Certification Requirements, version 1.0 (August 15, 2011), including the default assessment tree, and associated MSC Guidance to MSC Certification Requirements, version 1.2 (January 10th, 2012). The Oregon fishery has also subsequently undergone two surveillance audits and has five outstanding conditions (all on or ahead of target; MRAG Americas 2015).

This scope extension is the first assessment of the WA and CA pink shrimp fisheries.

### 4.3 Assessment Methodologies

The Washington and California pink shrimp trawl fisheries were assessed against the default assessment tree contained in MSC Certification Requirements version 1.3 (January 14th, 2013), using the "scope extension" process described in MSC Fishery Certification Requirements version 2.0 (October 1st, 2014). The scope extension process allows for the assessment of only those components within the fisheries that are not held in common with the currently certified fishery (Oregon pink shrimp). The components needing evaluation were identified by way of a preliminary gap analysis conducted prior to announcing the scope extension (http://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/pacific/oregon-pink-shrimp/expedited-assessment-california-and-washington-pink-shrimp/20150205_EXP_NOT_SHR094.pdf), and verified during the information gathering phase of the assessment. For the Washington and California pink shrimp fisheries, gaps were identified for components 1.2, and 3.1 and 3.2.

### 4.4 Evaluation Processes and Techniques

#### 4.4.1 Site Visits

The scope extension process as defined in the MSC Fishery Certification Requirements version 2.0 was followed in this assessment.

Information gathering meetings for the scope extension of the OR pink shrimp fishery to include the California and Washington management jurisdictions was held commensurately with the 2nd surveillance audit for the certified Oregon pink shrimp fishery. Included here is information on the scope extension portion of the meeting only, although information collection during some of the OR surveillance portion of the meeting, particularly with NOAA officials, applies to the CA and WA components of the fishery as well, and are thus reported here as well.

Information supplied by the client and management agencies was reviewed by the assessment team ahead of the onsite meeting, and discussions with the client, fishermen, and management agencies centred on the content within the provided documentation. In cases where relevant documentation was not provided in advance of the meeting, it was requested by the assessment team and subsequently supplied during, or shortly after the meeting.

Thirty days prior to the scope extension site visit, all stakeholders from the OR pink shrimp full assessment, and other stakeholders identified for the WA and CA fisheries were informed of the visit and the opportunity to provide information to the auditors in advance of, or during, the site

visit. We received no requests from outside stakeholders to take part in meetings or provide information remotely.

The audit visit was held at the Guin Library of the Hatfield Marine Science Center in Newport Oregon on March 9th -11th, 2015. Table 2 lists the participants in attendance and their affiliations. Table 3 summarizes the participation, location and topics of the meetings.

**Table 2. Newport, OR site visit participants and affiliations.**

| Name | Affiliation |
|---|---|
| Amanda Stern-Pirlot | MRAG Americas, Assessment team |
| Susan Hanna | Oregon State University Emeritus, Assessment team |
| Brad Pettinger | Oregon Trawl Commission (OTC), Client for OR pink shrimp fishery |
| Ted Gibson | OTC chair, shrimp fisherman |
| Charlie Kirschbaum | Pacific Seafood, Client for the scope extension |
| Robert Anderson | NOAA Protected Resources Division (by phone) |
| Jon McVeigh | NOAA West Coast Groundfish Observer Program (WCGOP) (by phone) |
| Lorna Wargo | Washington Department of Fish and Wildlife (WDFW) |
| Dan Ayres | WDFW |
| Cpt. Dan Chadwick | WDFW enforcement division |
| Asst. Chief Bob Farrell | California Department of Fish and Wildlife (CDFW), North Coast Enforcement District |
| Peter Calvass | CDFW |

**Table 3. Site visit participation, location and topics of meetings.**

| Date 2015 | Location | Name (see above table for affiliation) | Topic |
|---|---|---|---|
| 9 Mar | Newport | Brad Pettinger, Ted Gibson, Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • Opening meeting Overview of scope extension process,<br>• Update on changes to MSC fishery assessment process requirements<br>• Changes within the shrimp industry and markets |
| 9 Mar | Newport | Brad Pettinger, Ted Gibson, Charlie Kirschbaum, Steve Jones, Bob Hannah, Amanda Stern-Pirlot, Susan Hanna | • Pink shrimp newsletter—updates on stock status and recruitment, developments with LED lights to reduce eulachon bycatch, fishing effort and CPUE. |
| 9 Mar | Conf call | Robert Anderson (phone), Brad Pettinger, Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • Eulachon interactions with pink shrimp fishery<br>• Developments with LED and other eulachon bycatch reduction devices eulachon ESA listing status and research on eulachon stocks. |
| 9 Mar | Conf call | Jon McVeigh (phone), Brad Pettinger, Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • Observer program activities in the pink shrimp fishery including coverage rates and data collection. |

| Date 2015 | Location | Name (see above table for affiliation) | Topic |
|---|---|---|---|
| 10 Mar | Newport | Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • Opening meeting for WA pink shrimp scope extension, overview of information needs. |
| 10 Mar | Newport | Lorna Wargo, Dan Ayres, Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • Washington State pink shrimp management, regulations, and research. |
| 10 Mar | Newport | Dan Chadwick, Lorna Wargo, Dan Ayres, Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • Washington State pink shrimp enforcement protocols, monitoring and compliance issues. |
| 11 Mar | Conf call | Peter Kalvass (phone) Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • California state pink shrimp management, regulations, and research. |
| 11 | Conf call | Bob Farrell (phone), Charlie Kirschbaum, Amanda Stern-Pirlot, Susan Hanna | • California state pink shrimp enforcement protocols, monitoring and compliance issues. |

**Standards and Guidelines used:**
MSC Certification Requirements version 2.0 (for process requirements)
MSC Certification Requirements version 1.3 (for performance requirements, including assessment tree)
Guidance to the MSC Certification Requirements version 2.0 (for process requirements)
Guidance to the MSC Certification Requirements version 1.3 (for performance requirements, including assessment tree)
MSC Full Assessment Reporting Template version 1.3

There were no written submissions or requests for meeting with the assessment team received from Environmental Non-Governmental Organizations (ENGOs).

### 4.4.2 Consultations

See Tables 2 and 3, above, with respect to details of the individuals interviewed during the site visit, and summary of topics discussed.

### 4.4.3 Evaluation Techniques

MRAG published an announcement of the scope extension assessment on our website, and the MSC posted the announcement on its Oregon pink shrimp fishery webpage, as well as sent it by email in their Fishery Announcements newsletter to all registered recipients. At this time, MRAG Americas also announced the assessment site visit dates and location, as well as the assessment team, and the aforementioned gap analysis. This was done according to the process requirements as laid out in MSC's Fisheries Certification Requirements v2.0. The site visit for the scope extension was held at the same time as the 2nd surveillance audit for the certified Oregon pink shrimp fishery, and the announcements for both went to stakeholders in all the WOC fisheries. Together, these media presented the announcement to a wide audience representing industry, agencies, and stakeholders.

The assessment team and the clients set up meetings with US Federal, and Washington and California State science, management, and enforcement personnel. No other stakeholders requested meetings or submitted information to the assessment team.

In the CR V1.3 default assessment tree used for this assessment, the MSC has 31 'performance indicators', seven in Principle 1, 15 in Principle 2, and nine in Principle 3. The performance indicators are grouped in each principle by 'component.' Principle 1 has two components, Principle 2 has five, and Principle 3 has two. Each performance indicator consists of one or more 'scoring issues;' a scoring issue is a specific topic for evaluation. 'Scoring guideposts' define the requirements for meeting each scoring issue at the 60 (conditional pass), 80 (full pass), and 100 (state of the art) levels.

For this scope-extension assessment, as determined by the gap analysis, the team was only required to score PIs 1.2.1, 1.2.2, 1.2.3, 1.2.4, and all of the P3 indicators for each state.

Note that some scoring issue may not have a scoring guidepost at each of the 60, 80, and 100 levels; The scoring issues and scoring guideposts are cumulative; this means that a performance indicator is scored first at the SG60 levels. If not all of the SG scoring issues meet the 60 requirements, the fishery fails and no further scoring occurs. If all of the SG60 scoring issues are met, the fishery meets the 60 level, and the scoring moves to SG80 scoring issues. If no scoring issues meet the requirements at the SG80 level, the fishery receives a score of 60. As the fishery meets increasing numbers of SG80 scoring issues, the score increases above 60 in proportion to the number of scoring issues met; performance indicator scoring occurs at 5-point intervals. If the fishery meets half the scoring issues at the 80 level, the performance indicator would score 70; if it meets a quarter, then it would score 65; and it would score 75 by meeting three-quarters of the scoring issues. If the fishery meets all of the SG80 scoring issues, the scoring moves to the SG100 level. Scoring at the SG100 level follows the same pattern as for SG80.

Principle scores result from averaging the scores within each component, and then from averaging the component scores within each Principle. If a Principle averages less than 80, the fishery fails.

Scoring for this fishery followed a consensus process in which the assessment team discussed the information available for evaluating performance indicators to develop a broad opinion of performance of the fishery against each performance indicator. Review of sections 3.2, and 3.5 by all team members assured that the assessment team was aware of the issues for each performance indicator. Subsequently, the assessment team member responsible for each principle (in this case only half of P1 and all of P3 were scored), filled in the scoring table and provided a provisional score. The assessment team members reviewed the rationales and scores, and recommended modifications as necessary, including possible changes in scores. The team members agreed on the final scores. This process followed the MSC FCR V2.0 section 7.10.

Performance Indicator scores were entered into MSC's Fishery Assessment Scoring Worksheet (see Table 5, below) to arrive at Principle-level scores.

# 5 Traceability

## 5.1 Eligibility Date

The eligibility date for product from the fishery under assessment is April 1st, 2015, in accordance with a variation to allow backdating to the beginning of the 2015 season granted by MSC: https://www.msc.org/track-a-fishery/fisheries-in-the-program/certified/pacific/oregon-pink-

shrimp/expedited-assessment-california-and-washington-pink-shrimp/2015716_VAR_RESP_SHR96.pdf.

### 5.2 Traceability within the Fishery

The West Coast pink shrimp trawl fishery is managed through a limited entry and licence based management system in all states. Harvesters operating in the fishery are required to renew permits annually, and report on catch if they choose to actively participate in the fishery, therefore, allowing the respective state management agencies to track the number of permit holders in total as well as the number active permit holders in the fishery.

Through requirements associated with dockside monitoring, landings reporting, and VMS, those involved in the management and enforcement of regulations have the ability to identify the quantity of product caught, as well as the area from which it was harvested.

As the unit of certification covers the entire area of operation of the fishery, and does not exclude any areas in which fishing is permitted, along with the fact that the fishery operates on a single stock, the possibility of those vessels included in the unit of certification fishing outside the UoC is minimal. There are several vessels permitted to harvest pink shrimp which hold landing permits for California, that harvest the same areas and stock, but would not be included in the UoC if they do not also possess a valid Washington (or Oregon) landing permit.

Likewise, the risk of substitution of certified product with non-certified product prior to landing is negligible, as there is only one stock of pink shrimp in the area of operation of the fishery, which has been assessed in Principle 1. Therefore, although harvesters may operate in state waters of all three west coast states as well as in the EEZ, any pink shrimp landed would be from the P1 assessed stock. As well, any harvester permitted to legally land in Oregon and/or Washington is in the UoC, therefore any legally landed product is covered in the assessment.

There is no at sea processing of shrimp harvested in the WOC pink shrimp trawl fishery under assessment, except for one vessel freezing pink shrimp at sea with a WA permit and these are frozen in blocks for packaging. The remaining harvested product is landed for shore side processing as fresh (iced) whole shell-on product.

Over the course of the assessment it was evident that there were no concerns associated with trans-shipping in the fishery under consideration.

### Eligibility to Enter Further Chains of Custody

The fishery assessment covers all pink shrimp, *P. jordani*, landed from vessels operating in the Units of Certification until the point of landing, therefore the scope of certification ends at the point of landing. Downstream certification of the product would require the appropriate Chain of Custody certification.

Traceability of product from the fishery is covered by the fishery certificate up until the first point of landing in Washington to Pacific Seafoods (and other eligible companies should a certificate sharing agreement be reached in the future) by legally permitted Washington, and Oregon shrimp fishing vessels. In order for subsequent links in the distribution chain to be able to use the MSC logo, companies and/or individuals must enter into a separate chain of custody certification, and be able to track product to the certified fishery.

Product from the fishery under assessment is landed in the ports of Westport and Ilwaco, Washington.

### 5.3 Eligibility of Inseparable or Practically Inseparable (IPI) stock(s) to Enter Further Chains of Custody

There is no inseparable or practically inseparable stock involved in this assessment.

# 6 Evaluation Results

### 6.1 Principle Level Scores

The overall performance of the California and Washington pink shrimp (*Pandalus jordani*) trawl fisheries against each Principle is identified in the table below, with separate P3 scores for each state. Because this is a scope extension and no gaps were identified in P2 or the "stock status" component of P1.1, these Performance Indicators did not require re-evaluation, and the detailed results of previous scoring are not presented here unless updated during surveillance; where scores are carried over from the Oregon fishery assessment, these are indicated. However, since the certified Oregon Pink Shrimp fishery has undergone 2 surveillance audits thus far, and the score for PI 1.1.2 for which there is a condition in the Oregon fishery has subsequently changed, this PI as it applies to the CA and WA fisheries as well, is presented here, and the P1 Principle-level score adjusted appropriately. For a full table of results from the Oregon Pink Shrimp fishery, see Intertek Moody Marine (2013). Based on these results the Washington fishery under assessment meets the MSC requirement that each MSC Principle has an aggregated, weighted score higher than the required score of 80. Additionally, as indicated in the summary of scores table below, no individual PI scored less than 60. As such, is has been determined that the Washington pink shrimp trawl fishery is recommended for certification under the MSC Sustainable Fishery program. However, as the California fishery failed to achieve an aggregate score of 80 for Principle 3, although no single Performance Indicators scored less than 60, the California fishery is **not** recommended for certification.

**Table 4: Final Principle Scores**

| Final Principle Scores | | |
|---|---|---|
| **Principle** | **CA Score** | **WA Score** |
| Principle 1 – Target Species | 86.3 | 86.3 |
| Principle 2 – Ecosystem (carried over from OR fishery assessment) | 89.7 | 89.7 |
| Principle 3 – Management System | 77.1 | 85.3 |

## 6.2 Summary of Scores

**Table 5. Fishery Assessment Scoring Worksheet for WA and CA pink shrimp**

| Prin-ciple | Wt (L1) | Component | Wt (L2) | PI No. | Performance Indicator (PI) | Wt (L3) | Weight in Principle | | | Score | Contribution to Principle Score | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Either | | Or | | | Either | Or |
| One | 1 | Outcome (not rescored for scope extension) | 0.5 | 1.1.1 | Stock status | 0.5 | 0.25 | 0.333 | 0.1667 | 90 | 22.50 | 15.00 |
| | | | | 1.1.2 | Reference points | 0.5 | 0.25 | 0.333 | 0.1667 | 75 | 18.75 | 12.50 |
| | | | | 1.1.3 | Stock rebuilding | | | 0.333 | 0.1667 | | | 0.00 |
| | | Management | 0.5 | 1.2.1 | Harvest strategy | 0.25 | 0.125 | | | 95 | 11.88 | 11.88 |
| | | | | 1.2.2 | Harvest control rules & tools | 0.25 | 0.125 | | | 80 | 10.00 | 10.00 |
| | | | | 1.2.3 | Information & monitoring | 0.25 | 0.125 | | | 90 | 11.25 | 11.25 |
| | | | | 1.2.4 | Assessment of stock status | 0.25 | 0.125 | | | 95 | 11.88 | 11.88 |
| Two | 1 | Retained species (not rescored for scope extension) | 0.2 | 2.1.1 | Outcome | 0.333 | 0.0667 | | | 100 | 6.67 | |
| | | | | 2.1.2 | Management | 0.333 | 0.0667 | | | 100 | 6.67 | |
| | | | | 2.1.3 | Information | 0.333 | 0.0667 | | | 100 | 6.67 | |
| | | Bycatch species (not rescored for scope extension) | 0.2 | 2.2.1 | Outcome | 0.333 | 0.0667 | | | 80 | 5.33 | |
| | | | | 2.2.2 | Management | 0.333 | 0.0667 | | | 100 | 6.67 | |
| | | | | 2.2.3 | Information | 0.333 | 0.0667 | | | 95 | 6.33 | |
| | | ETP species (not rescored for scope extension) | 0.2 | 2.3.1 | Outcome | 0.333 | 0.0667 | | | 70 | 4.67 | |
| | | | | 2.3.2 | Management | 0.333 | 0.0667 | | | 85 | 5.67 | |
| | | | | 2.3.3 | Information | 0.333 | 0.0667 | | | 75 | 5.00 | |
| | | Habitats (not rescored for scope extension) | 0.2 | 2.4.1 | Outcome | 0.333 | 0.0667 | | | 80 | 5.33 | |
| | | | | 2.4.2 | Management | 0.333 | 0.0667 | | | 95 | 6.33 | |
| | | | | 2.4.3 | Information | 0.333 | 0.0667 | | | 85 | 5.67 | |
| | | Ecosystem (not rescored for scope extension) | 0.2 | 2.5.1 | Outcome | 0.333 | 0.0667 | | | 100 | 6.67 | |
| | | | | 2.5.2 | Management | 0.333 | 0.0667 | | | 90 | 6.00 | |
| | | | | 2.5.3 | Information | 0.333 | 0.0667 | | | 90 | 6.00 | |

| | | | | | | | | | California | | Washington | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Three | 1 | Governance and policy | 0.5 | 3.1.1 | Legal & customary framework | 0.25 | 0.125 | | 95 | 11.88 | 100 | 12.50 |
| | | | | 3.1.2 | Consultation, roles & responsibilities | 0.25 | 0.125 | | 70 | 8.75 | 100 | 12.50 |
| | | | | 3.1.3 | Long term objectives | 0.25 | 0.125 | | 80 | 10.00 | 90 | 11.25 |
| | | | | 3.1.4 | Incentives for sustainable fishing | 0.25 | 0.125 | | 80 | 10.00 | 80 | 10.00 |
| | | Fishery specific management system | 0.5 | 3.2.1 | Fishery specific objectives | 0.2 | 0.1 | | 60 | 6.00 | 60 | 6.00 |
| | | | | 3.2.2 | Decision making processes | 0.2 | 0.1 | | 80 | 8.00 | 90 | 9.00 |
| | | | | 3.2.3 | Compliance & enforcement | 0.2 | 0.1 | | 95 | 9.50 | 100 | 10.00 |
| | | | | 3.2.4 | Research plan | 0.2 | 0.1 | | 60 | 6.00 | 70 | 7.00 |
| | | | | 3.2.5 | Management performance evaluation | 0.2 | 0.1 | | 70 | 7.00 | 70 | 7.00 |

| **Overall weighted Principle-level scores** | | California Either | California Or | Washington |
|---|---|---|---|---|
| Principle 1 - Target species | Stock rebuilding PI not scored | 86.3 | | 86.25 |
| | Stock rebuilding PI scored | | 72.5 | |
| Principle 2 - Ecosystem | | 89.7 | | 89.7 |
| Principle 3 - Management | | 77.1 | | 85.25 |

## 6.3 Summary of Conditions

### Table 6.3: Summary of Conditions

The conditions on the Washington and California fisheries comprise a combination of new conditions arising from the scope extension assessment, and existing conditions on the Oregon pink shrimp fishery that are extended to the Washington and California fisheries as well. The conditions are labelled in the table below as either new or existing.

| Condition number | Notes | Condition | Performance Indicator |
|---|---|---|---|
| **1** | Existing; modified to reflect progress as of 2nd OR surveillance audit | By the 4th surveillance audit of the combined WO fisheries, the client must provide evidence to show that the target reference point for pink shrimp is such that the stock is maintained at a level consistent with $B_{MSY}$ or some measure or surrogate with similar intent or outcome. | **1.1.2** |
| **2** | Existing | By the 4th surveillance audit of the combined WO fisheries, the client must provide evidence to show that the direct effects of the WOC pink shrimp fishery are highly unlikely (as defined by the MSC) to create unacceptable impacts to ETP species, in particular Pacific eulachon. | **2.3.1** |
| **3** | Existing | By the 4th surveillance audit of the combined WO fisheries, the client must provide sufficient information that allows for the determination on whether the WOC pink shrimp fishery may be a threat to the protection and recovery of ETP species, in this case specifically eulachon. | **2.3.3** |
| **4** | Existing for OR, new for WA | By the 4th surveillance audit of the combined WO fisheries the client must demonstrate that short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, have been explicitly defined within the fishery's management system. | **3.2.1** |
| **5** | Existing for OR, new for WA | Section CB4.10.3 of the CR states that 'research plan' is to be interpreted to mean a written document that includes a specific research plan for the fishery under assessment.<br><br>Based on this, by the 4th annual surveillance audit, of the combined WO fisheries, the Client must develop a written formalized plan that provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC Principles 1 and 2. The format could be either a stand-alone document or a standard component of the ODFW Annual Pink Shrimp Review showing research results from WDFW and or collaborative research results between the two states should it exist. | **3.2.4** |

| | | | |
|---|---|---|---|
| **6** | Existing for OR, new for WA | Washington:<br><br>By the 4th surveillance audit of the combined WO fisheries, the client must develop a plan for external review of the management system to occur at some specified interval. The plan should consider the recommendation of the 2008 management policy review that a similar external review be conducted every 2-3 years.<br><br>By the 4th surveillance audit of the combined WO fisheries, the client must provide documented evidence to show that the fishery-specific management system is subject to occasional external review. | **3.2.5** |

### 6.3.1 Recommendations

**PIs with conditions in common with Oregon. Recommendations to attain conditions.**

For conditions previously existing for Oregon and added for Washington, over the course of the Oregon certification, progress has been made by ODFW and the OTC (Oregon client) toward fulfilling the requirements of the condition. In some cases, it could be pragmatic for the WA and client and management agencies to formally collaborate with this ongoing work to ensure it is applicable and beneficial in WA as well. This is a potentially efficient approach particularly for conditions 1, 4, 5, and 6.

**PI 1.1.2 regarding reference points.**

The assessment team encourages the respective state management agencies to continue monitoring environmental fluctuations and changes that appear to be occurring more frequently in the ocean environment with climate change, and consider the bearing this may have on the appropriateness of the chosen reference indicators for triggering management action in the pink shrimp fishery.

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# Appendices

# Appendix 1 Scoring and Rationales

## Appendix 1.1 Performance Indicator Scores and Rationale

### Evaluation Table: PI 1.1.2

Performance Indicator 1.1.2 was rescored as a result of the most recent Oregon pink shrimp surveillance audit (MRAG Americas 2015), and the updated rationale and score also apply to the CA and WA fisheries. Updates to the text from the original report are given in orange.

### Evaluation Table for PI 1.1.2

| PI 1.1.2 | | Limit and target reference points are appropriate for the stock | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category. | Reference points are appropriate for the stock and can be estimated. | |
| | **Met?** | Y | Y | |
| | **Justification** | March 2015: Original PI Text for this Scoring Issue has not been updated as the scoring issue was already considered to be met after the initial assessment. However, updates given under Scoring issues (b) and (c) for the SG 80 can be considered as supplements to this and to the rationale under Scoring Issue (a) for the SG 80.<br><br>As described in PI1.1.1 above, there are no formal reference points for this fishery. Reference points are not set based on recruitment indices or spawning stock biomass. Rather, stock status references are based on trends in CPUE and year-class strength as outlined in the Biological Points of Concern in the draft Fishery Management Plan (Abramson et al., 1981) as well as a recruitment forecast for the upcoming fishing season (ODFW, 2012). The points of concern are: 1) long-term increases in count-per-pound; 2) long-term decrease in average age of females or increase in primary females; 3) long-term decrease in catch with equal or increased effort; 4) long-term decrease in productive shrimp grounds and; 5) indication of two year-class failures over a three-year period (Abramson et al., 1981).<br><br>Development of a limit reference point for minimum spawning stock abundance for shrimp stocks off the Oregon coast using models that incorporated environmental variability was investigated by Hannah (1999). The study suggested a minimum spawning stock threshold of 1.3 billion pink shrimp in order to maintain a higher average recruitment. However, the author cautioned that, while identifying a spawner-recruitment threshold might be possible, it would be more advisable to base it on a retrospective study of stock size and stock recovery (Hannah and Jones, personal communication). Hannah (2010, 2011) subsequently demonstrated that transport and ultimate survival of shrimp larvae off the Oregon coast were dependent on variation in coastal upwelling. Models using CPUE and/or age composition data have failed to provide meaningful reference points for fishery management.<br><br>Environmentally based models provide evidence of a recruitment-stock relationship that is heavily influenced by environmental conditions during the larval stage. Furthermore, it is also possible that a release of predation through the decline of Pacific whiting (*Merluccius productus*) has had a positive effect on the shrimp stock (Hannah, pers. comm.) Any negative impacts of the fishery that might have occurred are obscured by environmental noise. Therefore, setting a limit reference point for this stock is impractical at this time as there is no stock-recruitment relationship that is affected by the fishery. | | |

| PI 1.1.2 | | Limit and target reference points are appropriate for the stock | | |
|---|---|---|---|---|
| | | There are no fishery-independent measures of stock size (e.g. research survey estimates). Survey techniques were investigated for the development of reference points for ocean shrimp off California and Washington based on the assumption that a pre-season estimate of spawning biomass would provide a metric for an appropriate harvest (e.g. TAC) for the fishing season. However, pre-season survey estimates were found to be poor predictors of shrimp biomass during the 1970's (Hannah and Jones, pers. comm.). Furthermore, weather and ocean conditions prior to the spring transition period were not conducive to survey methods.<br><br>The standardized fishery CPUE is the only biomass index available. Performance against the long-term average CPUE (1980 - 2010) can serve as a generic reference for current stock status but, for example, there has been no determination of "healthy, cautious and critical" zones in a precautionary sense (e.g. DFO, 2011).<br><br>The trends in CPUE and year class strength, and the recruitment forecast, (described above) provide informal reference points that are appropriate for the stock. | | |
| **b** | **Guide post** | | The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity. | The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of precautionary issues. |
| | **Met?** | | Y | N |
| | **Justification** | Because there is no formal limit reference point this SI is not met.<br><br>**March 2015 Update:**<br>A limit reference point has been established in 2014 for the pink shrimp fishery as summarized in the following paragraph (from Hannah and Jones 2014).<br><br>A mean April-January Sea Level Height greater than 7.5 ft at Crescent City, CA during the larval year, in combination with a June catch per trip in the age 1 harvest year of less than 10,000 lbs provides very strong evidence that there is risk of November spawning stock biomass falling below the lowest level previously observed if fishing were to continue through October. The choice of 10,000 lb for June catch per trip is based on the 1983 and 1998 values of less than 7,500 lb per trip, adjusted upward by 2,500 lb/trip to account for improvements over time in fishing vessel efficiency. If and when these two conditions coincide, the shrimp trawl fishery will be closed as soon as possible for the remainder of the season and not re-open until April 15th of the following year to provide the maximum protection possible for that year's spawning stock biomass and egg-bearing females.<br><br>Given this stock's proven ability to rebuild very quickly from the lowest levels observed to date, $B_{loss}$ (lowest observed spawning stock) is an appropriate LRP. If conditions can be identified in-season that accurately predict that the stock may be approaching $B_{loss}$ with continued fishing, the fishery can be closed to prevent the "testing" of even lower spawning stock biomass levels which could result in impairment of reproductive capacity or delayed stock rebound. This strategy is very similar to that used for 3 short-lived penaeid shrimp stocks in the Gulf of Mexico, where environmental conditions also principally determine stock size (Gulf of Mexico Fishery Management Council 2005).<br><br>The assessment team considers this approach as appropriate and that the Limit Reference Point is set above the level at which there is an appreciable risk of impairing reproductive capacity. | | |

| PI 1.1.2 | | Limit and target reference points are appropriate for the stock | | |
|---|---|---|---|---|
| c | Guide post | | The target reference point is such that the stock is maintained at a level consistent with $B_{MSY}$ or some measure or surrogate with similar intent or outcome. | The target reference point is such that the stock is maintained at a level consistent with $B_{MSY}$ or some measure or surrogate with similar intent or outcome, or a higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty. |
| | Met? | | N | N |
| | Justification | Because there is no formal target reference point this SI is not met.<br><br>**March 2015 Update:**<br><br>Suggesting an approach for target-like management is somewhat difficult for ocean shrimp. This is because the very rapid stock rebuilding potential of ocean shrimp, along with environmentally-driven recruitment and scant evidence for a stock-recruit relationship makes it difficult to specify an appropriate target reference point that is in any way related to maximum sustainable yield (MSY).<br><br>Target reference point strategies, in general, were developed to try and strike a reasonable balance between fishing mortality rates that are too low to maximize yield and the negative consequences of overfishing, given inevitable uncertainty about stock size and productivity. Although Oregon's management strategy for ocean shrimp is less precautionary than those applied to many longer-lived fishery resources, a less precautionary approach is appropriate for ocean shrimp because the consequences of high fishing rates for this stock are much less severe than for most fish stocks. Moreover, the consequences, in terms of lost yield, of too conservative harvest management, are much greater for ocean shrimp (Hannah and Jones 2014).<br><br>However, it should be recognized that environment-recruitment models frequently break down over time (Myers 1998), and also that there are indications that global climate change could significantly alter recruitment patterns of ocean shrimp over time (Hannah 2011). Therefore, a target reference point has been established that is based primarily upon in-season catch rates, providing a "back-stop" for the possibility of unexpected environmental changes that could result in persistent low levels of recruitment. A June catch per trip value of less than 12,500 lbs, regardless of the ocean conditions during the larval year, indicates the need for additional precautionary management of spawning stock biomass (Hannah and Jones 2014). Therefore, should June catch per trip drop below this level, the ocean shrimp season should close October 15th and not reopen until April 15th of the following year, to provide increased protection for egg-bearing females. Should these conditions arise, this management action will be implemented through emergency rule, as described above for the LRP.<br><br>This approach is an alternative to a Bmsy abundance-based approach—it is an input control rule that reduces the fishery's impact on egg-bearing females whenever there is in-season evidence that spawning biomass may be very low, but significant uncertainty remains. Such an approach is considered by the assessment team to be similar in intent to a target reference point designed to maintain high long term yield. However, without better justification as to how the above-described TRP is meeting the intent of this Scoring Issue in relation to the requirement to "maintain the stock at a level consistent with $B_{MSY}$ or some measure or surrogate *with similar intent or outcome*", the assessment team considered this scoring issue as still not met. | | |
| d | Guide post | | For key low trophic level stocks, the target reference point takes into account | |

| PI 1.1.2 | | Limit and target reference points are appropriate for the stock | | |
|---|---|---|---|---|
| | | | the ecological role of the stock. | |
| | **Met?** | | Not relevant | |
| | **Justification** | The pink shrimp is not considered to be a low trophic species. | | |
| **References** | | Abramson et al., 1981; DFO, 2011/12; Hannah, 1999; 2010; 2011; ODFW, 2012. Hannah and Jones 2014 | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **75** |
| **CONDITION NUMBER (if relevant):** | | | | **1** |

**Evaluation Table for PI 1.2.1**

| PI 1.2.1 | | There is a robust and precautionary harvest strategy in place | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | The harvest strategy is expected to achieve stock management objectives reflected in the target and limit reference points. | The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points. | The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in the target and limit reference points. |
| | **Met?** | Y | Y | Y |
| | **Justification** | The harvest strategy for pink shrimp relevant to these objectives was designed to avoid recruitment overfishing by protecting spawning females (closed season) and protecting recruiting shrimp by reducing fishing mortality of age-1 shrimp (count per pound, mesh size), thereby increasing the size of spawning stock at the end of each season and ensuring shrimp are taken at a marketable size (Abramson, et al., 1981). Maximizing economic yield has been investigated (Gallager et al., 2003) and is addressed to some extent through the count per pound regulation (see 1.2.2 SG 60a, below).<br><br>Stock management objectives are reflected in the newly-adopted target and limit reference points (discussed under 1.1.2) in that these reference points seek to further ensure recruitment overfishing is not taking place by shortening the fishing season if there are environmental conditions indicating likely poor recruitment (Hannah and Jones 2014).<br><br>The management system appears to be managing the shrimp fishery responsibly and adaptively. Environmental variability apparently has a greater effect on stock abundance than fishing mortality. Nevertheless, the long-standing harvest strategies provide additional protection to the recruitment (count per pound) and spawning biomass (closed season) and, to some extent, help maximize economic yield. In addition, season-shortening measures in Oregon and Washington will be taken should newly-adopted target and limit reference levels be approached are explicitly designed to achieve stock management objectives.<br><br>Annual and in-season monitoring of fishing patterns and biological data, as well as forecasting of the next season's recruitment, provide guidance for the harvest strategy (e.g. Hannah and Jones 2014b), ensuring that it is responsive to the state of the stock, and that appropriate management action (shortening the fishing season), should newly implemented target and limit reference points be approached. | | |

| PI 1.2.1 | | There is a robust and precautionary harvest strategy in place | | |
|---|---|---|---|---|
| | | There is good cooperation between the WOC enforcement personnel and their respective state fish and wildlife departments in identifying and resolving issues (e.g. count per pound, BRD requirements) as they arise. | | |
| **b** | **Guide post** | The harvest strategy is likely to work based on prior experience or plausible argument. | The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives. | The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels. |
| | **Met?** | Y | Y | N |
| | **Justification** | Although there is no annual quota, the harvest strategy has helped to ensure a sustained and healthy fishery since its inception. Long-term fishery impacts are not detectable (Hannah and Jones, 1991; ODFW, 2012, Hannah and Jones 2014a and b) and recruitment is heavily influenced by environmental factors during the larval stages (Hannah, 1993; 1999; 2010; 2011; Hannah and Jones 2014a and b). Regulations are effective in providing additional protection for the spawning stock and recruitment, and additional season-shortening measures in Washington and Oregon, should target or limit thresholds be approached provide extra precaution (Hannah and Jones 2014).<br><br>Over the history of the fishery, two successive year class failures have not been observed, providing evidence that the strategy is achieving its objectives. Target and limit reference points are newly adopted and recruitment and stock size have been high, thus the effectiveness of management action should these trigger levels be reached have not been fully tested. However, modelling work used to determine appropriate threshold levels provides evidence that this aspect of the harvest strategy will achieve its objectives (Hannah and Jones 2014a).<br><br>Compliance with rules is monitored principally shore-side by the respective state enforcement authorities, agency staff, and fish processing plants. The federally sponsored at-sea observer program (WCGOP) was implemented in 2001 for the limited entry groundfish trawl fishery. Observers were first deployed in the pink shrimp fishery in 2002. During the period 2004 to 2010 (excluding 2006), a total of 398 shrimp trips were observed. The average coverage rate (observed proportion of total pink shrimp landings) over this period was 6%. NMFS currently requires 15% observer coverage of vessels, and recent actual coverage has been close to this level (ca 14%) fleetwide (McVeigh 2015). Monitoring through these programs is considered sufficient to ensure that the components of the harvest strategy are implemented successfully.<br><br>Monitoring is in place and the 56-year history of the landings demonstrates that, while there are fluctuations, the CPUE is currently at an all-time high (Hannah and Jones 2014), providing evidence that objectives are being achieved. | | |
| **c** | **Guide post** | Monitoring is in place that is expected to determine whether the harvest strategy is working. | | |
| | **Met?** | Y | | |
| | **Justification** | Harvest control rules (see 1.2.2) are described, communicated and enforced. During the fishing season, Oregon, Washington and California monitor fishery performance, collecting information on the distribution of fishing effort, size, and sex. Logbook records are required for this fishery. Additionally, the Federal west coast groundfish observer program (WCGOP) provides at-sea monitoring and estimation of catch and bycatch with a coverage level in the pink shrimp fishery of ca 14%. | | |
| **d** | **Guide post** | | | The harvest strategy is periodically reviewed and improved as necessary. |

| PI 1.2.1 | | There is a robust and precautionary harvest strategy in place | | |
|---|---|---|---|---|
| | **Met?** | | | Y |
| | **Justification** | Periodic reviews of the pink shrimp harvest strategy consist of consultation and coordination with enforcement, logbook analysis, harvesters and state agencies.<br><br>Recently, in response to Condition 1 in the Oregon pink shrimp fishery, the harvest strategy was reviewed in order to propose target and limit reference points appropriate for the fishery. This review (Hannah and Jones 2014a and b) consisted of looking at indices of recruitment and spawning stock and their relationship to selected environmental variables and CPUE in the fishery. The results of this review were updated indices and further support of the fact that population size and recruitment of pink shrimp are largely environmentally driven. Although these reviews have thus far been undertaken by ODFW scientists and managers, they have evaluated the performance of the entire fishery's harvest strategy, thus also benefiting participants in California and Washington. | | |
| **e** | **Guide post** | It is likely that shark finning is not taking place. | It is highly likely that shark finning is not taking place. | There is a high degree of certainty that shark finning is not taking place. |
| | **Met?** | Not relevant | Not relevant | Not relevant |
| | **Justification** | Not relevant for this assessment, as the target species is not a shark. | | |
| **References** | | Abramson, et al., 1981; Gallager et al., 2003; ODFW, 2012; Hannah and Jones, 1991; TAVEL, 2007; 2009. Hannah and Jones, 2014b | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **95** |
| **CONDITION NUMBER (if relevant):** | | | | |

**Evaluation Table for PI 1.2.2**

| PI 1.2.2 | | There are well defined and effective harvest control rules in place | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Generally understood harvest rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached. | Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. | |
| | **Met?** | Y | Y | |
| | **Justification** | The fishery is managed by season to protect spawning females, and count-per-pound to protect recruiting shrimp by reducing fishing mortality of age-1 shrimp, thereby increasing the size of spawning stock at the end of each season and ensuring shrimp are taken at a marketable size (Abramson, et al., 1981). In addition, measures to shorten the shrimp season in Oregon and Washington, should target and limit thresholds be approached, are appropriate to ensure that the exploitation rate is appropriately reduced when conditions indicate poor recruitment is likely. As stock dynamics are largely controlled by environmental factors, these rules are precautionary measures.<br><br>Although California has the same well-defined management rules as the other West Coast states (closed seasons, maximum count-per-pound, limits in permit numbers (CDFW 2015a; FGC 8841; Kalvass 2015; CCR 120.2), California has the least flexible rulemaking of the three west coast coastal states. Authority for pink shrimp management is held by the CFGC, which meets only every two months and typically has a full calendar, making rulemaking a slow process (Kalvass, 2015). In addition, in contrast to Oregon and Washington, California does not use an 'emergency rulemaking' procedure for routine actions such as opening and | | |

| PI 1.2.2 | | There are well defined and effective harvest control rules in place | | |
|---|---|---|---|---|
| | | closing fisheries. As such, in-season management of shrimp in CA doesn't exist, unless there is already a regulation (e.g. quota) in place, and regulations typically take 18-24 months to change (Kalvass, 2015). Therefore it is not certain that CA can shorten the shrimp season should target or limit reference levels be approached.<br><br>Washington has the most flexible rulemaking of the three west coast coastal states. In contrast to other states, Washington fisheries are closed by default and open by rule. "Emergency rule" describes routine rulemaking for routine management decisions, such as season opening. The emergency rule process can also accommodate the need to take management action as target or limit reference points established by ODFW or other sources are approached (WDFW, 2015h; Wargo and Ayres , 2015).<br><br>Signals that would trigger measures to respond to a significant risk to recruitment are given in Hannah and Jones 2014a. These are: 1) Mean April-January Sea Level Height (SLH) greater than 7.5ft at Crescent City, CA during the larval year, and 2) an average June catch-per-trip in the age 1 harvest hear of less than 10,000lbs. The combination of these two situations could indicate a scenario where spawning stock biomass is likely to fall below the current LRP of lowest observed spawning stock biomass (Bloss). Should this occur, management in WA and OR would respond by closing the current shrimp fishing season as soon as possible, and delaying the following season re-opening until April 15th of the following year.<br><br>Although the assessment team is not confident in the ability for California to take management action in response to target and limit levels being approached, California landings in this fishery have hovered around only 10% of the total WOC landings in the past five years (WDFW 2015; CDFW 2015; ODFW 2015 ). Processing capacity is limited to one facility in Crescent City (Kirschbaum 2015), and licenses in the northern region are limited to 30. In addition, a closure of the fishery in OR prohibits not only landing in OR, but all fishing for pink shrimp off OR (Hannah and Jones 2014), including to vessels licensed in other states. If WA closes the fishery, it can prohibit WA licensed vessels from fishing for pink shrimp in waters off WA (Wargo 2015). Because of these factors, even if CA can't close the fishery in response to trigger reference points, the closure of the fishery in the other two states is sufficient to ensure that the exploitation rate will be sufficiently reduced as limit reference points are approached. | | |
| **b** | **Guide post** | | The selection of the harvest control rules takes into account the main uncertainties. | The design of the harvest control rules takes into account a wide range of uncertainties. |
| | **Met?** | | Y | N |
| | **Justification** | The main uncertainties relate to the protection of berried females and recruitment, as no fishery effects on recruitment have been demonstrated. Rather, studies have demonstrated environmentally-driven recruitment which obscures any deleterious fishery effects. Therefore, the rules reflected in the target and limit reference points explicitly address the uncertainty regarding unknown but possible fishery effects.<br><br>Although the **selection** of control rules explicitly account for **main** uncertainties, there is no evidence to suggest that they were **designed** to encompass a **wide range** of uncertainty. | | |
| **c** | **Guide post** | There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation. | Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules. | Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the harvest control rules. |
| | **Met?** | Y | Y | N |

| PI 1.2.2 | | There are well defined and effective harvest control rules in place |
|---|---|---|
| | Justification | The continued healthy state of the stock throughout the 55-year history of the fishery and the apparent lack of any significant negative fishery effects provide evidence that existing management tools are appropriate as precautionary measures. In addition, Washington and Oregon are able to act in-season as newly adopted Target and Limit reference points are approached by shortening the fishing season. Although California management is currently not sufficiently flexible to accommodate this in-season action, the current seasonal closure clearly protects berried females and the count per pound is effective in reducing fishing pressure on age-1 shrimp (as evidenced by significant carry over as age-2 in 2010 and 2011), and, as discussed under SIa, California landing are sufficiently small to ensure that management action by WA and OR would be sufficient to achieve the exploitation levels required under harvest control rules. |
| References | | ODFW, 2011; ODFW, 2012a; ORS 183.335(5), 1971<br>http://wdfw.wa.gov/fishing/commercial/shrimp/landings.html<br>http://www.dfg.ca.gov/marine/research.asp#management<br>http://www.dfw.state.or.us/MRP/shellfish/commercial/shrimp/landings.asp |
| OVERALL PERFORMANCE INDICATOR SCORE: | | 80 |
| CONDITION NUMBER (if relevant): | | |

**Evaluation Table for PI 1.2.3**

| PI 1.2.3 | | Relevant information is collected to support the harvest strategy | | |
|---|---|---|---|---|
| Scoring Issue | | SG 60 | SG 80 | SG 100 |
| a | Guide post | Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy. | Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy. | A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available. |
| | Met? | Y | Y | N |
| | Justification | There is a significant amount of information collected and monitoring conducted in the WOC pink shrimp fishery, primarily by Oregon scientists, but also through regular logbook reporting and monitoring in all three states. As such it has been determined that sufficient information (as defined in CB2.7.2) on these components exists. Refer to Section 3.3.1a (above) for details.<br><br>CB2.7.1.1 identifies several information categories that are to be considered when assessing this performance indicator, including: stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other data.<br><br>Distribution of pink shrimp extends from the Aleutian Islands in Alaska to southern California (Dahlstrom, 1970). They are generally found in mud-sand habitat at depths ranging from about 40 to 450 m and in commercial concentrations, in depths of about 100 to 200 m, supporting fisheries from Vancouver, British Columbia, Canada south to Point Arguello, California (Collier and Hannah, 2001). Oregon, being the center of distribution, has historically yielded about 75% of U.S landings in recent years (ODFW 2015; CDFW 2015; WDFW 2015).<br><br>*Pandalus jordani* are protandrous hermaphrodites, beginning life as males and, later, changing sex to become females. The time spent at each life stage (larvae, juvenile males, mature males and females) varies by location and population density (Charnov and Hannah, 2002). Juvenile male shrimp occur in increasingly deeper water as they develop and begin to | | |

| PI 1.2.3 | | Relevant information is collected to support the harvest strategy |
|---|---|---|
| | | appear in commercial catches by late summer (Collier and Hannah, 2001). Natural mortality is high, variable by year class and has been related to predator abundance (Hannah, 1995).<br><br>Growth rates and age/size of sex change for ocean shrimp are variable by area, sex and year class (Dahlstrom, 1970). There tends to be rapid growth during spring and summer and slower growth over the winter. The growth rate decreases as the shrimp age and, during the ovigerous period from fall to spring, females do not grow at all.<br><br>Migratory behavior of pink shrimp is primarily passive, associated with ocean currents, summer winds and upwelling (Hannah, 1993). Nightly vertical migrations take place as shrimp move off the bottom into the water column to feed (Pearcy, 1970). These vertical migrations may also assist with movement and dispersal of shrimp by alongshore currents.<br><br>Oceanographic factors explain most of the variation in recruitment and, subsequently, the abundance of adults. Recruitment has been negatively correlated with April sea level height and it has been inferred that, when winter-like current conditions extend into the spring beyond the average timing of transition, newly released shrimp larvae are advected to the north away from favorable habitat. Furthermore, strong periods of upwelling may result in shrimp larvae being advected offshore and also away from favorable habitat (Hannah, 1993; 1995; 1999; 2010; 2011).<br><br>The Washington and California sampling programs collect landing data for the ocean shrimp fishery. Shrimp landings and incidentally caught groundfish are recorded through the use of fish tickets.<br><br>Washington and California monitor the fishery by collecting and analyzing logbook data, while in Oregon, biological samples from landed catch are also taken and analyzed. Logbook data are considered accurate and biological sampling is conducted in all major landing ports in Oregon (Hannah, pers. comm.). Washington, California, and Oregon collect logbook data and compile and report catch, fishing effort and CPUE by Pacific States Marine Fisheries Commission statistical area.<br><br>ODFW collects biological data, catch and CPUE data from the fleet catching shrimp off Washington, Oregon, and California and delivering to Oregon ports. The resource sampled is representative of most of the stock area fished.<br><br>Shrimp trips have been observed in Washington, California, and Oregon by the West Coast Groundfish Observer Program (WCGOP) since 2002. This is a statistically based sampling program and estimates of shrimp and groundfish catch and discard were quantified from the observed trips.<br><br>Fleet composition is known and monitored through fish ticket data and landings are designated by licence at the point of sale. As noted previously, the pink shrimp fishery operates under a limited entry, with not all eligible harvesters participating each year, however, annual landing permits are also required, providing information on the number of vessels participating in the fishery each year.<br><br>ODFW conducts studies periodically to characterize abundance, distribution, and size/sex composition of the stock (e.g. Hannah and Jones, 2005). ODFW assessments of stock condition consist of between and within-season monitoring of CPUE, geographic distribution of catch, and year-class strength. A recruitment forecast for the upcoming season from the environmental model is also provided (ODFW, 2014). This work carried out by ODFW benefits the entire WOC fleet regardless of landing port.<br><br>Fishing effort is expressed in terms of single-rig equivalents (SRE), providing a standardized CPUE index. Catch, effort, and age and sex composition of the catch by statistical area have been compiled from available data since 1985. Off the Oregon coast, CPUE is useful as an index of stock size over time, especially for the 1980 - 2010 period.<br><br>Annual fishery-independent shrimp trawl surveys were conducted off the Oregon coast during the mid to late 1970's; however, the results were not thought to represent a reliable indicator |

| PI 1.2.3 | | Relevant information is collected to support the harvest strategy | | |
|---|---|---|---|---|
| | | of stock abundance (Abramson et al., 1981). Fishery effects, if any, are masked by environmental influences on survival of recruits. Consequently, focus shifted towards environmental models which, at present, are retrospective with short-term forecasting (e.g. Hannah and Jones 2014) and also provide valuable insight regarding the major factors influencing ocean shrimp production.<br><br>Numerous studies have described environmental effects of oceanographic changes (Rothlisberg and Miller, 1983; Rothschild and Fogatry, 1989; Hannah, 1993, 1995, 1999, 2010, 2011) and predator impacts (Gotshall, 1969 a,b; Alton and Nelson, 1970; Francis, 1983; Rexstad and Pitkitch, 1986; Hannah, 1995) on pink shrimp populations. Oceanographic factors appear to explain most of the variation seen in recruitment and abundance of adults. Pink shrimp are also prey for several groundfish species (Gotshall, 1969a, b), particularly age 2 Pacific whiting *Merluccius productus* (Hannah, 1995).<br><br>Considerable progress has been made in the development of shrimp population dynamics models which incorporate environmental and fisheries information (Hannah, 1993, 1995, 1999, 2010, 2011; Hannah and Jones, 1991, 2014a). Model results have successfully explained much of the variability in shrimp abundance, and the evidence points towards the ocean environment as being the primary driver. Modelling efforts to date are exemplary and, in addition to providing a recruitment forecast for the fishery, afford valuable insight with respect to the major factors controlling population dynamics of ocean shrimp.<br><br>The information described above in SG80a in combination with the information presented here represents a comprehensive range which is considered supportive of the harvest strategy and inclusive of analysis of environmental influence on the stock. The assessment team notes however, that there is no fishery – independent sources to provide information on stock characteristics. As such, while the fishery, itself, provides sufficient information relevant to the requirements of the SG100, the absence of fishery independent information results in this scoring issue not being fully and unambiguously met. | | |
| **b** | **Guide post** | Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule. | Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule. | All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty. |
| | **Met?** | Y | Y | N |
| | **Justification** | Annual and in-season assessments provide guidance for management tools and data requirements for the assessments ensure that stock size/composition, catch and effort are appropriately monitored (e.g. Hannah and Jones 2014).<br><br>Fishing location, catch and activity are reported in logbooks. Landing information is obtained from fish tickets.<br><br>CPUE is an index of stock biomass and dockside sampling, logbooks and fish tickets monitor the fishing season, fishery removals, and count per pound (WOC enforcement and plant monitoring). Environmental indices likely to impact recruitment, such as sea surface height are also monitored. Annual and in-season assessments support the management tools and ensure that stock abundance and catch are regularly monitored. The information from logbooks, fish tickets and sampling programs provides input for the assessment (catch, effort, CPUE, size/age composition) and is considered accurate and spatially representative. The West Coast Groundfish Observer Program (WCGOP) is a statistically based sampling program and estimates of shrimp and groundfish catch and discard are quantified from the observed trips. | | |

| PI 1.2.3 | | Relevant information is collected to support the harvest strategy | | |
|---|---|---|---|---|
| | | Coastal state fish and wildlife agencies monitor the harvest control rules with high frequency and a high degree of certainty. To the benefit of the entire WOC fishery, ODFW has identified the areas of uncertainty and understands the uncertainties related to, for example, the accuracy of the count/lb, the extent of unobserved and unrecorded discard and the representativeness of the observer coverage. There appears to be a good, albeit, qualitative understanding of the robustness of assessment and management to this uncertainty. | | |
| c | Guide post | | There is good information on all other fishery removals from the stock. | |
| | Met? | | Y | |
| | Justification | Landings data from Canada, when combined with Washington,California, and Oregon data, provide good information on all directed fishery removals.<br><br>No other fishery retains this species as by-catch. Discarding of shrimp within the shrimp fishery has been quantified (0.5% in 2011 - Jones, pers. comm.) and is considered negligible. There are no commercial or recreational pot fisheries targeting pink shrimp. | | |
| References | | Alton and Nelson, 1970; Abramson et al., 1981; Charnov and Hannah, 2002; Collier and Hannah, 2001; Dahlstrom, 1970; Francis, 1983; Gallagher et al., 2003; Golden, 2006; Gotshall, 1969 a,b; Hannah, 1993; 1995;1999; 2010; 2011; Hannah and Jones, 1991; 2005; ODFW, 2012; Pearcy, 1970; Rexstad and Pitkitch, 1986; Rothlisberg and Miller, 1983; Rothschild and Fogatry, 1989. | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | 90 |
| CONDITION NUMBER (if relevant): | | | | |

**Evaluation Table for PI 1.2.4**

| PI 1.2.4 | | There is an adequate assessment of the stock status | | |
|---|---|---|---|---|
| Scoring Issue | | SG 60 | SG 80 | SG 100 |
| a | Guide post | | The assessment is appropriate for the stock and for the harvest control rule. | The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery. |
| | Met? | | Y | Y |
| | Justification | The assessment was designed for ocean shrimp recognizing that stock dynamics are largely driven by environmental factors. Reviews of stock trends in distribution, biomass and size/sex composition facilitate an evaluation of current stock conditions in a historical context and in relation to harvest control rules (see 1.2.1 above). An environmental model (ODFW, 2012) predicts recruitment for the short term and demonstrates the critical role of the environment in stock dynamics.<br><br>The stock does not lend itself to traditional, fishery assessment models that can be used to produce abundance based target and limit reference points. Rather, the assessment relies on empirical data to assess current stock status and an environmentally- driven recruitment model to forecast recruitment for the next fishing season. Therefore, the assessment is appropriate for the stock because it explicitly captures the biology of the species (recruitment dynamics) and nature of the fishery (largely dependent on recruitment). As control measures (i.e. closed season, count per pound and shortening the season as target or limit reference indicators are reached) are designed to help avoid recruitment overfishing, the assessment is equally appropriate for the harvest control rule. | | |

| PI 1.2.4 | | There is an adequate assessment of the stock status | | |
|---|---|---|---|---|
| | | The shift from traditional fishery models to environmentally based models is considered a significant advancement. Examples of models that successfully incorporate environmental variables and produce reliable forecasts are rare in fisheries science. The modelling efforts for pink shrimp are impressive, especially given that lengthy time series of stock production and environmental data are required for their construction. Research on pink shrimp, with respect to environmental forcing, rates highly when compared to similar efforts for other pandalid stocks throughout the northern hemisphere. The researchers at ODFW are proactive in understanding what drives production for ocean shrimp, providing relevant information supported by careful analysis, and this benefits the WOC fishery as a whole. | | |
| **b** | **Guide post** | The assessment estimates stock status relative to reference points. | | |
| | **Met?** | Y | | |
| | **Justification** | The WOC pink shrimp harvest strategy assesses stock status using empirical references (e.g. CPUE, size/sex/age composition) (GCB2.8.3) and a recruitment model which is based on environmental control. Accordingly, target and limit thresholds are related to these indices (Hannah and Jones 2014a). As such, this PI is scored relative to the robustness of those empirical indicators of stock status (GCB2.8.1), as well as taking into account the forecasting power of the recruitment model.<br><br>Assessments presently take the form of in-season and annual analysis of catch, effort, CPUE from the WOC fleet, and biological sampling from the Oregon fleet (e.g. ODFW, 2012). Catch, effort, CPUE, age, size and sex composition, year-class strength, and geographic distribution of catch are compared and evaluated against historical data and indicators of Biological Concern listed in the draft shrimp Fishery Management Plan (FMP) (Abramson et al., 1981), and target and limit CPUE and sea level height reference thresholds. Sampling is representative of a large portion of the stock area as boats landing in Oregon also fish off Washington and California. The environmental models are updated yearly and provide a forecast of recruitment for the upcoming fishing season.<br><br>Periodically, ODFW shrimp biologists analyze historical data from the shrimp fishery, update long-term recruitment and spawning stock indices and re-examines existing environmental models to determine if there is any evidence that fishing has negatively impacted recruitment (ODFW, 2009, 2010, 2011, 2012). | | |
| **c** | **Guide post** | The assessment identifies major sources of uncertainty. | The assessment takes uncertainty into account. | The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way. |
| | **Met?** | Y | Y | N |
| | **Justification** | The major uncertainties of assessments deal with predicting environmental effects on future stock conditions. Fishery effects are masked by environmental influences on survival of recruits. Retrospective studies are periodically conducted for environmentally based models to help explain trends in population abundance (Hannah, 1993; 1999; 2010; 2011).<br><br>Annual season assessments for the WOC pink shrimp fishery conducted by ODFW are reviewed by the ODFW Program supervisor, the Program Manager of the Marine Program and the harvest manager of Fish Division. In addition, when periodic evaluations of the evidence for any influence of spawning stock on recruitment are conducted and submitted for publication, they are reviewed by two people internally, then by NMFS staff, and then by 2-4 external journal peer-reviewers. | | |
| **d** | **Guide post** | | | The assessment has been tested and shown to be robust. Alternative hypotheses and assessment |

| PI 1.2.4 | | There is an adequate assessment of the stock status | | |
|---|---|---|---|---|
| | | | | approaches have been rigorously explored. |
| | **Met?** | | | Y |
| | **Justification** | Condition (3.6.1) of the original Oregon pink shrimp assessment (TAVEL, 2007), required the client to subject the fishery monitoring program to an independent outside review to identify gaps. Stock assessment was an element of that review and the first surveillance audit (TAVEL, 2009) reported: "The reviewer evaluated sampling and monitoring programs along with in-season stock assessments. The reviewer also interviewed the Senior Shrimp Biologist regarding ODFW's plans to update annual environmental models. ODFW and staff have collected catch, effort, and biological data and are in the process of evaluating it for their annual review. Sampling continues to be robust in comparison to previously established statistical standards. No alarming trends were seen in the data collected during the 2008 season when evaluated against the draft FMP's list of Biological Concerns." The assessment of stock status is not model based and, therefore, is not greatly influenced by errors in assumptions.<br><br>A comprehensive coastwide stock assessment for ocean shrimp was conducted and documented in the Fishery Management Plan for Pink Shrimp (Abramson et al., 1981). Coastwide assessments were made using a Schaefer-type production model for Washington, Oregon, and California catch and effort for the period 1959-1980 (Abramson and Tomlinson, 1972). Analysis of the use of this model by Geibel and Heimann (1976) outlined the difficulties of setting meaningful quotas for a stock that appears to be more sensitive to environmental variation than effects of the fishery. General production, yield per recruit and catch-at-age models have been largely unsuccessful in assessing stock status and establishing reference points for management of the pink shrimp fishery. Environmentally based models, on the other hand, have been useful for explaining variation in recruitment but failed to detect any consistent impact of the fishery on future stock abundance (e.g. no consistent stock-recruitment relationship). | | |
| **e** | **Guide post** | | The assessment of stock status is subject to peer review. | The assessment has been internally and externally peer reviewed. |
| | **Met?** | | Y | Y |
| | **Justification** | Annual season assessments for the WOC pink shrimp fishery conducted by ODFW are reviewed by the ODFW Program supervisor, the Program Manager of the Marine Program and the harvest manager of Fish Division. In addition, when periodic evaluations of the evidence for any influence of spawning stock on recruitment are conducted and submitted for publication, they are reviewed by two people internally, then by NMFS staff, and then by 2-4 external journal peer-reviewers.<br><br>In addition to internal peer review (see SG 80c above), the independent outside peer review of the monitoring program, required under Condition (3.6.1) of the original assessment (TAVEL, 2007), included a review of the stock assessment approach. | | |
| **References** | | Abramson et al., 1981; Abramson and Tomlinson, 1972; Geibel and Heimann; 1976; Golden, 2006; ODFW, 2009; 2010; 2011; 2012; TAVEL, 2007; 2009. | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **95** |
| **CONDITION NUMBER (if relevant):** | | | | |

**Principle 3 Evaluation Tables for <u>California</u>**

**Evaluation Table for PI 3.1.1—California**

| PI 3.1.1 | | The management system exists within an appropriate legal and/or customary framework which ensures that it:<br>• Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and<br>• Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and<br>• Incorporates an appropriate dispute resolution framework. | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | There is an effective national legal system and a framework for cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2 | There is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2. | There is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2. |
| | **Met?** | Y | Y | Y |
| | **Justification** | At the state level, the management system operates within state laws and the California Code of Regulations (CCR). Fishery management decisions regarding pink shrimp are delegated by the California State Legislature to the Fish and Game Commission (CFGC) and implemented through the California Department of Fish and Wildlife (CDFW) (CFGC sect. 8841). The CFGC formulates fishery management policies and sets fishing seasons and other regulations to determine who may fish for pink shrimp, when they may fish and how they may fish. Regulations, such as the maximum count per pound, minimum mesh size and BRD specifications, are set in CCR. The CFGC and CDFW operate within a framework of state laws under Title 12 (Natural Resources) of the CCR. All California executive branch agencies are guided by the California Administrative Code (CAC) which codifies regulations and sets out general standards and procedures. The CACs pertaining to CDFW are contained in Title 14; rules and regulations pertaining specifically to commercial shrimp fishing are Pink shrimp permit holders are also subject to the provisions of CCR Title 14 §189 and FGC §8841.<br><br>In addition, all state entities adhere to the Bagley-Keene Open Public Meetings Act and the Public Records Act which require that all meetings of governing bodies and state agencies are open and accessible to the public, and that most public records be made available to members of the public (CCR 11020-11032; CCR 6250-6270).<br><br>The Administrative Procedure Act (2008) requires that agencies conduct a process that ensures public involvement opportunities and considers the economic impact of its rules. These cooperation procedures are binding.<br><br>Regulations are enforced by the CDFW Law Enforcement Division, which operates out of four districts. The Northern Coastal District oversees enforcement within the pink shrimp fishery (CDFW, 2015b; CDFW, 2015c; Farrell, 2015).<br><br>At the national level, management of state fisheries may take place within and may coordinate with a larger framework of federal laws, through the interface with the regional fishery management council system. Federal fishery management is carried out under the authority of the federal Magnuson-Stevens Fishery Conservation and Management Act (MSA), first passed in 1976 and most recently reauthorized in 2006 (MSA, 2007). The MSA is the principal law governing the harvest of fishery resources within the federal portion of the U.S. 200-mile zone. Under the MSA, the Pacific Fishery Management Council (PFMC) recommends management actions to the National Marine Fisheries Service (NMFS; also called NOAA Fisheries) for approval. Ultimate decision authority for fishery management lies with the Secretary of Commerce. In addition to the MSA, the PFMC adheres to a suite of "other applicable laws:" the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the Migratory Bird Treaty | | |

<table>
<tr><td colspan="2">PI 3.1.1</td><td colspan="3">The management system exists within an appropriate legal and/or customary framework which ensures that it:<br>• Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and<br>• Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and<br>• Incorporates an appropriate dispute resolution framework.</td></tr>
<tr><td></td><td></td><td colspan="3">Act (MBTA); the Administrative Procedure Act (APA), Paperwork Reduction Act (PRA): Regulatory Flexibility Act (RFA): Coastal Zone Management Act (CZMA): and other relevant U.S. laws, Executive Orders and regulations (MSA, 2007). This national legal system outlines procedures governing cooperation among entities authorized to implement these acts. The procedures are well described in consultation rules, and are binding.<br><br>The primary interaction of the California pink shrimp fishery with the federal management system is through finfish bycatch limits and the Groundfish Observer Program. In addition, California cooperates with the federal system and with the other states through provision of data through the Pacific States Marine Fisheries Commission PacFIN database, agreements on gear specifications, joint enforcement agreements, and ETP management.</td></tr>
<tr><td>b</td><td>Guide post</td><td>The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.</td><td>The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery.</td><td>The management system incorporates or subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective.</td></tr>
<tr><td></td><td>Met?</td><td>Y</td><td>Y</td><td>Y</td></tr>
<tr><td></td><td>Justification</td><td colspan="3">As described above under 3.1.1. SG 60a, the fishery is managed primarily under state statutes and administrative codes, in a fashion that respects domestic law. Federal rules apply to federally managed species that interact with the California management system. For the pink shrimp fishery, these rules pertain primarily to bycatch of federally managed species or species protected under the ESA (ESA, 1973).<br><br>The Bagley-Keene Open Meeting Act (CCR 11120-11132) and Public Records Act (CCR 6250-6270) ensure transparency and public access.<br><br>State and federal agents monitor fisheries and enforce compliance with the laws and regulations related to pink shrimp, incidentally caught groundfish, eulachon or other protected species, (CDFW 2015b; 2015c). California enforcement is represented on the PFMC Enforcement Consultants committee, which includes representatives from state enforcement agencies in Washington, Oregon, and California, and the federal government (PFMC, 2012b). Coordination of state and federal laws is accomplished through this body.<br><br>At the state level, the management system uses the CDFW Law Enforcement Division to enforce laws and regulations (CDFW, 2015b; 2015c). Fish and Wildlife Officers (FWOs) are general authority peace officers with responsibilities that include fish protection and commercial fish and shellfish harvest. In addition to state laws, they enforce federal laws and Oregon state statutes through memoranda of agreement (Farrell, 2015).<br><br>Formal mechanisms for resolving disputes include:<br>• Petition processes of the CFGC that allow issues to be brought for Commission decision (CFGC, 2015a; 2015b).<br>• The tri-state coordination process administered by the Pacific States Marine Fisheries Commission (PSMFC) can be activated as needed to resolve shrimp fishery management issues or disputes among Washington, Oregon and California (Abramson et al., 1981; Hannah, 2012).</td></tr>
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| **PI 3.1.1** | | **The management system exists within an appropriate legal and/or customary framework which ensures that it:**<br>• **Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and**<br>• **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and**<br>• **Incorporates an appropriate dispute resolution framework.** | | |
| | | The coordination mechanism of the PFMC to resolve any disputes between state and federal fisheries (PFMC, 2004; 2007).<br>The shrimp fishery has not been subjected to legal challenge (Kalvass, 2015). However, timely implementation by the CFGC to the MLPA provisions on closed fishing areas provides an example of how the formal mechanisms outlined above have been tested and proven to be effective (CDFW, 2013). | | |
| **d** | **Guide post** | The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. | The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. | The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. |
| | **Met?** | Y | Y | Y |
| | **Justification** | Negotiated processes between CDFW and California federally recognized tribes around placement of marine protected areas have established a process that could serve as a template for continued communication (cf. CDFW, 2012). In addition, California has close consultation with tribes on salmon, through the Klamath River Management Council.<br><br>At the federal level, NMFS and management through the PFMC are both bound by Federal Executive Order 13175 (2000), which requires meaningful consultation and collaboration with Indian tribal governments. The sovereign status and co-manager role of Indian tribes over shared federal and tribal fishery resources is recognized. At the regional level, this role is reflected in a designated tribal seat on the Pacific Fishery Management Council (PFMC, 2012a).<br><br>Since 2010 all California state agencies have operated under Executive Order B-10-11, requiring effective communication and consultation with California Indian tribes, seeking their meaningful input into regulations, rules, policies and other matters affective tribal communities (CA Office of the Governor, 2010). | | |
| **References** | | CFGC sect. 8841; CCR Title 14 §189; CCR 11020-11032; CCR 6250-6270; CA Administrative Procedure Act, 2008; CDFW, 2015b; CDFW, 2015c; CFGC, 2015c; Farrell, 2015; Abramson et al., 1981; E.O. 13175, 2000; ESA, 1973; Hannah, 2012; MSA, 2007; NMFS, 1997; WDFW and NWIFC, 2014, NWIFC, 2015; WFWC, 1996; WDFW Police, 2015; Woods, 2005, PFMC, 2004; 2007; 2012a; 2012b; CFGC, 2015a; 2015b; Kalvass, 2015; CDFW, 2012; E.O. 13175, 2000; CA Office of the Governor, 2010. | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **100** |
| **CONDITION NUMBER (if relevant):** | | | | |

**Evaluation Table for PI 3.1.2—California**

| PI 3.1.2 | | The management system has effective consultation processes that are open to interested and affected parties.<br><br>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood. | Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction. | Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction. |
| | **Met?** | Y | Y | N |
| | **Justification** | CFGC, CDFW, PFMC, and the state and federal enforcement entities of the CDFW Enforcement Division, US Coast Guard, and NMFS Enforcement are all explicitly identified, and roles defined, in statutes, administrative code, and operating procedures. Open lines of communication between agencies promote widespread understanding of the roles and responsibilities of respective entities. Lines of authority and responsibility among the state and federal entities are clear, as are procedures for coordination among them (Kalvass, 2015; Farrell, 2015).<br><br>The functions, roles and responsibilities are well defined for all areas of responsibility and action. An example of understanding of regulations on the part of the fishing industry is provided by good compliance rates of BRD adoption (Farrell, 2015).<br><br>The low level of engagement between CDFW and the shrimp fishery create uncertainty as to whether all areas of responsibility and interaction are well understood. | | |
| **b** | **Guide post** | The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system. | The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained. | The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used. |
| | **Met?** | Y | N | N |
| | **Justification** | The enforcement component of the management system regularly seeks and accepts relevant information through active consultation with the fleet and enforcement entities in Oregon and Washington. Enforcement uses local knowledge through such mechanisms as regular feedback from the industry regarding such issues as conditions on the fishing grounds and gear innovation experiments (Farrell, 2015).<br><br>Specifically, consultations include dockside interactions between WCDFW police, fleet and plants<br><br>However, consultation with the agency component of the management system is relatively weak. There is no regular interaction between CDFW Invertebrate Program staff and industry, due to limitations on staff resources (Kalvass, 2015). CDFW does not produce a newsletter to the industry and does not have an advisory committee for the pink shrimp fishery.<br><br>Beyond enforcement-industry interactions, the management system is at present engaged with stakeholders to only a minimal degree. | | |

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| **PI 3.1.2** | | **The management system has effective consultation processes that are open to interested and affected parties.**<br>**The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties** | | |
| **c** | **Guide post** | | The consultation process provides opportunity for all interested and affected parties to be involved. | The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement. |
| | **Met?** | | N | N |
| | **Justification** | Opportunities for industry involvement are primarily through interactions with CDFW law enforcement and testimony to the CFGC. The frequency of these interactions varies by the particular process. Enforcement dockside interactions occur once or twice weekly. The CFGC as a whole meets bi-monthly (Farrell, 2015; CFGC, 2015a).<br><br>The Bagley-Keene Open Meeting Act of California ensures the public right of access to any meetings of state bodies in addition to advance notice and minutes of these meetings. Some specific exceptions exist (Digital Media Law Project 2015; CCR 11120-11132.). It is designed to promote greater public participation in government. CDFW routinely posts notices of public meetings about upcoming regulations on their website and at port offices. Likewise, announcements of California Fish and Game Commission (CFGC) meetings are posted on the CDFW website well in advance, with full information about meeting agendas (CFGC, 2015a). The CFGC provides online access for the content and schedule of new and proposed rulemaking as well as information on processes for permanent and emergency rulemaking, with information on how stakeholders can be involved (CFGC, 2015b). The California Public Records Act (CCR 6250-6270) ensures transparency of agency information.<br><br>At the regional level, the PFMC process provides open and transparent distribution of information as well as opportunities for engagement of interested parties through committee membership and public testimony. ENGOs are routinely engaged in this process (PFMC, 2012c). However, this process is only indirectly related to the state-managed pink shrimp fishery.<br><br>Executive Order 13132 (1999) requires federal agencies to consider the implications of policies that may limit the scope of or pre-empt states' legal authority. Such actions require a consultation process with the states and may not create unfunded mandates for the states. Any final published rule must be accompanied by a "federalism summary impact statement" (NMFS, 1997; PFMC, 2011d).<br><br>The Council process involves different types of consultations with member states through state agencies, Council appointees, advisory committee membership, and meetings. The process of state participation in the formulation of federal management measures encourages complementary approaches between federal and state approaches (PFMC, 2004; 2007). Consultations among state agency staff, industry stakeholders and ENGOs occurs informally through regular stakeholder meetings, interactions at the Pacific Fishery Management Council settings, interactions with congressional staff, and various other fora.<br><br>Resource constraints creating a low CDFW profile with the shrimp fishery, combined with the CFGW heavy work load and reduced frequency of meetings constrain the degree of opportunity, encouragement and facilitation for involvement in shrimp fishery management. | | |
| **References** | | Kalvass, 2015; Farrell, 2015; CFGC, 2015a; Digital Media Law Project 2015; CCR 11120-11132; CFGC, 2015a; 2015b; CCR 6250-6270; PFMC, 2012c; E.O. 13132, 1999; NMFS, 1997; PFMC, 2011d; PFMC, 2004; 2007. | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **70** |
| **CONDITION NUMBER (if relevant):** | | | | **7** |

**Evaluation Table for PI 3.1.3—California**

| PI 3.1.3 | | The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Long-term objectives to guide decision-making, consistent with the MSC Principles and Criteria and the precautionary approach, are implicit within management policy | Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit within management policy. | Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy. |
| | **Met?** | Y | Y | N |
| | **Justification** | Long-term objectives guiding all California fisheries are explicit within the Marine Life Management Act (MLMA) of 1998.<br><br>The MLMA contains goals and objectives the management of California fisheries. FMPs and regulations for all fisheries are expected to conform to the MLMA (MLMA, 1998).<br><br>The MLMA specifies seven goals, paraphrased as:<br>• Conserve entire ecosystems<br>• Recognize and protect non-consumptive values:<br>• Achieve sustainability<br>• Conserve and protect habitat<br>• Rebuild depressed fisheries<br>• Limit bycatch<br>• Minimize adverse impacts on fishing communities<br>To achieve these goals CDFW is required to prepare a master plan that lists fisheries by priority, according to the need of comprehensive management through FMPs. The purpose of FMPs is to base management decisions on clear objectives for and knowledge of a fishery (CDFW, 2001).<br><br>The MLMA, requires that FMPs include seven elements (CDFW, 2001):<br><br>• Description of the fishery<br>• Fishery science and essential fishery information<br>• Basic fishery conservation measures<br>• Habitat provisions<br>• Bycatch and discards<br>• Overfishing and rebuilding<br>• Procedure for review and amendment of an FMP<br><br>The preparation of FMPs is time consuming, and pink shrimp has not been prioritized for FMP development within the master Plan (Kalvass, 2015).<br><br>The MLMA provides explicit overarching long-term objectives for California fisheries that guide CFGC decision-making (CDGC, 2015b). However, to take the form of requirements, these policy objectives would need to be expressed in the form of fishery management plans (FMPs) that included accountability measures related to those objectives. No FMP exists for pink shrimp. | | |
| **References** | | MLMA, 1998; CDFW, 2001; Kalvass, 2015; CDGC, 2015b. | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **80** |

| PI 3.1.3 | The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach | |
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| **CONDITION NUMBER (if relevant):** | | |

**Evaluation Table for PI 3.1.4—California**

| PI 3.1.4 | | The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2. | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that perverse incentives do not arise. | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and explicitly considers incentives in a regular review of management policy or procedures to ensure they do not contribute to unsustainable fishing practices. |
| | **Met?** | Y | Y | N |
| | **Justification** | As with Oregon and Washington, the CDFW management system provides a number of positive attributes that provide for sustainable fishing consistent with MSC Principles 1 and 2. It has taken a number of actions seeking to ensure that perverse incentives do not arise.<br>• Closed seasons in effect from November through March keep fishing off spawning aggregations (CDFW, 2015a; FGC 8841)<br>• The regulation specifying a maximum 160 count per pound [for landings exceeding 3,000 pounds] provides a disincentive to fish on small shrimp (CDFW, 2015a; FGC 8841).<br>• Rigid-grate bycatch reduction devices (BRD's) are required on all nets (CDFW, 2015a; FGC 8841). BRDs have significantly reduced the amount of bycatch in the fishery. Smaller bycatch also reduces the time spent sorting on deck, lowering the time and costs of fishing.<br>• Limits on incidental catch of finfish, with a few exceptions for abundant stocks, are small (CDFW, 2015a; FGC 8841). The required use of BRD and the sequential restrictions in allowable BRD bar spacing to .75" has reduced bycatch significantly.<br>• Limits on the number of permits to 30 in the northern district (the southern district permits are unlimited). Shrimp permits are transferable within certain conditions (Kalvass, 2015; CCR 120.2).<br>• Shrimp harvest logbooks are required of all vessels (CDFW, 2015a; FGC 8841).<br>• Observer coverage is maintained on approximately 14% of the vessels through the West Coast Groundfish Observer Program (McVeigh, 2015).<br><br>The state management system contains no explicit subsidies that provide perverse incentives working against achieving outcomes consistent with MSC Principles 1 and 2. At the federal level the U.S. government has committed to using international trade mechanisms to reduce harmful fishery subsidies worldwide (International Centre for Trade and Sustainable Development, 2007).<br><br>In contrast to subsidies, the pink shrimp fishery is subject to a California landings tax of 5.0% (CDFW, 2015d).<br><br>In addition, members of the west coast pink shrimp fleet received a federal loan to pay for permits to be removed from the fishery. The rationale was for each fleet sector (groundfish, shrimp and crab) benefitting from capacity reduction to pay its share. The fleet assessed itself | | |

| PI 3.1.4 | | The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing |
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| | | a loan repayment rate of 4.65%. As of March 2015, approximately half of the California pink shrimp sub-loan has been repaid (NMFS, 2015).<br><br>In sum, the pink shrimp fishery provides basic incentives for sustainable fishing through its control rules and limitations on numbers of permits. The fishery operates without subsidies that would contribute to unsustainable fishing.<br><br>As described above in SG80, the management system is structured and operated in a manner that provides a number of positive incentives for sustainable fishing and seeks to avoid perverse incentives.<br><br>The management policy and procedures have been subject to a number of ad hoc formal reviews. The likely impacts of the federal groundfish trawl ITQ program on the shrimp fishery were assessed in a 2011 Environmental Impact Statement (EIS) conducted by the Pacific Fishery management Council (PFMC, 2011d). The PFMC reviewed the impact of the groundfish trawl ITQ program on Oregon fisheries, which are managed under the same control rules as California fisheries (PFMC, 2011c).<br><br>CDFW makes use of information from ODFW as reported in research publications and in the Annual Pink Shrimp Review (cf. Hannah and Jones, 2014). CDFW Enforcement reviews regulations and enforcement issues in consultation with \ the Oregon State Police in a cooperative enforcement process (Schwarz and Thompson, 2015; Farrell, 2015; Kalvass, 2015; Hannah and Jones, 2015). This type of information transmission and continuing contact are designed to provide a positive incentive to comply with regulations.<br><br>However, these assessments do not comprise a system of regular review that explicitly considers incentives, and so the requirement for the 100 score is not met. |
| **References** | | CDFW, 2015a; FGC 8841; Kalvass, 2015; CCR 120.2; McVeigh, 2015; International Centre for Trade and Sustainable Development, 2007; CDFW, 2015d; NMFS, 2015; PFMC, 2011d; PFMC, 2011c; Hannah and Jones, 2014; Schwarz and Thompson, 2015; Farrell, 2015; Kalvass, 2015; Hannah and Jones, 2015. |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | **80** |
| **CONDITION NUMBER (if relevant):** | | |

**Evaluation Table for PI 3.2.1—California**

| PI 3.2.1 | | The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2 | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery's management system | Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system. | Well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system. |
| | **Met?** | Y | N | N |
| | **Justification** | The MLMA contains seven goals for fish and marine ecosystems (see detail under PI 3.1.3 scoring rationale presented in SG80a) (CDFW, 2001). These goals and objectives, intended for all California fishery, apply implicitly to pink shrimp and would shape the content of the shrimp FMP, should one be developed (Kalvass, 2015). | | |

| PI 3.2.1 | | The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2 |
|---|---|---|
| | | In addition, The draft federal shrimp FMP (Abramson et al., 1981) has provided implicit management objectives to the California shrimp fishery, as do the National Standard Guidelines under which federal FMPs are structured (NMFS, 2005).<br><br>Due to resource constraints, development of a state pink shrimp fishery management plan is not anticipated in the near future (Kalvass, 2015). Until a pink shrimp FMP is developed there are no short or long-term objectives that explicitly and specifically apply to the pink shrimp fishery. |
| **References** | | CDFW, 2001; Kalvass, 2015; Abramson et al., 1981; NMFS, 2005. |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | **60** |
| **CONDITION NUMBER (if relevant):** | | **4** |

**Evaluation Table for PI 3.2.2—California**

| PI 3.2.2 | | The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment. | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives. | There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. | |
| | **Met?** | Y | Y | |
| | **Justification** | Established decision-making processes are followed by the CFGC which has been delegated management authority for pink shrimp by the California State Legislature. These processes result in regulations designed to meet the overarching goals specified in the MLMA (CFGC, 2015a; 2015b). These processes are stable. | | |
| **b** | **Guide post** | Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions. | Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. | Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. |
| | **Met?** | Y | Y | N |
| | **Justification** | Decision-making processes cover serious and important issues related to pink shrimp. A good example of decision response to all of these elements is the adoption of the finfish excluder grate to reduce rockfish bycatch and later, with smaller grate spacing, to protect ESA-listed eulachon. These successive BRD decisions were made in collaboration with industry members and enforcement in response to an identified need to reduce bycatch of finfish species, and in this way it was adaptive. The transparency, timeliness and adaptive manner of decision response is ensured by the Bagley-Keene Open Meeting Act (CCR 11120-11132) and Public Records Act (CCR 6250-6270). | | |

| PI 3.2.2 | | The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment. | | |
|---|---|---|---|---|
| | | California has the least flexible rulemaking of the three west coast coastal states. Authority for pink shrimp management is held by the CFGC, which meets only every two months and typically has a full calendar, making rulemaking a slow process (Kalvass, 2015). However, normal operations such as regular openings and closures are dealt with by CDFW, meeting basic timeliness requirements. The legislative-commission decision making process cannot readily respond to situations requiring immediate actions, such as the pink shrimp harvest control rule adopted by Oregon and Washington that would close the fishery before the statutory closure date. If California left the fishery open after the other two states closed, some migration of effort to California could occur. The limited pink shrimp processing capacity in California would mitigate this risk.<br><br>Informal coordination of CDFW with ODFW and the availability of the Oregon Pink Shrimp Review, which in both its annual edition and a supplemental edition identified upcoming potential issues with eulachon in anticipation of its listing under ESA, helps identify need to take proactive action (cf. Hannah and Jones, 2014).<br><br>Frequent communication and coordination between CDFW and ODFW enforcement establish enforcement priorities in anticipation of likely areas needing enforcement attention, and adapt to in-season enforcement issues as they emerge (Farrell, 2015).<br><br>Coordination and consultation between the state and federal processes, conducted through the PFMC process, promotes the consideration of the effects of pink shrimp fishery management decisions on other fisheries and ecosystem issues, for example the rebuilding of rockfish stocks and the protection of ESA listed species.<br><br>The timeliness of decision-making process is constrained, as described SIc, below. | | |
| c | **Guide post** | | Decision-making processes use the precautionary approach and are based on best available information. | |
| | **Met?** | | Y | |
| | **Justification** | Decision processes employed by the California State Legislature (in establishing law and policy) and the CFGC (in implementing policy) exhibit a precautionary approach to pink shrimp management and a basis in best available scientific information. A precautionary approach based on ecosystem management is explicit in the MLMA (CDFW, 2001). The regulations establishing maximum count per pound and closed seasons were implemented to minimize effort on small shrimp and prevent fishing on spawning aggregations (CFGC 8841). Adoption of the BRD requirement was a precautionary approach to minimize bycatch of rebuilding groundfish stocks. Further strengthening of the BRD specifications was a proactive and precautionary approach to minimizing all bycatch, including eulachon, recently listed as threatened under the ESA (CDFW, 2015a; CFGC, 2015b; CDFW, 2001). The fleet's experimentation with LED lights on gear is part of the overall effort to minimize non-shrimp bycatch (Farrell, 2015).<br><br>Discussions during the site review made evident that CDFW staff are in communication with ODFW staff and members of the Oregon fleet who are conducting research with respect to both the target species and P2 species and impacts. In this way the California pink shrimp fishery has access to all available information, including new and emerging research results. | | |
| d | **Guide post** | Some information on fishery performance and management action is generally available on request to stakeholders. | Information on fishery performance and management action is available on request, and explanations are provided for any actions or lack of | Formal reporting to all interested stakeholders provides comprehensive information on fishery performance and management actions and describes how the management system |

| PI 3.2.2 | | The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment. | | |
|---|---|---|---|---|
| | | | action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. | responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. |
| | **Met?** | Y | Y | N |
| | **Justification** | CFGC meeting minutes and records of decisions are available online (CFGC, 2015a; 2015b).<br><br>CDFW enforcement officers fill out daily electronic reports of enforcement activities, although these reports cover all enforcement contacts and do not contain a separate code for pink shrimp (Farrell, 2015). Annual summary reports are generated from daily reports (CDFW, 2015b; 2015c).<br><br>With regard to finish bycatch, observer coverage and ETP protections, the PFMC newsletters describe actions taken at Council meetings, committee openings and meeting schedules, and upcoming issues (PFMC, 2012). The Federal Register provides notice of all proposed federal actions (cf. Federal Register, 2012; 2013)<br><br>Formal reporting to stakeholders is in the form of records of CFGC meetings and decisions, as well as enforcement reports, as described under SG80c and d. These are available online. However, logbook data and overall fishery performance remain unanalyzed, so the standard of comprehensive information is not met. | | |
| **e** | **Guide post** | Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery. | The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges. | The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges. |
| | **Met?** | Y | Y | Y |
| | **Justification** | The shrimp fishery has not been subjected to legal challenge (Kalvass 2015). However, timely implementation by the CFGC to the MLPA provisions on closed fishing areas provides an example of the timely response to the management system to judicial decisions (CDFW 2013).<br><br>Overall, CDFW maintains a low level of engagement with the shrimp fishery. However, active engagement of CDFW enforcement personnel with shrimp fishers and processors does represent proactive action to anticipate and avoid legal disputes, particularly surrounding inter-state differences in gear regulations.<br><br>Legal challenges to the shrimp fishery have not been made. However, the process followed by the CDFW and CFGC for the controversial abalone recovery and management plan (ARMP) illustrates the ability of the management system to proactively avoid legal disputes. During the development of the ARMP, informal comments received through an advisory panel, workshops, letters, and the CDFW website were used to shape and revise the plan. A formal public review period included written and oral comments that were used to amend the plan prior to CFGC adoption. CDFW responded to all comments. | | |

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| **PI 3.2.2** | **The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment.** |
| **References** | CFGC, 2015a; 2015b; CCR 11120-11132; CCR 6250-6270; Hannah and Jones, 2014; Farrell, 2015; CDFW, 2001; CFGC 8841; CDFW, 2015a; 2015b; 2015c Farrell, 2015; Kalvass, 2015; PFMC, 2012; Federal Register, 2012; 2013. |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | 80 |
| **CONDITION NUMBER (if relevant):** | |

**Evaluation Table for PI 3.2.3--California**

| **PI 3.2.3** | | **Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with** | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Monitoring, control and surveillance mechanisms exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective. | A monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules. | A comprehensive monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules. |
| | **Met?** | Y | Y | Y |
| | **Justification** | The overall harvest strategy comprising seasons, maximum counts per pound, minimum mesh size and bycatch reduction devices is clear and enforceable. A comprehensive system of monitoring, control and surveillance for compliance and enforcement is in place, involving CDFW Enforcement, NMFS West Coast Groundfish Observer Program, and the US Coast Guard. The Groundfish Observer Program has a coverage target of approximately 15% of pink shrimp trips and monitors the biological parameters of the total catch (McVeigh, 2015). CDFW enforcement officers conduct random dockside checks of compliance with regulations on count-per-pound and bycatch reduction device spacing (Farrell, 2015). Compliance with the count-per-pound regulation is reinforced by market preferences for larger shrimp. At-sea compliance with regulations (seasons, closed areas, licenses) is conducted by the US Coast Guard by vessel patrol. While fishing in the federal EEZ (3-200 miles offshore) vessels are also subject to federal rules and sanctions enforced by the US Coast Guard and the NMFS Office of Law Enforcement, such as the requirement (since 2008) that pink shrimp vessels be equipped with VMS (NMFS 2011a, 2011b, 2011c).<br><br>CDFW does not conduct port sampling of shrimp. CDFW enforcement does count-per-pound checks on a random basis. (Kalvass, 2015; Farrell, 2015). The system of enforcement monitoring and control has demonstrated a consistent ability to enforce management regulations (Farrell, 2015). | | |
| **b** | **Guide post** | Sanctions to deal with non-compliance exist and there is some evidence that they are applied. | Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence. | Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence. |
| | **Met?** | Y | Y | Y |
| | **Justification** | Sanctions for non-compliance exist, defined in law and enforced through at-sea and dockside monitoring. CDFW enforcement officers issue tickets for non-compliance. Violations of commercial fishing regulations are penalized by fines or revocation of licenses (CDFW, 2015a; 2015e).<br><br>CDFW enforcement provides information on compliance and enforcement to the CDFW and | | |

| PI 3.2.3 | | Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with | | |
|---|---|---|---|---|
| | | CFGC through daily and annual reports. Effectiveness of sanctions is evidenced by the high rate of compliance. Good relationships with processors and the fleet have created a climate promoting informing enforcement of potential compliance issues. Season openings, BRD specifications, and count-per-pound are all fully enforceable regulations (Farrell, 2015). | | |
| c | Guide post | Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery. | Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery. | There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery. |
| | Met? | Y | Y | N |
| | Justification | As indicated in 3.2.3.b above, Season openings, BRD specifications, and count-per-pound are all fully enforceable regulations. However, discussion with enforcement during the site review identified a source of complication for enforcement. California regulations regarding minimum mesh size and excluder grate spacing (2" in CA; ¾" in OR and WA) are slightly different from those in Oregon and Washington, requiring additional monitoring of California-licensed and Oregon-licensed vessels delivering into California ports. Additionally, California permit holders are allowed to fish for shrimp inside state waters, while vessels holding permits from other states are not. As a consequence of these differences in regulations, enforcement resources may not always be sufficient to catch violations. Reconciling the state differences in these regulations was identified as a regulatory change that would help enforcement make more effective use of limited resources (Farrell, 2015).<br><br>Otherwise, compliance is generally good, with good collaboration across enforcement agencies, control rules that are clear and enforceable and a coordinated monitoring and enforcement infrastructure. However, because of the issue with different state regulations, the standard of a high degree of confidence in compliance in these areas is not met. | | |
| d | Guide post | | There is no evidence of systematic non-compliance. | |
| | Met? | | Y | |
| | Justification | As described in 100b, there is no evidence of systematic non-compliance, however, different regulations affecting California and Oregon vessels pose monitoring complications for enforcement, as described in SG100c. | | |
| References | | McVeigh, 2015; Farrell, 2015; NMFS 2011a, 2011b, 2011c; Kalvass, 2015; CDFW, 2015a; 2015e. | | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | | | 95 |
| CONDITION NUMBER (if relevant): | | | | |

**Evaluation Table for PI 3.2.4--California**

| PI 3.2.4 | | The fishery has a research plan that addresses the information needs of management | | |
|---|---|---|---|---|
| Scoring Issue | | SG 60 | SG 80 | SG 100 |
| a | Guide post | Research is undertaken, as required, to achieve the | A research plan provides the management system | A comprehensive research plan provides the management system |

| PI 3.2.4 | | The fishery has a research plan that addresses the information needs of management | | |
|---|---|---|---|---|
| | | objectives consistent with MSC's Principles 1 and 2. | with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. | with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. |
| | **Met?** | Y | N | N |
| | **Justification** | CDFW has few funds dedicated to marine research, and as a result, research capacity in coastal marine resources is limited (Kalvass, 2015). With the exception of two reports to the CFGC in 2007 and 2008 (Frimodig et al., 2007; Frimodig, 2008), little recent research or assessment of pink shrimp has been done. A 2009 input-output analysis of the economic structure of California fisheries includes but does not focus on pink shrimp (Hackett et al., 2009). Accordingly, CDFW does not support a research program in pink shrimp. Instead, the agency relies on ODFW research to monitor stock status and stay abreast of ODFW research such as gear experiments.<br><br>Oregon research results are regularly reported in the ODFW Annual Pink Shrimp Review, ODFW research reports, and manuscripts published in peer review literature (cf. Hannah and Jones, 2000; Gallagher et al., 2004; Krutzikowsky et al., 2006; Hannah and Jones, 2007; Hannah et al., 2010; Hannah et al., 2011). The ODFW Marine Resources Program approach to research on pink shrimp is strategic in response to changing conditions and produces reliable, timely and proactive information that benefits CDFW and the California pink shrimp fishery.<br><br>Section CB4.10.3 of the CR states that 'research plan' is to be interpreted to mean a written document that includes a specific research plan for the fishery under assessment.<br><br>According to information provided by CDFW staff during the site review, there is no formal research plan providing a strategic approach to research on pink shrimp (Kalvass, 2015).<br><br>MSC guidance (MSC, 2012; CB4.10.1.1) defines a strategic approach as "pro-active, anticipatory and identifies gaps in knowledge in advance driven by management needs." The ODFW shrimp research on which CDFW relies meets this definition of strategic research (as stated in the scoring of SG60a) but at present has no formal research plan providing a strategic approach to research on pink shrimp (Hannah, 2012). CDFW itself conducts no research in pink shrimp and therefore has no formal research plan for this fishery. | | |
| **b** | **Guide post** | Research results are available to interested parties. | Research results are disseminated to all interested parties in a timely fashion. | Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available. |
| | **Met?** | Y | N | N |
| | **Justification** | CDFW biologists are in close communication with ODFW shrimp biologists, who have a strong publication record, and are kept informed of ODFW research results (Kalvass, 2015). This information is available to interested parties upon request but not on a formal basis.<br><br>CDFW does not report to the industry in any systematic or formal way, nor does it distribute the ODFW Annual Pink Shrimp Review (cf. Hannah and Jones, 2014) or other ODFW research reports (cf. Hannah and Jones, 2000; Gallagher et al., 2004; Krutzikowsky et al., 2006; Hannah and Jones, 2007; Hannah et al., 2010; Hannah et al., 2011). | | |
| **References** | | Kalvass, 2015; Frimodig et al., 2007; Frimodig, 2008; Hackett et al., 2009; ODFW, 2008-2012; Hannah and Jones, 2000; Gallagher et al., 2004; Krutzikowsky et al., 2006; Hannah and Jones, 2007; Hannah et al., 2010; Hannah et al., 2011; Kalvass, 2015; Hannah, 2012; Hannah and Jones, 2014; MSC, 2012; CB4.10.1.1 | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **60** |

| PI 3.2.4 | The fishery has a research plan that addresses the information needs of management | |
|---|---|---|
| **CONDITION NUMBER (if relevant):** | | **5** |

**Evaluation Table for PI 3.2.5**

| PI 3.2.5 | | There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives<br>There is effective and timely review of the fishery-specific management system | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | The fishery has in place mechanisms to evaluate some parts of the management system. | The fishery has in place mechanisms to evaluate key parts of the management system | The fishery has in place mechanisms to evaluate all parts of the management system. |
| | **Met?** | Y | Y | N |
| | **Justification** | The monitoring and compliance components of management performance are evaluated annually by CDFW enforcement and reported in the annual newsletter (Farrell, 2015). The CFGC evaluates shrimp fishery management as issues arise (c Kalvass, 2015).<br><br>The fishery has in place to mechanisms to evaluate key aspects of the management system. Population indicators and bycatch are monitored through at-sea sampling through the WC GOP. Amount of landed catch is comprehensively monitored through dockside sampling and fish tickets. Performance of BRDs – in terms of effectiveness of bycatch reduction as well as impact on fishing operations – is monitored through onboard observer reports and stakeholder feedback.<br><br>Regular dockside biological monitoring is not conducted by CDFW (Kalvass, 2015).<br><br>Mandatory logbooks provide a database to support analysis of fishing location and effort, but resource constraints have prevented the logbook database from being kept up to date. Electronic files of logbook data are complete through 2007; 2009, 2010 and 2014 are partially complete. Work is ongoing to complete logbook data entry (Kalvass, 2015).<br><br>Basic economic performance of the fishery is annually evaluated in terms of ex-vessel price, landed quantities and value (cf. CDFW, 2015f). | | |
| **b** | **Guide post** | The fishery-specific management system is subject to occasional internal review. | The fishery-specific management system is subject to regular internal and occasional external review. | The fishery-specific management system is subject to regular internal and external review. |
| | **Met?** | Y | N | N |
| | **Justification** | To the extent that the ODFW Annual Pink Shrimp Review identifies issues and performance indicators of relevance to the California shrimp fishery, it contains post-season summaries and is available online to CDFW and to the California shrimp fishery (cf. Hannah and Jones, 2014). CDFW staff also discusses compliance and enforcement issues with CDFW enforcement (Farrell, 2015; Kalvass, 2015).<br><br>In addition, throughout the season CDFW enforcement and the WC GOP is involved in the continual monitoring of control rules, catch quantity, quality and size composition of catch, and bycatch. | | |

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| **PI 3.2.5** | | **There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives**<br>**There is effective and timely review of the fishery-specific management system** |
| | | The pink shrimp fishery is subject to regular informal internal review, as described in SGa above.<br><br>CDFW has not sponsored external reviews of the pink shrimp fishery or participated in external reviews in conjunction with other states. The most recent overviews of the fishery were conducted in 2007 and 2008 (Frimodig et al., 2007; Frimodig, 2008).<br><br>While the fishery has met the "regular internal review" portion of the SG80, it fails to meet the "occasional external review" requirement of this scoring indicator, therefore this indicator is not considered met as partial scoring is not permitted. |
| **References** | | Farrell, 2015; Kalvass, 2015; Hannah and Jones, 2014; CDFW, 2015f; Frimodig et al., 2007; Frimodig, 2008 |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | **70** |
| **CONDITION NUMBER (if relevant):** | | **6,8** |

**Principle 3 Evaluation Tables—Washington**

**Evaluation Table for PI 3.1.1**

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| **PI 3.1.1** | | **The management system exists within an appropriate legal and/or customary framework which ensures that it:**<br>• **Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and**<br>• **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and**<br>• **Incorporates an appropriate dispute resolution framework.** | | |
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | There is an effective national legal system and a framework for cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2 | There is an effective national legal system and organised and effective cooperation with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2. | There is an effective national legal system and binding procedures governing cooperation with other parties which delivers management outcomes consistent with MSC Principles 1 and 2. |
| | **Met?** | Y | Y | Y |
| | **Justification** | At the state level, the management system operates within state laws and the administrative code. Washington fishery management decisions are made by the Washington Fish and Wildlife Commission (WFWC) and implemented through the Washington Department of Fish and Wildlife (WDFW). The WFWC formulates fishery management policies and sets fishing seasons and other regulations to determine who may fish for pink shrimp, when they may fish and how they may fish. Some regulations, such as the maximum count per pound, are set in statute. Ultimate approval authority rests with governor. The WFWC and WDFW operate within a framework of state laws under the Revised Code of Washington (RCW) Title 77. All Washington state executive branch agencies are guided by the Washington Administrative Code (WAC) that codifies regulations. set out general standards and procedures as well as fishery-specific rules. The WACs pertaining to WDFW are contained | | |

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| **PI 3.1.1** | | **The management system exists within an appropriate legal and/or customary framework which ensures that it:**<br>• **Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and**<br>• **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and**<br>• **Incorporates an appropriate dispute resolution framework.** | | |
| | | in Title 220; rules and regulations pertaining specifically to commercial shrimp fishing are WAC 220-52-075 (logbooks) and 220-52-050 (trawl fishery regulations).<br><br>In addition, all state entities adhere to the "sunshine laws" (RCW 42); the Open Public Meetings Act and the Public Records Act which require that all meetings of governing bodies and state agencies are open and accessible to the public, and that most public records be made available to members of the public (RCW 42.30.010 e; RCW 42.56).<br><br>The Administrative Procedure Act (RCW 34.05) requires that agencies conduct a process that ensures public involvement opportunities and considers the economic impact of its rules. These are binding requirements.<br><br>Regulations are enforced by the WDFW Police (WDFW 2015g).<br><br>WDFW engages in government-to-government relationships with Native American Treaty Tribes. WDFW negotiates with Northwest treaty tribes to develop annual fishery co-management agreements. Principles guiding negotiating agreements are articulated in a WFWC Policy Document (WFWC, 1996). These agreements governing cooperation are binding.<br><br>At the national level, management of state fisheries takes place within and is coordinated by a larger framework of federal laws, through the interface with the regional fishery management council system. Federal fishery management is carried out under the authority of the federal Magnuson-Stevens Fishery Conservation and Management Act (MSA), first passed in 1976 and most recently reauthorized in 2006 (MSA, 2007). The MSA is the principal law governing the harvest of fishery resources within the federal portion of the U.S. 200-mile zone. Under the MSA, the Pacific Fishery Management Council (PFMC) recommends management actions to the National Marine Fisheries Service (NMFS; also called NOAA Fisheries) for approval. Ultimate decision authority for fishery management lies with the Secretary of Commerce. In addition to the MSA, the PFMC adheres to a suite of "other applicable laws:" the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the Migratory Bird Treaty Act (MBTA); the Administrative Procedure Act (APA), Paperwork Reduction Act (PRA): Regulatory Flexibility Act (RFA): Coastal Zone Management Act (CZMA): and other relevant U.S. laws, Executive Orders and regulations (MSA, 2007). This national legal system outlines procedures governing cooperation among entities authorized to implement these acts. The procedures are well described in consultation rules, and are binding. | | |
| **b** | **Guide post** | The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system. | The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery. | The management system incorporates or subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective. |
| | **Met?** | Y | Y | Y |
| | **Justification** | As described above under 3.1.1. SIa, the fishery is managed primarily under state statutes and administrative codes, in a fashion that respects domestic law. Federal rules apply to federally managed species that interact with the Washington management system. For the pink shrimp | | |

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| **PI 3.1.1** | | **The management system exists within an appropriate legal and/or customary framework which ensures that it:**<br>• **Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and**<br>• **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and**<br>• **Incorporates an appropriate dispute resolution framework.** | | |
| | | fishery, these rules pertain primarily to bycatch of federally managed species or species protected under the ESA (ESA, 1973).<br><br>The Washington Open Public Meetings Act (RCW 42-30-010) and Public Records Act (RCW 42.56) ensure transparency and public access. Additionally, the WFWC has issued policy guidelines for negotiating shellfish management agreements with treaty tribes (WFWC, 1996).<br><br>State and federal agents monitor fisheries and enforce compliance with the laws and regulations related to pink shrimp, incidentally caught groundfish, eulachon or other protected species, (WDFW 2015f). Washington enforcement is represented on the PFMC Enforcement Consultants committee, which includes representatives from state enforcement agencies in Washington, Oregon, and California, and the federal government (PFMC, 2012b). Coordination of state and federal laws is accomplished through this body. WDFW police are advised by a seventeen-member Enforcement Advisory Committee, which makes recommendations on issues such as staffing, deployment, workload, outreach and education (WDFW, 2015b).<br><br>At the state level, the management system uses the WDFW Law Enforcement Program Marine Division to enforce laws and regulations (WDFW, 2015g). Fish and Wildlife Officers (FWOs) are general authority peace officers with responsibilities that include fish protection and commercial fish and shellfish harvest. In addition to state laws, they enforce federal laws and Oregon state statutes through memoranda of agreement (WDFW, 2015f).<br><br>Mechanisms for dispute resolution are transparent, and are both informal and formal:<br><br>Informal mechanisms for both avoiding and resolving disputes are contained in the ongoing processes of communication and consultation between WDFW Shellfish Program staff and industry. There are several examples of tests within the shrimp fishery showing the effectiveness of this approach, including:<br>• The use of the annual WDFW newsletter as well as the ODFW annual shrimp review to inform industry about upcoming changes in stock status, gear research and regulations and to avoid disputes. As an example, the 2014 WDFW newsletter to license holders contained information of no new changes in regulations and a reminder of the regulations to maintain logbooks and about spacing requirements on rigid grate excluders. (Ayres, 2014).<br>• Meetings between WDFW biologists, industry and the public are held as needed, for example in the early 2000's with implementation of excluders to reduce rockfish bycatch, and more recently with eulachon issues and observer project. The entire fleet included (Ayres and Wargo, 2015).<br><br>Formal mechanisms for resolving disputes include:<br>• Petition processes of the WFWC that allow issues to be brought for Commission decision (WFWC, 2015d).<br>• The tri-state coordination process administered by the Pacific States Marine Fisheries Commission (PSMFC) can be activated as needed to resolve shrimp fishery management issues or disputes among Washington, Oregon and California (Abramson et al., 1981; Hannah, 2012).<br>• The coordination mechanism of the PFMC to resolve any disputes between state and federal fisheries (PFMC, 2004; 2007). | | |
| **d** | **Guide post** | The management system has a mechanism to generally respect the | The management system has a mechanism to observe the legal rights | The management system has a mechanism to formally commit to the legal rights created explicitly or |

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|---|---|---|---|---|
| **PI 3.1.1** | | **The management system exists within an appropriate legal and/or customary framework which ensures that it:**<br>• **Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and**<br>• **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and**<br>• **Incorporates an appropriate dispute resolution framework.** | | |
| | | legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. | created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. | established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. |
| | **Met?** | Y | Y | Y |
| | **Justification** | Since 1996 the WFWC has had a formal policy for negotiating shellfish management agreements with treaty tribes (WFWC, 1996). An example is the 2014 agreement on fishing arrangements for treaty and non-treaty salmon fisheries. These arrangements are negotiated annually by WDFW and treaty tribes based on best pre-season information available, and may be modified by agreement of the parties on the basis of later information (WDFW and NWIFC, 2014).<br><br>The Northwest Indian Fisheries Commission (NWIFC) is a support service organization for 20 treaty Indian tribes in western Washington. Headquartered in Olympia, the NWIFC employs approximately 65 people with satellite offices in Burlington and Forks (NWIC, 2015).<br><br>The NWIFC was created following the U.S. v. Washington ruling (Boldt Decision) (U.S. v. Washington 1074) that re-affirmed the tribes' treaty-reserved fishing rights and established them as natural resources co-managers with the State of Washington. The role of the NWIFC is to assist member tribes in their role as natural resources co-managers. The commission is composed of representatives from each member tribe who elect a chair, vice chair and treasurer. Commissioners provide direction to the NWIFC executive director, who in turn implements that direction (NWIC, 2015).<br><br>In May 1999, the U.S. Supreme Court upheld a lower court ruling that reaffirmed the tribes' treaty reserved right to harvest shellfish, establishing the tribes as co-managers of shellfish resources in western Washington (Woods, 2005).<br><br>The scope of participation by treaty Indian tribes in the management of natural resources in western Washington has grown steadily since the U.S. vs. Washington ruling (NWIC, 2015).<br><br>At the federal level, NMFS and management through the PFMC are both bound by Federal Executive Order 13175 (2000), which requires meaningful consultation and collaboration with Indian tribal governments. The sovereign status and co-manager role of Indian tribes over shared federal and tribal fishery resources is recognized. At the regional level, this role is reflected in a designated tribal seat on the Pacific Fishery Management Council (PFMC, 2012a). | | |
| **References** | | Abramson et al., 1981; E.O. 13175, 2000; ESA, 1973; Hannah, 2012; MSA, 2007; NMFS, 1997; WDFW and NWIFC, 2014, NWIFC, 2015; WFWC, 1996; WDFW Police, 2015; Woods, 2005, PFMC, 2012. WAC 220-52-075; WAC 220-52-050; RCW 42.30.010; RCW 42.56; RCW 34.05; WDFW 2015g.; WFWC, 1996; WDFW 2015b; WDFWf; PFMC 2012b; Ayres, 2014; Ayres and Wargo, 2015; WFWC 2015d; PFMC, 2004; PFMC 2007; Chadwick, 2015. | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **100** |
| **CONDITION NUMBER (if relevant):** | | | | |

**Evaluation Table for PI 3.1.2—Washington**

| PI 3.1.2 | | The management system has effective consultation processes that are open to interested and affected parties.<br><br>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood. | Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction. | Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction. |
| | **Met?** | Y | Y | Y |
| | **Justification** | WFWC, WDFW, PFMC, and the state and federal enforcement entities of the WDFW Police, US Coast Guard, and NMFS Enforcement are all explicitly identified, and roles defined, in statutes, administrative code, and operating procedures. Open lines of communication between agencies and stakeholders promote widespread understanding of the roles and responsibilities of respective entities. Lines of authority and responsibility among the state and federal entities are clear, as are procedures for coordination among them (Wargo and Ayres, 2015; Chadwick, 2015).<br><br>The functions, roles and responsibilities are well understood for all areas of responsibility and action. Evidence of understanding on the part of the fishing industry and other stakeholders is provided by testimony to the WFWC, and, in the case of the shrimp fishery, good compliance rates of BRD adoption (Chadwick, 2015). | | |
| **b** | **Guide post** | The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system. | The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained. | The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used. |
| | **Met?** | Y | Y | Y |
| | **Justification** | The management system regularly seeks and accepts relevant information through active consultation with the fleet and other stakeholders on the likely impact of regulations and on upcoming fishery-related issues. The system uses local knowledge through such mechanisms as regular feedback from the industry regarding such issues as conditions on the fishing grounds and gear innovation experiments (Wargo and Ayres, 2015).<br><br>Specifically, consultations include dockside interactions between WDFW police, fleet and plants; informal stakeholder meetings at WDFW Shellfish Program offices, general availability of WDFW staff to public calls, publication of the WDFW annual newsletter, and public testimony at WFWC meetings (Ayres, 2014; Ayres and Wargo, 2015 Chadwick, 2015).<br><br>The management system demonstrates consideration of the information and provides explanations as to how it is or is not used through newsletters and through records of WFWC decisions (Ayres, 2014; WDFW, 2015d). | | |

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| **PI 3.1.2** | | **The management system has effective consultation processes that are open to interested and affected parties.**<br>**The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties** | | |
| | | The frequency of these consultations varies by the particular process. Dockside interactions occur once or twice weekly. WDFW letters to license holders are annual. The WFWC meets monthly. Stakeholder meetings are issue-driven and informal stakeholder-WDFW staff interactions are ongoing on a "drop-in" basis at the Shellfish Program offices (Chadwick, 2015; Wargo and Ayres, 2015). | | |
| **c** | **Guide post** | | The consultation process provides opportunity for all interested and affected parties to be involved. | The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement. |
| | **Met?** | | Y | Y |
| | **Justification** | The management system's consultation processes provides opportunity, encouragement and facilitation of engagement of any interested party through a variety of mechanisms. These include dockside interactions between the industry and the WDFW police, open availability to stakeholders of WDFW Shellfish Program staff, publication of an annual WDFW newsletter, circulation of the ODFW annual shrimp review summarizing stock status and distribution, CPUE, landings, research results and emerging issues that also relate to the Washington fishery (cf. Hannah and Jones 2014), and public testimony at WFWC meetings (WDFW, 2015e).<br><br>Washington's Open Public Meetings Act ensures public notice and access to meetings (RCW 42.30). WDFW routinely posts notices of public meetings about upcoming regulations on their website and at port offices. Likewise, announcements of Washington Fish and Wildlife Commission meetings are posted on the WDFW website well in advance, with full information about meeting agendas (WDFW 2015d). WDFW's online Rules Information Center provides information on processes for permanent and emergency rulemaking, with information on how stakeholders can be involved (WDFW, 2015h). The Washington Public Records Act (RCW 42.56.010) ensures transparency of agency information.<br><br>At the regional level, the PFMC process provides open and transparent distribution of information as well as opportunities for engagement of interested parties through committee membership and public testimony. ENGOs are routinely engaged in this process (PFMC, 2012c).<br><br>Executive Order 13132 (1999) requires federal agencies to consider the implications of policies that may limit the scope of or pre-empt states' legal authority. Such actions require a consultation process with the states and may not create unfunded mandates for the states. Any final published rule must be accompanied by a "federalism summary impact statement" (NMFS, 1997; PFMC, 2011d).<br><br>The Council process involves different types of consultations with member states through state agencies, Council appointees, advisory committee membership, and meetings. The process of state participation in the formulation of federal management measures encourages complementary approaches between federal and state approaches (PFMC, 2004; 2007). Consultations among state agency staff, industry stakeholders and ENGOs occurs informally through regular stakeholder meetings, interactions at the Pacific Fishery Management Council settings, interactions with congressional staff, and various other fora. | | |
| **References** | | Abramson et al. ,1981; E.O. 13172, 1999; E.O. 13175, 2000; Hannah, 2012; MSA, 2007; NMFS, 1997; Chadwick, 2015; Wargo and Ayres, 2015; WDFW, 2015b; WDFW, 2015d.; | | |

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| **PI 3.1.2** | **The management system has effective consultation processes that are open to interested and affected parties.**<br>**The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties** |
| | WDFW, 2015e; WDFW, 2015h; Hannah and Jones, 2014; RCW 42.30; RCW 42.56.010; PFMC, 2012c; NMFS, 1997; PFMC, 2011d; PFMC, 2004; PFMC, 2007. |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | **100** |
| **CONDITION NUMBER (if relevant):** | |

**Evaluation Table for PI 3.1.3--Washington**

| **PI 3.1.3** | | **The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach** | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Long-term objectives to guide decision-making, consistent with the MSC Principles and Criteria and the precautionary approach, are implicit within management policy | Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit within management policy. | Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy. |
| | **Met?** | Y | Y | Partial |
| | **Justification** | Long-term objectives to guide fishery management are explicit within the Washington Department of Fish and Wildlife 2013-2015 Strategic Plan (WDFW 2013). The plan is guided by five principles:<br>• Support healthy ecosystems<br>• Maximize the impact of limited resources<br>• Consider public values<br>• Anticipate uncertainty; respond to change<br>• Improve internal processes<br><br>Four general goals stem from these principles: The Each goal is accompanied by objectives and strategies designed to meet those objectives:<br><br>Goal 1: Conserve and protect native fish and wildlife.<br>• The ecological integrity of critical habitat and ecological systems is protected and restored<br>• Washington's fish and wildlife diversity is protected at levels consistent with ecosystem management principles, established in the Conservation Initiative (WDFW, 2015a).<br>• Threatened and endangered fish and wildlife populations are recovered to healthy, self-sustaining levels.<br><br>Goal 2: Provide sustainable fishing, hunting, and other wildlife-related recreational and commercial experiences.<br>• Fishing, hunting, wildlife viewing, and other outdoor activities are enhanced and expanded.<br>• Hatcheries and public access sites are safe, clean, and effectively support people's use and enjoyment of natural resources<br>• Tribal treaty coordination and implementation is achieved with adequate resources. | | |

| PI 3.1.3 | | The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach |
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| | | Goal 3: Promote a healthy economy, protect community character, maintain an overall high quality of life, and deliver high-quality customer service.<br>• Conservation of fish and wildlife is widely supported by communities across Washington<br>• The economic benefits of fishing, hunting, and other wildlife-related jobs are supported by and linked to the Department's activities.<br>• The Department's decisions support communities through valuing, understanding, and evaluating input from stakeholders<br>• The Department responds to citizens and customer needs in a timely and effective way.<br><br>Goal 4: Build an effective and efficient organization by supporting our workforce, improving business processes, and investing in technology.<br>• The Department has a diverse, robust workforce with the knowledge, skills and abilities to meet future business needs.<br>• Employees are energized, engaged in agency priorities, and empowered to continuously improve their productivity.<br>• Achieve operational excellence through effective business processes, workload management, and investments in technology.<br>• Work environments are safe, highly functional, and cost-effective.<br><br>In addition, WDFW is guided by six conservation principles articulated in the Conservation Initiative (WDFW, 2015a). These can be paraphrased as to:<br>• Practice conservation by managing, protecting and restoring ecosystems for the long term benefit of people and for fish, wildlife and habitat;<br>• More effectively manage fish, wildlife and their habitats by supporting healthy ecosystems;<br>• Work across disciplines to solve problems;<br>• Integrate ecological, social and institutional perspectives into our decision making;<br>• Embrace new knowledge and apply best science to address changing conditions through adaptive management;<br>• Collaborate with conservation and community partners to help achieve shared goals.<br><br>Pink shrimp management objectives area also implicit in the management goals for Dungeness crab (Wargo and Ayres, 2015; WFWC, 1999). These are paraphrased as to:<br>• Protect the reproductive capacity of the stock;<br>• Involve industry representatives in the management of the fishery;<br>• Protect public health;<br>• Maximize the economic benefit from the resource;<br>• Adopt regulations to achieve safe and orderly fisheries;<br>• Provide a sustainable fishery of high quality product consistent with the "even flow" legislative mandate;<br>• Provide support to industry buyback initiatives;<br>Protect habitat.<br><br>The objectives of the Washington Department of Fish and Wildlife Strategic Plan are explicit overarching long-term objectives for Washington's fisheries that guide WFWC decision-making (WDFW, 2013). However, to take the form of requirements, these policy objectives would need to be expressed in the form of fishery management plans (FMPs) that included accountability measures related to those objectives.<br><br>The WAC codifies regulations, setting out general standards and procedures as well as fishery-specific rules and providing the legally enforceable elements of fish management plans (cf. WAC 220-50-010). Although state FMPs do exist for some Washington fisheries (e.g. forage fish; Puget Sound rockfish), pink shrimp is not managed through an FMP (Wargo and Ayres, 2015). As such, it is not possible for the fishery to meet the second component of |

| PI 3.1.3 | | The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach |
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| | | the scoring issue, which states that clear long term objectives are 'required' by the management policy.<br><br>As per Section CR 27.10.63, partial scoring of this PI is permitted as there is only a single scoring issue at each SG level. Therefore, since that the first part of the scoring issue is met, in that clear longer term objectives that guide decision-making, consistent with MSC P&C and the precautionary approach, as discussed in SG80a, a partial score of 90 is awarded. |
| **References** | | WDFW, 2013; WDFW, 2015a; Wargo and Ayres, 2015; WFWC, 1999; WAC 220-50-010; |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | **90** |
| **CONDITION NUMBER (if relevant):** | | |

**Evaluation Table for PI 3.1.4—Washington**

| PI 3.1.4 | | The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2. | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that perverse incentives do not arise. | The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and explicitly considers incentives in a regular review of management policy or procedures to ensure they do not contribute to unsustainable fishing practices. |
| | **Met?** | Y | Y | N |
| | **Justification** | The management system provides a number of positive attributes that provide for sustainable fishing consistent with MSC Principles 1 and 2. It has taken a number of actions seeking to ensure that perverse incentives do not arise.<br>• Closed seasons in effect from November through March keep fishing off spawning aggregations (WAC 220-52-050)<br>• The regulation specifying a maximum 160 count per pound [for landings exceeding 3,000 pounds] provides a disincentive to fish on small shrimp (WAC 220-52-050).<br>• Rigid-grate bycatch reduction devices (BRD's) are required on all nets (WAC 220-52-050). BRDs have significantly reduced the amount of bycatch in the fishery. Smaller bycatch also reduces the time spent sorting on deck, lowering the time and costs of fishing.<br>• Limits on incidental catch of finfish, with a few exceptions for abundant stocks, are small (WAC 220-52-050). The required use of BRD and the sequential restrictions in allowable BRD bar spacing to .75" has reduced bycatch significantly.<br>• Limits on the number of permits. The original qualifying number of 129, has been reduced through attrition to 82 as of 2015. A fraction of these (32 in 2014) are fished in any given year (Ayres, 2014)<br>• Shrimp harvest logbooks are required of all vessels (WAC-22-52-075).<br>• Observer coverage is maintained on approximately 14% of the vessels through the West Coast Groundfish Observer Program (McVeigh, 2015).<br><br>The state management system contains no explicit subsidies that provide perverse incentives working against achieving outcomes consistent with MSC Principles 1 and 2. At the federal | | |

| PI 3.1.4 | | The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing |
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| | | level the U.S. government has committed to using international trade mechanisms to reduce harmful fishery subsidies worldwide (International Centre for Trade and Sustainable Development, 2007).<br><br>In contrast to subsidies, the pink shrimp fishery is subject to the WA "enhanced food fish tax" of 2.25% for landed shellfish distributed to the general fund (RCW 82.27).<br><br>The pink shrimp fishery is managed under a restricted vessel permit system, enacted by the Washington State Legislature in 1993 (RCW 77.70.230; WDFW, 2015f). At the time of its passage, permits were limited to those holding pink shrimp delivery licenses that could meet requirements related to minimum landings levels and a continuous nine-year participation in the shrimp fishery. The initial number of qualified licenses was 129; since 1993 the number has declined to 82 as some license holders failed to apply for permit renewal (Wargo and Ayres, 2015). The 2003 trawl permit buyout may have also been a factor in reducing the number of vessels with shrimp permits. Members of the west coast pink shrimp fleet received a federal loan to pay for permits to be removed from the fishery. The rationale was for each fleet sector (groundfish, shrimp and crab) benefitting from capacity reduction to pay its share. The fleet assessed itself a loan repayment rate of 4.65%. The Washington pink shrimp sub-loan was repaid in October 2013 (Federal Register, 2013.)<br><br>Although only 32 Washington shrimp permits were fished in 2014, as many as 50 additional inactive shrimp permits could be activated in response to high abundance levels, good prices, or opportunities created through groundfish limited entry ITQ rules. The existence of latent permits does not affect the fishing behaviour of those currently fishing, but could affect collective outcomes of the fishery if a large number of permits were reactivated. For example, per-vessel profitability could decline, or increased fishing effort could lead to increases in eulachon bycatch. Balancing these potential effects of more permits fishing, however, is that fact that WDFW managers are in close communication with ODFW managers who conduct in-season monitoring of the fishery and through the Director's emergency rulemaking authority have the capacity to act quickly to modify fishing regulations o prevent unacceptable effects of effort increases (RCW 77.04.020).<br><br>In sum, the pink shrimp fishery provides incentives for sustainable fishing by reducing uncertainty, strategically planning to anticipate management issues, limiting entry, and promoting active stakeholder participation in problem solving. The fishery operates without subsidies that would contribute to unsustainable fishing.<br><br>As described above in SG80, the management system is structured and operated in a manner that provides a number of positive incentives for sustainable fishing and seeks to avoid perverse incentives.<br><br>The management policy and procedures have been subject to a number of ad hoc formal reviews. The likely impacts of the federal groundfish trawl ITQ program on the shrimp fishery were assessed in a 2011 Environmental Impact Statement (EIS) conducted by the Pacific Fishery management Council (PFMC, 2011d). The PFMC reviewed the impact of the groundfish trawl ITQ program on Oregon fisheries, which are managed under the same control rules as Washington fisheries (PFMC, 2011c).<br><br>Management policy and regulations are regularly reviewed mid-season and in advance of the coming seasons by WDFW Shellfish Program staff in consultation with industry and enforcement. WDFW also makes use of information from ODFW as reported in research publications and in the Annual Pink Shrimp Review (cf. Hannah and Jones, 2014). WDFW and the WDFW Police annually review regulations and enforcement issues in consultation with ODFW and the Oregon State Police in a cooperative enforcement process (Schwarz and Thompson, 2015; Chadwick, 2015; Wargo and Ayres, 2015; Hannah and Jones, 2015). This type of information transmission and continuing contact are designed to provide a positive incentive to comply with regulations. |

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| **PI 3.1.4** | | **The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing** |
| | | However, these assessments do not comprise a system of regular review that explicitly considers incentives, and so the condition for the 100 score is not met. |
| **References** | | WAC 220-52-050; Ayres, 2014; WAC-22-52-075; International Centre for Trade and Sustainable Development, 2007; RCW 82.27; RCW 77.70.230; WDFW, 2015f; Federal Register, 2013; RCW 77.04.020; PFMC, 2011c.; Hannah and Jones, 2014; Schwarz and Thompson, 2015; Chadwick, 2015; Wargo and Ayres, 2015; Hannah and Jones, 2015 |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | **80** |
| **CONDITION NUMBER (if relevant):** | | |

**Evaluation Table for PI 3.2.1—Washington**

| **PI 3.2.1** | | **The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2** | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery's management system | Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system. | Well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system. |
| | **Met?** | Y | N | N |
| | **Justification** | The WDFW Strategic Plan contains four goals and sixteen objectives for fish, wildlife and ecosystems (see detail under PI 3.1.3 scoring rationale presented in SG80a) (WDFW, 2013). These goals and objectives will shape the content of the shrimp FMP, which is in early stage of development. Similar goals and objectives are expressed in the 1999 WDFC Policy Directive for coastal Dungeness crab (WFWC, 1999). During the site review WDFW staff also noted that the content of the shrimp FMP will follow the precedent of the 1998 Forage Fish FMP which is based on precautionary management using an ecosystem approach (Bargmann, 1998; Wargo and Ayres, 2015).<br><br>In addition, the draft federal shrimp FMP (Abramson et al., 1981) has provided implicit management objectives to the Washington shrimp fishery, as do the National Standard Guidelines under which federal FMPs are structured (NMFS, 2005).<br><br>A state pink shrimp fishery management plan is in early stages of development.<br>The pink shrimp fishery is managed under the general goals and objectives expressed in the 2013-2015 Strategic Plan (WDFW, 2013). However, WDFW has established no short or long-term objectives that explicitly and specifically apply to the pink shrimp fishery. | | |
| **References** | | WDFW, 2013; WFWC, 1999; Bargmann, 1998; Wargo and Ayres, 2015; Abramson et al., 1981; NMFS, 2005. | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **60** |
| **CONDITION NUMBER (if relevant):** | | | | **4** |

**Evaluation Table for PI 3.2.2**

| PI 3.2.2 | | The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment. | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives. | There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. | |
| | **Met?** | Y | Y | |
| | **Justification** | Established decision-making processes are followed by the WFWC and within the WDFW as outlined in law (RCW Title 77.). These processes result in management measures and strategies that meet the objectives specified in the WDFW Strategic Plan (WDFW, 2013). These processes are stable. | | |
| **b** | **Guide post** | Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions. | Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. | Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. |
| | **Met?** | Y | Y | Y |
| | **Justification** | Decision-making processes have covered a wide range of issues and demonstrate responsiveness to all shrimp fishery issues identified through research, monitoring, evaluation and stakeholder consultation. A good example of decision response to all of these elements is the adoption of the finfish excluder grate to reduce rockfish bycatch and later, with smaller grate spacing, to protect ESA-listed eulachon. These successive BRD decisions were made in collaboration with industry members and in response to an identified need to reduce bycatch of finfish species. The transparency, timeliness and adaptive manner of decision response is ensured by the Open Public Meetings Act (RCW 42.30.010 and Public Records Act (RCW 42.56.010), and demonstrated through agency rulemaking authority, stakeholder testimony at monthly WFWC meetings, informal stakeholder-agency contacts, and the provision of information to industry through the annual newsletter (cf. Ayres, 2014) and the circulation of the Oregon pink shrimp review, which in both its annual edition and a supplemental edition identified upcoming potential issues with eulachon in anticipation of its listing under ESA, and the need to take proactive action (cf. Hannah and Jones, 2014).<br><br>Frequent communication and coordination between enforcement and WDFW staff, as well as intra-season updates, establish enforcement priorities in anticipation of likely areas needing enforcement attention, and adapt to in-season enforcement issues as they emerge (Chadwick, 2015).<br><br>The ongoing process of active coordination and consultation with industry in identifying issues and monitoring compliance also contributes to decision processes that are responsive, transparent and adaptive (Wargo and Ayres, 2015). Coordination and consultation between the state and federal processes, conducted through the PFMC process, promotes the consideration of the effects of pink shrimp fishery management decisions on other fisheries and ecosystem issues, for example the rebuilding of rockfish stocks and the protection of ESA listed species. | | |

| PI 3.2.2 | | The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment. | | |
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| c | Guide post | | Decision-making processes use the precautionary approach and are based on best available information. | |
| | Met? | | Y | |
| | Justification | Decision processes employed by the Washington State Legislature (in establishing law and policy) and the WFWC (in implementing policy) exhibit a precautionary approach to pink shrimp management and a basis in best available scientific information. A precautionary approach based on ecosystem management is explicit in the WDFW Strategic Plan (WDFW, 2013). The regulations establishing maximum count per pound and closed seasons were implemented to minimize effort on small shrimp and prevent fishing on spawning aggregations (WAC 220-52-050). Adoption of the BRD requirement was a precautionary approach to minimize bycatch of rebuilding groundfish stocks. Further strengthening of the BRD specifications was a proactive and precautionary approach to minimizing all bycatch, including eulachon, recently listed as threatened under the ESA (WAC 220-52-050). The fleet's experimentation with LED lights on gear is part of the overall effort to minimize non-shrimp bycatch (Wargo and Ayres, 2015).<br><br>Washington has the most flexible rulemaking of the three west coast coastal states. In contrast to other states, Washington fisheries are closed by default and open by rule. "Emergency rule" describes routine rulemaking for routine management decisions, such as season opening. The emergency rule process could also accommodate the establishment of target and limit reference points using indicators established by ODFW or other sources (WDFW, 2015h; Wargo and Ayres 2015).<br><br>Discussions during the site review made evident that WDFW staff as well as members of the Washington shrimp fleet are in close communication with ODFW staff and members of the Oregon fleet who are conducting research with respect to both the target species and P2 species and impacts. It is clear that management decision processes in the Washington pink shrimp fishery consider all available information, including new and emerging research results. | | |
| d | Guide post | Some information on fishery performance and management action is generally available on request to stakeholders. | Information on fishery performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. | Formal reporting to all interested stakeholders provides comprehensive information on fishery performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. |
| | Met? | Y | Y | Y |
| | Justification | Formal reporting to all interested stakeholders is provided through a number of avenues. WDFW sends an annual newsletter to the fleet providing updates on regulations and summaries of fishery performance, including quantity and value of landings, number of licenses and number of vessels fishing (cf. Ayres, 2014). WDFW also circulates the ODFW Annual Shrimp Review to holders of shrimp trawl license holders. This more extensive newsletter contains information directly relevant to the Washington fleet, both those who land in Washington and Oregon ports and those who land in Washington ports exclusively. It provides annual summaries of fishery performance, describes research results, and identifies upcoming issues affecting the fishery (cf. Hannah and Jones, 2014). WFWC meeting agendas | | |

| PI 3.2.2 | | The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment. | | |
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| | | and minutes describe Commission deliberations on various issues, the nature of scientific advice and public comment, and decision outcomes (WDFW, 2015d).<br><br>However, the absence of dockside biological sampling and the fact that logbook data remain unanalyzed mean that comprehensive information on fishery performance is not provided, so the SG100 conditions are only partially met.<br><br>WDFW Police develop weekly reports of dockside enforcement of vessels and processing plants in Westport and Ilwaco that inform fishery stakeholders of existing and emerging compliance and enforcement issues (Chadwick, 2015).<br><br>The PFMC newsletters describe actions taken at Council meetings, committee openings and meeting schedules, and upcoming issues (PFMC, 2012). The Federal Register provides notice of all proposed federal actions (cf. Federal Register, 2012; 2013). | | |
| e | **Guide post** | Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery. | The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges. | The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges. |
| | **Met?** | Y | Y | Y |
| | **Justification** | In April 2015 the WDFW pink shrimp regulations received their first legal challenge, which was immediately complied with by WDFW.<br><br>As described in 3.1.1. SIb above, the management system uses coordination, consultation and information transfer between WDFW and stakeholders to proactively avoid disputes. In addition to the general public process requirements to facilitate public participation, the annual newsletter provides specific information to shrimp permit holders about potential or upcoming changes in regulations.<br><br>Another proactive avoidance of legal disputes is provided by the dockside enforcement presence of the WDFW Police to explain new regulations and conduct pre-season checks of gear (Chadwick, 2015).<br><br>In April 2015 the WDFW pink shrimp regulations received their first legal challenge, which met with an immediate response by WDFW.<br>• On March 31, 2015 WDFW issued an emergency regulation that made it unlawful to violate the following provisions:<br>o Fail to deliver ocean pink shrimp landings to a processing facility located on shore;<br>o Process ocean pink shrimp at-sea;<br>o Freeze ocean pink shrimp at-sea; or<br>o Transfer pink shrimp catch from one fishing vessel to another.<br>• On April 2, 2015 WDFW was served with a Temporary Restraining Order contesting this regulation.<br>• After consultation with the State Attorney General's Office, WDFW rescinded the emergency regulation on April 9, 2015 (Ayres and Wargo 2015). | | |

| PI 3.2.2 | The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment. |
|---|---|
| References | RCW Title 77; WDFW, 2013; WAC 220-52-050; Wargo and Ayres, 2015; RCW 42.30.010; RCW 42.56.010; Ayres, 2014; Hannah and Jones, 2014; Chadwick, 2015; Wargo and Ayres, 2015; WDFW, 2015d; PFMC, 2012; Federal Register, 2012; Federal Register, 2013. |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | **90** |
| **CONDITION NUMBER (if relevant):** | |

**Evaluation Table for PI 3.2.3—Washington**

| PI 3.2.3 | | Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with | | |
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| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | Monitoring, control and surveillance mechanisms exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective. | A monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules. | A comprehensive monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules. |
| | **Met?** | Y | Y | Y |
| | **Justification** | The harvest strategy, comprising seasons, maximum counts per pound and bycatch reduction devices, is clear and enforceable. A comprehensive system of monitoring, control and surveillance for compliance and enforcement is in place, involving the WDFW, NMFS West Coast Groundfish Observer Program, WDFW Police and US Coast Guard. The Groundfish Observer Program has a coverage target of approximately 15% of pink shrimp trips and monitors the biological parameters of the total catch (McVeigh, 2015). The WDFW Police conduct random dockside checks of compliance with regulations on count-per-pound and bycatch reduction device spacing. Compliance with the count-per-pound regulation is reinforced by market preferences for larger shrimp. At-sea compliance with regulations (seasons, closed areas, licenses) is conducted by the US Coast Guard by vessel patrol. While fishing in the federal EEZ (3-200 miles offshore) vessels are also subject to federal rules and sanctions enforced by the US Coast Guard and the NMFS Office of Law Enforcement, such as the requirement (since 2008) that pink shrimp vessels be equipped with VMS (NMFS 2011a, 2011b, 2011c).<br><br>Port sampling of shrimp catch is limited to count-per-pound. Shellfish Program staff do random count checks twice per week, and WDFW Police do count checks on a random basis. However, the WDFW does not conduct regular dockside biological sampling to assess size composition of the catch support analysis of CPUE (Wargo and Ayres, 2015).<br><br>WDFW emphasizes an informational consultative approach to new regulations by working with industry to develop workable approaches to compliance, for example in the design development of the bycatch reduction device, and by advance notice to industry of upcoming regulation changes and enforcement issues through the annual letter to license holders. The management philosophy of both WDFW and the WDFW Police is to promote compliance through education and cooperation and minimize the occurrence of non-compliance.<br><br>The comprehensive system has demonstrated a consistent ability to enforce management regulations. No count-per-pound or BRD violations have occurred during the past five years (Chadwick, 2015). | | |

| PI 3.2.3 | | Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with | | |
|---|---|---|---|---|
| | | | | |
| b | Guide post | Sanctions to deal with non-compliance exist and there is some evidence that they are applied. | Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence. | Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence. |
| | Met? | Y | Y | Y |
| | Justification | Sanctions for non-compliance exist, defined in law and enforced through at-sea and dockside monitoring. WDFW Police issue tickets for non-compliance. Violations of commercial fishing areas or times in the second degree is a gross misdemeanor (punishable by up to one year imprisonment, a fine up to $5,000 or both); violations of areas or times in the first degree is a Class C felony (punishable by up to five years' imprisonment, a fine of up to $10,000, or both)(RCW 77.15.550; WRC 9A.20.021).<br><br>WDFW Police provides information on compliance and enforcement to the WDFW and WFWC. Effectiveness of sanctions is evidenced by the high rate of compliance. For example, there have been no violations of the count-per-pound or BRD regulations over the past 5 years. Good relationships with processors and the fleet have created a climate promoting informing enforcement of potential compliance issues. Season openings, BRD specifications, and count-per-pound are all fully enforceable regulations (Chadwick, 2015). | | |
| c | Guide post | Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery. | Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery. | There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery. |
| | Met? | Y | Y | Y |
| | Justification | As indicated in 3.2.3.b above, there have been no violations of the count-per-pound or BRD regulations over the past 5 years. The last citation was six or seven years ago, issued to a single vessel for a violation of the count-per-pound regulation. Good relationships with processors and the fleet have created a climate promoting informing enforcement of potential compliance issues. Season openings are fully enforceable (Chadwick, 2015).<br><br>The high compliance rates can be attributed to the small size of the fleet, emphasis on prevention, good provision of information about regulations, the collaboration with ODFW and the Oregon industry, control rules that are clear and enforceable and a coordinated monitoring and enforcement infrastructure (Chadwick, 2015; Wargo and Ayres, 2015).<br><br>Therefore there is a high degree of confidence that fishers comply with the management system, and the collaborative nature of the interaction among industry, WDFW and WDFW Police encourages the industry to provide information of importance to the effective management of the fishery. | | |
| d | Guide post | | There is no evidence of systematic non-compliance. | |
| | Met? | | Y | |
| | Justification | As described in 100b, there is evidence of good compliance in the shrimp fishery and no evidence of systematic non-compliance. | | |

| PI 3.2.3 | Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with | |
|---|---|---|
| References | McVeigh, 2015; NMFS 2011a, 2011b, 2011c; Wargo and Ayres, 2015; Chadwick, 2015; RCW 77.15.550; WRC 9A.20.021; | |
| OVERALL PERFORMANCE INDICATOR SCORE: | | 100 |
| CONDITION NUMBER (if relevant): | | |

**Evaluation Table for PI 3.2.4—Washington**

| PI 3.2.4 | | The fishery has a research plan that addresses the information needs of management | | |
|---|---|---|---|---|
| Scoring Issue | | SG 60 | SG 80 | SG 100 |
| a | Guide post | Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2. | A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. | A comprehensive research plan provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. |
| | Met? | Y | N | N |
| | Justification | WDFW has few funds dedicated to marine research, and as a result, research capacity in coastal marine resources (in contrast to Puget Sound) is limited, primarily focused on salmon, with some funds dedicated to invasive species in intertidal shellfish areas (Wargo and Ayres, 2015). Accordingly, WDFW does not presently support a research program in pink shrimp. Instead, WDFW relies on ODFW research to monitor stock status and stay abreast of research results such as gear experiments.<br><br>Oregon research results are regularly reported in the Annual Pink Shrimp Review, ODFW research reports, and manuscripts published in peer review literature (ODFW, 2008-2012; Hannah and Jones, 2000; Gallagher et al., 2004; Krutzikowsky et al., 2006; Hannah and Jones, 2007; Hannah et al., 2010; Hannah et al., 2011). The ODFW Marine Resources Program approach to research on pink shrimp is strategic in response to changing conditions and produces reliable, timely and proactive information that benefits WDFW.<br><br>Section CB4.10.3 of the CR states that 'research plan' is to be interpreted to mean a written document that includes a specific research plan for the fishery under assessment.<br><br>According to information provided by WDFW staff during the site review, there is no formal research plan providing a strategic approach to research on pink shrimp (Wargo and Ayres, 2015).<br><br>MSC guidance (MSC, 2012; CB4.10.1.1) defines a strategic approach as "pro-active, anticipatory and identifies gaps in knowledge in advance driven by management needs." The ODFW shrimp research on which WDFW relies meets this definition of strategic research (as stated in the scoring of SG60a) but at present has no formal research plan providing a strategic approach to research on pink shrimp (Hannah, 2012). WDFW itself conducts no research in pink shrimp and therefore has no formal research plan for this fishery. | | |
| b | Guide post | Research results are available to interested parties. | Research results are disseminated to all interested parties in a timely fashion. | Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available. |
| | Met? | Y | Y | N |
| | Justification | Oregon research results are widely distributed to WDFW staff and the Washington industry in written form through the ODFW Annual Pink Shrimp Review (cf. Hannah and Jones, | | |

| PI 3.2.4 | | The fishery has a research plan that addresses the information needs of management |
|---|---|---|
| | | 2014), agency reports and peer-reviewed publications (Hannah and Jones, 2000; Gallagher et al., 2004; Krutzikowsky et al., 2006; Hannah and Jones, 2007; Hannah et al., 2010; Hannah et al., 2011). ODFW shrimp biologists have a strong publication record and are in close communication with WDFW biologists. Oregon research results are also disseminated informally by WDFW through meetings and dockside interactions with industry (Wargo and Ayres, 2015). |
| **References** | | Wargo and Ayres, 2015; ODFW, 2008-2012; Hannah and Jones, 2000; Gallagher et al., 2004; Krutzikowsky et al., 2006; Hannah and Jones, 2007; Hannah et al., 2010; Hannah et al., 2011; MSC, 2012; CB4.10.1.1; Hannah, 2012; Hannah and Jones, 2014. |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | **70** |
| **CONDITION NUMBER (if relevant):** | | **5** |

**Evaluation Table for PI 3.2.5—Washington**

| PI 3.2.5 | | There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives<br>There is effective and timely review of the fishery-specific management system | | |
|---|---|---|---|---|
| **Scoring Issue** | | SG 60 | SG 80 | SG 100 |
| **a** | **Guide post** | The fishery has in place mechanisms to evaluate some parts of the management system. | The fishery has in place mechanisms to evaluate key parts of the management system | The fishery has in place mechanisms to evaluate all parts of the management system. |
| | **Met?** | Y | Y | N |
| | **Justification** | Annually the WDFW conducts informal post-season reviews of the Washington pink shrimp trawl fishery, the results of which are presented in the annual newsletter to license holders. The ODFW Annual Pink Shrimp Review also contains post-season summaries and is circulated WA license holders. WDFW staff also discusses compliance and enforcement issues with WDFW Police (Chadwick, 2015; Wargo and Ayres, 2015).<br><br>In addition, throughout the season WDFW Police and the WC GOP is involved in the continual monitoring of control rules, catch quantity, quality and size composition of catch, and bycatch.<br><br>The fishery has in place to mechanisms to evaluate key aspects of the management system. Population indicators and bycatch are monitored through at-sea sampling through the WC GOP. Fishing location and effort are monitored through mandatory logbooks. Amount of landed catch is comprehensively monitored through dockside sampling and fish tickets. Performance of BRDs – in terms of effectiveness of bycatch reduction as well as impact on fishing operations – is monitored through onboard observer reports and stakeholder feedback. The economic performance of the fishery is annually evaluated in terms of ex-vessel price, landed quantities and value.<br><br>Regular dockside biological monitoring is not conducted by WDFW.<br><br>The primary mechanism for reporting evaluation results is the annual newsletter to license holders (Ayres, 2014) and the ODFW Annual Pink Shrimp Review (Hannah and Jones, 2014). | | |
| **b** | **Guide post** | The fishery-specific management system is subject to occasional internal review. | The fishery-specific management system is subject to regular internal and occasional external review. | The fishery-specific management system is subject to regular internal and external review. |

| PI 3.2.5 | | There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives<br>There is effective and timely review of the fishery-specific management system | | |
|---|---|---|---|---|
| | **Met?** | Y | N | N |
| | **Justification** | Annually the WDFW conducts informal post-season reviews of the Washington pink shrimp trawl fishery, the results of which are presented in the annual newsletter to license holders. The ODFW Annual Pink Shrimp Review also contains post-season summaries and is circulated WA license holders. WDFW staff also discusses compliance and enforcement issues with WDFW Police (Chadwick, 2015; Wargo and Ayres, 2015).<br><br>In addition, throughout the season WDFW Police and the WC GOP is involved in the continual monitoring of control rules, catch quantity, quality and size composition of catch, and bycatch.<br><br>The pink shrimp fishery is subject to regular informal internal review, as described in SG80a above.<br><br>WDFW has not sponsored external reviews of the pink shrimp fishery.<br><br>While the fishery has met the "regular internal review" portion of the SG80, it fails to meet the "occasional external review" requirement of this scoring indicator, therefore this indicator is not considered met as partial scoring is not permitted. | | |
| **References** | | Hannah and Jones, 2014; Chadwick, 2015; Wargo and Ayres, 2015; Ayres, 2014. | | |
| **OVERALL PERFORMANCE INDICATOR SCORE:** | | | | **70** |
| **CONDITION NUMBER (if relevant):** | | | | **6** |

## Appendix 1.2 Conditions, Milestones and Client Action Plan

**Condition 1**

| Performance Indicator | 1.1.2: Limit and target reference points are appropriate for the stock. |
|---|---|
| **Score** | 75 |
| **Rationale** | See scoring rationale presented on pages 67-70 |
| **Condition** | By the 4th surveillance audit of the combined WO fisheries, the client must provide evidence to show that the target reference point for pink shrimp is such that the stock is maintained at a level consistent with $B_{MSY}$ or some measure or surrogate with similar intent or outcome. |
| **Milestones** | The following annual milestones are in place for condition<br>• Year 1: (aligned with year 3 for Oregon) The client with WDFW shall present a proposed target reference management system for review by the assessment team demonstrating that the target reference point meets the MSC intent of a level "consistent with Bmsy or surrogate with similar outcome"<br>• Year 2 (aligned with year 4 for Oregon) The client shall demonstrate that WDFW has adopted a target and limit reference point and is willing and |

| | |
|---|---|
| | able to take management action should target or limit thresholds be reached. |
| **Client action plan** | The client will work with and encourage WDFW to work closely with ODFW such that a target reference point is developed for ocean pink shrimp which ensures the stock is maintained at a level consistent with Bmsy or some measure or surrogate with similar intent or outcome.<br><br>If a target/limit reference concept is considered inappropriate, the client, by the 2nd annual audit (aligned with the 4th annual audit for Oregon), will document the rationale demonstrating how existing or revised harvest control rules meet the intent of the MSC standards and certification requirements |
| **Consultation on condition** | Consultation with WDFW is ongoing, and WDFW officials have expressed willingness and ability to act should the target and limit reference points provided by Hannah and Jones/ODFW be reached. The agency is supportive of the scope extension and certification. See confirmation from WDFW. |

**Condition 2**

| **Performance Indicator** | **2.3.1: The fishery meets national and international requirements for protection of ETP species. The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.** |
|---|---|
| **Score** | 70 |
| **Rationale** | See scoring rationale for PI 2.3.1, presented on pages 96-98. – Moody's |
| **Condition** | By the 4th surveillance audit of the combined WO fisheries, the client must provide evidence to show that the direct effects of the WO pink shrimp fishery are highly unlikely (as defined by the MSC) to create unacceptable impacts to ETP species, in particular Pacific eulachon. |
| **Milestones** | The client has demonstrated support of management agencies each year to assess the degree of the fishery's effect on Pacific eulachon.<br><br>The following milestones have been defined, and will be monitored during each surveillance audit:<br>• Year 1: (aligned with year 3 for Oregon) The client must provide evidence of the work completed, and provide an update on the progress of the Hanna Study<br>• Year 2 (aligned with year 4 for Oregon): The client will present evidence that the fishery is highly unlikely (as defined by MSC) to create unacceptable impacts to ETP species, in particular Pacific eulachon. |
| **Client action plan** | The client will work with WDFW in developing techniques to assess gear interaction and pursuing innovations to reduce potential mortality of eulachon, where practicable.<br>By the 1st annual audit (corresponding with the 3rd OR annual audit) the Client will give an update on progress of bycatch reduction work completed to date<br>By the 2nd annual audit (corresponding with the 4th OR annual audit), the Client will present evidence that the fishery is highly unlikely (as defined by MSC) to create unacceptable impacts to ETP species, in particular Pacific eulachon. |

| Performance Indicator | **2.3.1: The fishery meets national and international requirements for protection of ETP species. The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.** |
|---|---|
| **Consultation on condition** | Consultation with WDFW is ongoing, and the agencies are supportive of the re-certification as well as actions that need to be taken to meet condition requirements.<br><br>See confirmation from WDFW |

**Condition 3**

| Performance Indicator | **2.3.3: Relevant information is collected to support the management of fishery impacts on ETP species, including: information for the development of the management strategy, information to assess the effectiveness of the management strategy, and information to determine the outcome status of ETP species.** |
|---|---|
| **Score** | 75 |
| **Rationale** | See rationale for PI 2.3.3, presented on pages 101-102 Moody's |
| **Condition** | By the 4th surveillance audit of the combined WO fisheries, the client must provide sufficient information that allows for the determination on whether the WO pink shrimp fishery may be a threat to the protection and recovery of ETP species, in this case specifically eulachon. |
| **Milestones** | The following milestones have been defined in relation to this PI, and progress at meeting each milestone will be monitored at each surveillance audit:<br>• Year 1: 1 (aligned with year 3 for Oregon) The client must provide an update on the information being generated to understand eulachon population abundance and dynamics, and the level of bycatch that does not pose a risk of serious or irreversible harm to eulachon and does not hinder its recovery.<br>• Year 2: (aligned with year 4 for Oregon): The client must provide information to allow for a determination if the WO Pink Shrimp Fishery is a threat to the protection and recovery of ETP species in particular eulachon. |
| **Client action plan** | The Client will engage the appropriate state and federal agencies to encourage actions that result in an estimation of the population of eulachon, and what is an acceptable level of bycatch by the WOPS fishery. This is already occurring with the state(s) in discussions with WDFW and ODFW to standardize gear, as the shrimp fishery has the potential to be an indicator of abundance.<br>By the 1st annual audit, the Client will give an update on the progress made in understanding eulachon populations and the level of bycatch that does not pose a risk of serious or irreversible harm to eulachon and does not hinder its recovery.<br>By the 2nd annual audit the Client will present documentation of it's interactions with the agencies and a summary of the subsequent developments which have increased the understanding of the eulachon population and effect on recovery posed by the fishery to the point where the assessment team can determine if the fishery is a threat to the protection and recovery of eulachon. |
| **Consultation on condition** | Consultation with WDWF is ongoing and the WDFW is supportive of the re-certification as well as actions that need to be taken to meet condition requirements. |

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|---|---|
| | See confirmation from WDFW |

**Condition 4**

| Performance Indicator | 3.2.1: The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2 |
|---|---|
| **Score** | 60 |
| **Rationale** | See scoring rationale associated with PI 3.2.1, presented on page 89-90 |
| **Condition** | Washington:<br>By the 4th surveillance audit of the combined WO fisheries the client must demonstrate that short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, have been explicitly defined within the Washington Pink Shrimp fishery's management system. |
| **Milestones** | The milestones associated with attaining this condition are:<br>• Year 1: (aligned with year 3 for Oregon) support WDFW in their development of an FMP for pink shrimp, including short and long term objectives, and provide a status report to the certifier outlining progress.<br>Year 2: (aligned with year 4 for Oregon): Client to demonstrate WDFW's FMP short and long term objectives, consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, have been explicitly defined within the fishery's management system |
| **Client action plan** | WDFW is in early stages of FMP development The client will work with WDFW to develop a FMP by year four of the certification. The FMP will contain explicit and measurable annual and long-term objectives which are explicitly defined within the fishery's management system. By the 1st annual audit, the Client will give an update on progress made. By the second annual audit a fishery management plan for the Washington State shrimp fishery will be presented. |
| **Consultation on condition** | Consultation with WDFW is ongoing and the agency is supportive of the re-certification as well as actions that need to be taken to meet condition requirements.<br><br>See confirmation from WDFW |

**Condition 5**

| Performance Indicator | 3.2.4: The fishery has a research plan that addresses the information needs of management. |
|---|---|
| **Score** | 70 |
| **Rationale** | See scoring rationale for PI3.2.4, presented on pages 115-116 |
| **Condition** | |

| | |
|---|---|
| | Section CB4.10.3 of the CR states that 'research plan' is to be interpreted to mean a written document that includes a specific research plan for the fishery under assessment.<br><br>Based on this, by the second annual surveillance audit, the Client must develop a written formalized plan that provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC Principles 1 and 2. The format could be either a stand-alone document or a standard component of the ODFW Annual Pink Shrimp Review showing research results from WDFW and or collaborative research results between the two states should it exist. |
| **Milestones** | Year 1 (aligned with year 3 for Oregon): client will provide evidence of collaboration between ODFW and WDFW in a written research plan available to management system.<br><br>Year 2 (aligned with year 4 for Oregon): client will demonstrate that written report available to management is available and implemented. |
| **Client action plan** | The client will work with WDFW to cooperate and collaborate with ODFW on pink shrimp fishery research and data collection by way of a written research plan that formalizes ODFW's existing approach to research related to pink shrimp, non-target catch, ecosystems and habitat impacts. The plan will describe the top research priorities, along with the justification for their prioritization (gaps and needs). The plan will also include a re-evaluation, every 2 years, of the existing population models. The results will be published as a component of the ODFW annual shrimp newsletter, and or in their own annual publication. |
| **Consultation on condition** | Consultation with WDFW is ongoing and the agency is supportive of the re-certification as well as actions that need to be taken to meet condition requirements.<br><br>See confirmation from WDFW |

**Condition 6**

| **Performance Indicator** | **3.2.5: There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives. There is effective and timely review of the fishery specific management system.** |
|---|---|
| **Score** | 70 |
| **Rationale** | See scoring rationale presented for PI 3.2.5, pages 116 |
| **Condition** | Washington:<br><br>By the 3rd surveillance audit of the combined WO fisheries, the client must develop a plan for external review of the management system to occur at some specified interval. The plan should consider the recommendation of the 2008 management policy review that a similar external review be conducted every 2-3 years. |

| | |
|---|---|
| | By the 4th surveillance audit of the combined WO fisheries, the client must provide documented evidence to show that the fishery-specific management system is subject to occasional external review. |
| **Milestones** | • Year 1 (aligned with year 3 for Oregon): The client will provide evidence that the appropriate individual has been identified to carry out the review, and that the details of the work have been discussed and understood by WDFW in a written plan available to the management system.<br>• Year 2 (aligned with year 4 for Oregon): The client will provide evidence that an external review has been conducted, and that future reviews will occur periodically. |
| **Client action plan** | The Client agrees to provide evidence to show that the fishery's management system is subjected to occasional external review. By the 3rd annual audit, Client will have identified a qualified individual to conduct the management review. By the 4th surveillance audit, the fishery client will provide documented evidence to show that the fishery's management system is subjected to occasional external review. The external review will be carried out by a credible management expert, hired in conjunction with OTC and client, who will identify any gaps and propose corrective action, along with the appropriate rationale. |
| **Consultation on condition** | Consultation with WDFW ongoing and the agency is supportive of the re-certification as well as actions that need to be taken to meet condition requirements.<br><br>See confirmation from WDFW |

# Appendix 2. Peer Review Reports

## Overall Opinion

| ***Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?*** | **Yes/No**<br><br>**YES** | **Conformity Assessment Body Response** |
|---|---|---|
| *Justification:*<br><br>While a couple of questions were raised on individual scores/rationales, they wouldn't affect the overall conclusion of the expedited assessment of a recommended pass for the Washington component only. The assessment generally provides very solid evidence-based scoring against performance indicators (PIs) and their component scoring issues (SIs). | | Comment received with thanks. |

| ***Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?*** | **Yes/No**<br><br>**Partially** | **Conformity Assessment Body Response** |
|---|---|---|
| *Justification:*<br><br>I raise a question below regarding what appears to be an implicit assumption that Washington has adopted formal policy mirroring that of Oregon for reference points. While this in fact might be Washington's intent, no evidence was provided to use the PI 1.1.2 score for the Washington (or CA) component of the fishery, which the assessment team arrived at when it rescored the OR fishery during the recent (2nd) surveillance audit. If Washington's formal adoption of reference points hasn't yet occurred, it would seem that a condition would be needed for the new Washington client to document that a Limit Reference Point has been adopted which is consistent with MSC's intent for the PI. Similarly, it seems that Condition 1 needs be more clearly worded to acknowledge the need for WA to officially adopt target reference points, and then along with OR demonstrate they are adequate to meet MSC's intent for this PI. See further discussion below under PI review. | | Comment addressed in PI1.1.2 |
| ***Do you think the client action plan is sufficient to close the conditions raised?*** | **Yes/No**<br>**Partially** | **Conformity Assessment Body Response** |
| *Justification:*<br><br>I have noted below some areas that would seem to improve the likelihood of closing conditions, where the relationship between the client's actions and the needed outcome could be clearer and more direct. | | Client Action Plan revised to reflect needed outcome |

If included:

## General Comments on the Assessment Report (optional)

The draft assessment report provides a thorough, well-referenced analysis of the CA and WA fishery components of the pink shrimp trawl fishery and represents a robust assessment of their performance against the MSC standard for those unique dimensions of required within the scope extension. The management of the fishery appears to be sound and well designed, consistent both with the species' dynamics and the available resources for various aspects of management. The fishery participants appear to be playing a key and active role in contributing to the progressive nature of the fishery's management and performance. The increasing variability in ocean environmental conditions may

create some new and ongoing challenges in continuing to adapt the use of fishery CPUE triggers to the fisheries management. The conditions for PI 1.1.2 related to documenting the appropriateness of the currently proposed CPUE target reference point provide an important opportunity to evaluate and accommodate this important source of uncertainty.

## Performance Indicator Review

*Please complete the table below for each Performance Indicator which are listed in the Conformity Assessment Body's Public Certification Draft Report.*

| Performance Indicator | Has all the relevant information available been used to score this Indicator? (Yes/No) | Does the information and/or rationale used to score this Indicator support the given score? (Yes/No) | Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA) | Justification<br>Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary. | Conformity Assessment Body Response |
|---|---|---|---|---|---|
| 1.1.1 | NA | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 1.1.2 | No | No | No | **CPUE indicator of abundance** – As noted in the assessment report it can be problematic to rely on fishery depdendent CPUE as the primary indicator of abundance. In this case, and given that environmental variability has such an overriding affect on stock biomass, the CPUE indicators that have been adopted as reference points for the fishery, which would trigger precautionary management action, appear to be plausible MSY surrogates, subject to the needed further review outlined in the conditions for the target reference point (TRP). However, the one topic not explicitly addressed in the assessment report, which could add additional uncertainty to the adequacy of both the limit and target reference points, would be the question of whether significant varitaions in interannual marine environmental conditions, which have been recently occurring at increasing frequency and scale, could affect the distribution, concentration and availability of pink shrimp to the extent it would affect or bias annual CPUE values in the context of the standardized data set being used. The report notes significant interannual latitudinal variation in distribution, which also could support this question if pink shrimp remain associated with whatever beds are associated within the regions where they are distributed each year. Could the very CPUEs reported for 2009-11 It have been a reflection of both abundance and concentration/availability to the fishery? And in trying to develop CPUE reference point triggers using a long-term data set, how might these reference points be affected by increasingly variable and dynamic marine conditions, ans how might they be measured annually when the distributions of pink shrimp and fishery operations are dynamic? Evidence wasn't presented in the assessment report to indicate these kinds of questions are being asked and answered with respect to establishing reference points. In the fact the report seems to assert that bed size and CPUE only fluctuate as population varies, without regard to environmental conditions. These factors wouldn't change the score for this indicator but could be an important uncertainty factor that needs to be examined in demonstrating the adequacy of the TRP as | The reviewer points out that increasing environmental variability with climate change may bring into question the set of reference points chosen to trigger management action in this fishery. This is a valid point, but not one we can immediately address in the scoring of this PI. We have seen evidence that the RPs chosen have taken into consideration some variability, such as having been adjusted to reflect recent increases in vessel efficiencies and feel confident that with the high level of monitoring of environmental and fisheries conditions that management is well placed to reconsider the appropriateness of these stock status indicies should this become necessary. To this end, we have also added a recommendation to the report encoraging the respective agencies to continue monitoring fluctuations and changes that may occur with climate/regime changes and consider the bearing this may have on the approprateiness of the chosen reference points. The score for 1.1.2 remains unchanged. |

| | | | | | |
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| | | | | required in Condition 1, and ongoing revierw of both the TRP and LRP. | |
| 1.1.2 (continued) | | | | **Status of WA and CA adoption of reference points** – While the draft report well-documents the level of active cooperation between the three states, there is no evidence provided that either WA or CA has adopted limit or target reference points (TRP or LRP) for the pink shrimp fishery as Oregon has (documented in the recent, 2nd annual surveillance audit for the currently certified OR fishery). The formal adoption of reference points as policy by ODFW was the reason for rescoring this PI during the surveillance audit from 65 to 75. The rationale for also applying this 'new score' to the WA and CA fishery components does not appear to exist. In order to meet an SG 80 score for this indicator for certifying (extending certificate scope to) the WA fishery component, it would appear that explicit outcomes would be needed for WA to adopt both a LRP and a TRP, plus provide documentation that they meet the intent of MSC for this PI, consistent with the outstanding component of the condition for the currently certified OR fishery. And accomplishment of these outcomes need to be verified through surveillance audit process. | The assessment team considered the status of adoption of the reference points in Oregon, Washington, and California at the combined site visit for the OR surveillance and WA and CA scope extension. When asked, in the OR context, about formal adoption within management policy, the assessment team received evidence that the ODFW and OFWC considered the need to write this into regulation, and determined that it was not necessary, as the RPs are not controversial, have industry support, and the agency has the authority to act as needed to trigger management action should these points be approached or exceeded. In speaking with agecy staff from WDFW, their situation was similar—the agency is aware, and in support of adopting the RPs specified in the Hannah and Jones paper, and are willing and able |

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| | | | | | to act should the need arise through emergecy rulemaking. Since the resource is currently in excellent shape, and the RP concept and levels set are not controversial, it is difficult for either ODFW or WDFW to prioritize formalizing these points and subsequent management action into regulation. However, the assessment team is confident based on general evidence of proactive and responsive management by these agencies in other contexts that they will follow through with the stated management action should the need arise. Their success or failure in this will be monitored regularly through surveillance, and any changes will be reflected in changes to the scores at that time (note in this case the change would be to harvest control rule/harvest strategy scores, rather than here under PI 1.1.2. The score for 1.1.2 remains unchanged. |
| 1.1.3 | NA | | | | |
| 1.2.1 | Yes | Yes | NA | Evidence and rationale presented support assigned score. | Comment received with thanks. |

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| 1.2.2 | Yes | No (CA)<br>Yes (WA) | NA | There is considerable discussion in the draft report about California's relative inability to take timely in-season management action in response to stock abundance (CPUE triggers) but a rationale is provided, particularly for SIa, that CA's inability to meet the SG80 requirements isn't consequential because actions by the other states will mitigate any impact from CA's inaction, because fishery effort has been low off California and there is only one processor currently. This seems like weak rationale and requires future stock distribution and harvest conditions to remain unchanged in a changing ocean environment. Since CA components are being scored/assessed separately this is a CA performance issue, not unique to this pink shrimp fishery, which has created issues in other fisheries involving the three states – inability to respond in a timely manner. A recent case was in-season management action needed for the Pacific sardine fishery where the states were considering respective emergency actions to prohibit landings when allowable catch levels were projected to be attained. When fisheries require closure under a coordinated management scheme, one entity's inability to respond (as when a LRP trigger might be reached in the pink shrimp fishery), it could in fact affect actions by the other states if they are perceived to be treating fishers inequitably. Therefore, It is not clear the rationale provided compellingly supports the CA fishery meeting the SG80 guidepost for SIa, which could be presumably scored differently than WA in the assessment, as has been done for some Principle 3 indicators. Had the team recommended the CA fishery component passing the overall assessment, this is a performance deficiency that likely could have been addressed by California, such as by adopting pre-defined triggers in rule that have predefined management actions that can be more easily implemented through emergency procedures.<br><br>Evidence and rationale provided supports score for WA component given history of active state emergency and permanent rules in response to emerging resource and fishery conditions. | We take the reviewr's point here, however MSC requires Prinicple 1 in its entirety to be scored at the stock level, including component 1.2.2 on harvest strategy and management. Therefore the assessment team has used the available information to determine that there are adequate controls on the stock as a whole to reduce exploitation to an approporate level should target or limit reference points be approached, even in the absence of action from California. In fact, the original Oregon assessment should have considered this PI at the stock level as well, but this does not appear to have been done originally, thus we have done it as part of this scope extension. The deficiencies in the ability for CA to respond relative to the other states is addressed in Priniciple 3, where scoring on a state-by-state bases is permitted. That said, should conditions change in terms of stock distribution and/or harvest conditions, the overall ability for the management system to control harvest without cooperation from California, should this still be the case, this will be reevaluated as part of ongoing surveillance. The score for 1.2.2 remains unchanged. |
| 1.2.3 | Yes | Yes | NA | Evidence and rationale presented support assigned score. | Comment received with thanks. |
| 1.2.4 | Yes | Yes | NA | Evidence and rationale presented support assigned score. | Comment received with thanks. |

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| 2.1.1 | NA | NA | | | |
| 2.1.2 | NA | NA | | | |
| 2.1.3 | NA | NA | | | |
| | | | | | |
| 2.2.1 | NA | NA | | | |
| 2.2.2 | NA | NA | | | |
| 2.2.3 | NA | NA | | | |
| 2.3.1 | NA | NA | Yes | | |
| 2.3.2 | NA | NA | | | |
| 2.3.3 | NA | NA | Yes | Would note that client action seems more oriented toward intent to document and report their engagement and interactions with involved agencies as opposed to ensuring that required information is provided that will allow determination of whether PI 2.3.1. outcome has been met at the SG80. Could be more clearly, less ambiguously stated. | Noted. The action plan has been revised to make it clear that by the 4th annual audit of the combined WO fisheries, information presented must be sufficient to allow the assessment team to determine whether the fishery is a threat to the recovery of eulachon. |
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| 2.4.1 | NA | NA | | | |

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| 2.4.2 | NA | NA | | | |
| 2.4.3 | NA | NA | | | |
| | | | | | |
| 2.5.1 | NA | NA | | | |
| 2.5.2 | NA | NA | | | |
| 2.5.3 | NA | NA | | | |
| | | | | | |
| 3.1.1 | Yes | Yes | NA | Evidence and rationale presented support assigned score for both CA and WA components. Good documentation/analysis. For California assessment component, beyond the MPA example of coordination with treaty Indian tribes (SId) provided in rationale, CA has a longstanding history of close consultation with tribes through the Klamath River Management Council for salmon, an active annual management coordination process for salmon … further supporting score. | Text added to CA template. |
| 3.1.2 | Yes | No (CA)<br>Yes (WA) | NA | The rationale for the California fishery component at Sic would seem to indicate its specific SG80 scoring element not being met, as provided in this concluding team summary statement: "Resource constraints creating a low CDFW profile with the shrimp fishery, combined with the CFGW heavy work load and reduced frequency of meetings constrain the degree of opportunity, encouragement and facilitation for involvement in shrimp fishery management." The examples provided, such as fishers being checked dockside by enforcement personnel, do not constitute opportunities for all interested and affected parties to be consulted. | Agree that scoring is inconsistent with text. Have changed CA scoring on c and reduced overall score to 70. |

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| | | | | Evidence and rationale presented for Washington component support assigned score. | |
| 3.1.3 | Yes | Yes | NA | Evidence and rationale presented support assigned score for both CA and WA fishery components. | Comment received with thanks. |
| 3.1.4 | Yes | Yes | Yes | Evidence and rationale presented support assigned score for both CA and WA fishery components. | Comment received with thanks. |
| | | | | | |
| 3.2.1 | Yes | Yes | Yes | Evidence and rationale presented support assigned score for both CA and WA fishery components. Client action plan clearly states intent and intended outcome to meet clearly stated condition milestones for WA fishery component. | Comment received with thanks. |
| 3.2.2 | No (CA)<br>Yes (WA) | No (CA)<br>Yes (Partially) | NA | With respect to Sib and consistent with comments provided above under PI 1.2.2, SIa, there seem to be clear management system capacity issues in CA to make make responsive decisions and take timely regulatory action in response to emergent fishery monitoring data, Furthermore the limitations in active consultation capacity noted by the team for PI 3.1.2 (comments above) further indicate further likley lack of responsiveness (including timeliness and transparency) for decision-making processes with regards serious and other important issues. It does not seem these circumstances were adequately considered by the team in scoring Sib and its unclear that sufficient rationale has been provided for meeting the SG80 requirements for this SI.<br>Evidence and rationale presented support assigned score for both CA and WA fishery components.<br><br>For SId, re: information on management performance and fishery actions, its unclear that comprehensive information is formally reported in either state as required by the SG100 (the SId 'score' | Fair point. For CA we have added a line of text and changed the scoring of d, and reduced overall score to 80.<br><br>However for b (CA), even without full consultattion, the close coordination with enforcement and with ODFW staff does allow important and serious issues to get appropriate levels of response.<br><br>For WA, added text under d and reduced the overall score to 90. |

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| | | | | assigned by the team). Both states have budget limitations on their ability to analyze logbook and report information that they collect. This may be less consequential to the fishery than other key fishery data, but in fact may be important in the future in assessing the importance between environmental variability, fishing location and the appropriateness use of CPUE reference points. | |
| 3.2.3 | Yes | Yes | NA | Evidence and good, solid rationale presented support assigned score for both CA and WA fishery components. | Comment received with thanks. |
| 3.2.4 | Yes | Yes | Yes | | |
| 3.2.5 | Yes | Yes | Yes | Would note with respect to Year 1 milestone that there seems to be a presumption that annual management review would be specified in a written agency research plan. It's possible since this a management system review indicator that the agency may choose to outline this in an overall management plan for the fishery rather than as a reseacrh plan component. Prescribing the **specific agency document** that captures its discussion and understanding of the details of the review may not be appropriate or necessary for the condition. | We have removed the reference to a research plan and left it as a generic plan to conduct the management review. |

# Appendix 3. Stakeholder submissions

There were no stakeholder submissions received as part of the assessment process prior to the publication of the PCDR.

**Stakeholder Comments Received on PCDR and Team Reponses**
Will be included in the Final Report and Determination

# Appendix 4. Surveillance Frequency

Will be included in the Final Report and Determination

# Appendix 5. Client Agreement

Will be presented with the Public Certification Report

**Appendix 5.1 Objections Process**
Thus far not applicable

## Appendix 5.2 Letter of Support for Conditions

State of Washington
Department of Fish and Wildlife

*48 Devonshire Road, Montesano, Washington 98563-9618 (360) 249-4628 FAX (360) 249-1229*

July 21, 2015

Mr. Charles Kirschbaum
Pacific Seafood Group
16797 SE 130th Avenue
Clackamas, Oregon 97015

Dear Mr. Kirschbaum:

The Washington Department of Fish and Wildlife (WDFW) appreciates your work to gain certification by the Marine Stewardship Council (MSC) of the Washington coastal pink shrimp trawl fishery. We have reviewed the action plan and are committed to working closely with Washington fishers and processors to work towards the successful accomplishment of the six conditions of the MSC Washington State Pink shrimp Fishery Scope Extension.

WDFW has already made significant progress toward improving protection for endangered and protected species and we intend to continue this work. Currently, state funding is not available to conduct major research projects, but we are willing to work with you and other industry members to seek outside funding to accomplish the research goals we develop.

It has long been our policy to recognize the contiguous nature of the West Coast pink shrimp stocks to manage our fishery in a similar and cohesive fashion with the Oregon fishery. We intend to continue to work closely with the Oregon Department of Fish and Wildlife as we believe this strategy has and will continue to be the most successful approach to allow for a sustainable fishery and continued healthy stocks of shrimp.

Again, we support the MSC certification and look forward to working with you and MSC staff to manage this fishery for sustainability of the resource and continued success of the important industry.

Sincerely,

Michele K. Culver

Michele K. Culver
Regional Director

cc: Lorna Wargo
Dan Ayres