CALIFORNIA OCEAN PROTECTION COUNCIL

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MEMORANDUM

TO: Ocean Protection Council

FROM: Valerie Termini McCormick

DATE: May 12, 2011

RE: California sustainable seafood initiative

EXHIBITS:

1) Assembly Bill 1217 (Monning, 2009)
2) Ocean Protection Council Staff Recommendation for the Appointment of California Sustainable Seafood Initiative Advisory Panel Members (March 3, 2010)
3) Principles and Criteria of the Marine Stewardship Council

SUMMARY

Assembly Bill 1217 (Monning, 2009; Exhibit 1) directed the Ocean Protection Council (OPC) to develop and implement a voluntary sustainable seafood program for California commercial fisheries. At its March 3, 2010 meeting, the OPC approved the appointment of an advisory panel to help staff review guidelines for seafood certification, provide advice about how guidelines should be tailored for California fisheries, and identify any critical issues of concern in developing a sustainable seafood program in California (Exhibit 2).

This memo outlines a draft protocol for a sustainable seafood certification of California fisheries that was developed over the past year with input from that advisory panel. The protocol describes how the OPC will consider funding fisheries seeking certification and how the fisheries will be certified. Staff intends to bring the protocol back to the Council for approval at a later meeting. Further, the protocol is intended to be a living document and will be reviewed and updated as new information becomes available. At this meeting, staff seeks Council input on the proposed protocol and how it might be improved.

BACKGROUND:

Over the past several decades, unsustainable fishing methods and a lack of robust fisheries management has led to the depletion of many wild fish stocks throughout the world. Some types of fishing methods have degraded habitats and reduced marine biodiversity and may impair ecosystem function. There is a general consensus that fish stocks worldwide have declined in the past several decades (FAO 1995).

Conversely, some California fisheries are at the forefront of new sustainable management approaches that may inform national and international efforts. As a result of legislation enacted to ensure sustainable fisheries, such as the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act and implementation of California's Marine Life Management Act many of California fisheries are considered well-managed. These types of mandates will play a critical role in ensuring sustainable marine fisheries, which in turn are vitally important to our coastal communities and coastal economies.

Market-based approaches (such as "eco-labels") that incentivize sustainable fishing practices have recently gained traction in the public sphere. Such labels add value to fisheries due to market demand and consumer willingness to pay a premium price for seafood caught "sustainably." Also, eco-labels provide an economic incentive to fish sustainably as many fisheries gain access to new markets created by a sustainable eco-labeling program.[1]

Generally, eco-labeling programs evaluate the fishing practices and production process with regard to established environmental standards set by an independent third party. If the process meets these standards, the producer or marketer may buy a license to use a specific eco-label in its marketing. The label conveys to the consumer otherwise unobservable information concerning a product's environmental impact. In the case of seafood markets, consumers who prefer seafood products that are sustainably caught provide a market-based signal to resource managers, creating an incentive to maintain sustainable fisheries resources.[2]

Developing a trustworthy eco-label for California wild capture fisheries is not an easy task. California must ensure that the label is credible and that we are improving the sustainability of California's marine fisheries and habitats. Therefore, any "eco" label that California develops must be easily understood, transparent, and verifiable so that consumers are assured that what they are buying is from California, is sustainable, and is helping our local fishermen continue fishing sustainably.

As stated previously, Assembly Bill 1217 (Monning, 2009; Exhibit 1), which added Section 35617 to the Public Resources Code and amended Sections 35550 and 35650 of the Public Resources Code, requires the OPC to develop and implement a voluntary seafood promotion program for California fisheries. The intent of AB 1217 is to encourage California fisheries to seek certification in accordance with internationally-accepted standards for sustainability[3] and to promote the purchase and consumption of certified sustainable California seafood (See Section 1(a) of AB 1217 §1).

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[1] Roeim C, *Thalassorama. Early Indications of market impacts from the Marine Stewardship Council's eco-labelling of seafood. Marine Resource Economics, 2003. Volume 18, pp. 95–104*

[2] Ibid

[3] FAO *Guidelines*: AB 1217 states that "Internationally accepted standards for sustainable seafood" means standards that meet all of the following criteria: (1) Meet or exceed the Guidelines for the Eco-labeling of Fish and Fishery Products from Marine Capture Fisheries promulgated by the Food and Agriculture Organization of the United Nations (FAO) and (2) Conform to three principles regarding fish populations, ecosystems, and management.. FAO guidelines available at http://opc.ca.gov/webmaster/ftp/project_pages/CSSI/FAO%20eco%20labelling%20guidelines.pdf

The statute directs the OPC to: 1) develop a protocol to guide entities on how to be independently certified to internationally-accepted standards for sustainable seafood; 2) implement a marketing assistance program for such seafood in cooperation with the California Department of Food and Agriculture (CDFA); 3) develop a competitive grant and loan program (in years in which funds are appropriated by the Legislature) to help qualifying fisheries become certified as sustainable; and 4) design a label or labels that may be used exclusively to identify seafood caught sustainably in California. This memorandum pertains to the first aspect of the bill, developing the protocol.

The statute stipulates that the protocol is to be developed in a transparent process and adopted by the OPC in a public meeting. In addition, the OPC will need to identify in a public document that the standards developed meet or exceed the Guidelines for the Eco-labeling of Fish and Fishery Products from Marine Capture Fisheries promulgated by the Food and Agriculture Organization of the United Nations (FAO).

To comply with the statute (AB 1217), the FAO guidelines for eco labeling, and to ensure a transparent public process, the OPC appointed a 23-member public advisory board to assist with AB 1217 implementation in March 2010. The panel was tasked to bring vision, strategic thinking, and pragmatic knowledge to the sustainable seafood protocol development process (please refer to Exhibit 2 for the panel selection process). Panel members provided guidance in reviewing existing sustainable seafood protocols, provided advice about how guidelines should be tailored for California fisheries, and identified critical issues about developing a sustainable seafood program in California. The Panel members reviewed numerous reports and existing seafood sustainability programs and met four times since March 2010 to provide input and feedback on: (1) a California protocol approach, (2) traceability of seafood, and (3) marketing a sustainable seafood product in California. Members of the advisory panel include representatives from fishery management agencies, non-governmental organizations, the commercial fishing industry, fish processors, fish retailers, restaurateurs, fishing port officials, and the scientific community. The panel has been essential to the development of the protocol and provided robust discussion about the strengths and weaknesses of sustainable seafood certification programs. These meetings were open to the public and provided the opportunity for public comment to help ensure transparency within the development of the protocol.

The proposed voluntary protocol may be subject to the Administrative Procedure Act (APA). The APA broadly requires all rules proposed by state agencies to undergo an extensive public process. Any rule that does not go through the APA process is an unenforceable "underground regulation." Assembly Bill 337, currently working its way through the legislature, would exempt this program from the formal rulemaking process required by the APA. Staff believes the formal APA rulemaking process would unnecessarily duplicate the transparency and public participation of the OPC's process as discussed above. Additionally, the formal APA process would be burdensome as it is anticipated that the sustainable seafood certification methodologies will be frequently updated. The OPC can not formally adopt the protocol until either; (1) proposed Assembly Bill 337 passes and goes into effect or (2) the protocol goes through the APA process.

SUSTAINABLE SEAFOOD PROTOCOL

The foundation of the California sustainable seafood program must be consistent with the UN FAO Guidelines for Eco-labeling Fisheries (Section 35617 of the Public Resources Code as directed by ANB 1217). Currently, the Marine Stewardship Council (MSC) certification program for sustainable seafood is the most consistent with these guidelines. Should another certification program become available that also meets the FAO Guidelines for Eco-labeling, OPC staff will explore it as another option to potentially use for certifying California fisheries. The Marine Stewardship Council (MSC) is a non-profit, non-governmental, international organization established in 1996 by a partnership between the World Wildlife Fund and Unilever Corporation as a way to reduce overfishing through market incentives. [4] The MSC has developed a logo that informs consumers that they are supporting fisheries that meet their criteria for sustainable fishing. In addition, the MSC has developed "Principles and Criteria" () to measure fishing practices and develop traceability programs to ensure the fish MSC certifies are in fact caught from the certified fishery. The MSC standards meet and in some cases exceed the guidelines for the Eco-labeling of Fish and Fishery Products from Marine Capture Fisheries promulgated by the FAO. Also, the MSC standards include the principles specified in Public Resources Codes Section 65550(c) (2).[5]

In the view of OPC staff, MSC is the most appropriate certification program because MSC:

- Has been established for over a decade and has been noted in several scientific studies as the most credible, robust assessment of sustainability and well managed fisheries;
- Certification status and performance indicators are maintained and regularly improved by the MSC;
- Meets the requirements of AB 1217 (i.e. satisfies UN FAO Guidelines);
- Helps avoid consumer confusion;
- Uses a completely open and transparent process;
- Includes third-party verification and complete independence of the developer of the standard from the assessment of the fishery against that standard, and;
- Is likely to have the greatest impact on improving fishery and marine ecosystem health.

In addition, the MSC certification program is the only existing seafood certification program that is also consistent with The Code of Conduct for Responsible Fishing (UN FAO), The Code of Good Practice for Setting Social and Environmental Standards (ISEAL), and the World Trade Organization Technical Barriers to Trade Agreement.

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[4] Roeim C, *Thalassorama. Early Indications of market impacts from the Marine Stewardship Council's eco-labelling of seafood. Marine Resource Economics, 2003. Volume 18, pp. 95–104*

[5] Section 35550(c)(2) specifies:

(A) A fishery must be conducted in a manner that does not lead to overfishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.

(B) Fishing operations should allow for the maintenance of the structure, productivity, function, and diversity of the ecosystem, including habitat and associated dependent and ecologically related species on which the fishery depends.

(C) The fishery is subject to an effective management system that respects local, national, and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

In order to be eligible for and receive MSC certification, the fishery must meet or exceed the minimum standards for 1) stock assessment and stock status, 2) ecosystem impacts, and 3) fishery management system. These criteria are also consistent with the minimum requirements of the Guidelines for the Eco-labeling of Fish and Fishery Products from Marine Capture Fisheries promulgated by the FAO. MSC certification is based on three principles (outlined below) and 31 performance indicators.

AB 1217 states that certified fisheries must conform to the following principles, which are the three principles at the core of the MSC certification process:

Principle 1
A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.

Intent: The intent of this principle is to ensure that the productive capacities of a fishery is maintained at high levels and not sacrificed in favor of short term interests. Thus, exploited populations would be maintained at high levels of abundance designed to retain their productivity, provide margins of safety for error and uncertainty, and restore and retain their capacities for yields over the long term.

Principle 2:
Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

Intent: The intent of this principle is to encourage the management of fisheries from an ecosystem perspective under a system designed to assess and restrain the impacts of the fishery on the ecosystem.

Principle 3:
The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

Intent: The intent of this principle is to ensure that there is an institutional and operational framework for implementing Principles 1 and 2, appropriate to the size and scale of the fishery.[6] The California sustainable seafood certification will also include a California component, discussed further below, that adds specific conditions to the already rigorous MSC criteria.

Criticism of MSC
There is criticism of the MSC certification process from environmentalists, non-governmental organizations, and scientists about the credibility of the sustainable label. For example, the

[7] Ianelli, J. N. *et al. Assessment of the Walleye Pollock Stock in the Eastern Bering Sea 2009* (Alaska Fisheries Science Center, 2009); available at go.nature.com/TujdKn.

largest MSC-certified fishery, with an annual catch of 1 million tons, is the US trawl fishery for pollock (*Theragra chalcogramma*) in the eastern Bering Sea, which experienced a population crash. This fishery was certified in 2005, and was recently recommended for recertification, despite the fact that the spawning biomass of those pollock fell by 64% between 2004 and 2009.[7] Similar declines in biomass can be found in other MSC fisheries, including the Pacific hake (*Merluccius productus*), which was certified in 2009 despite a population decline of 89% since a peak in the late 1980s.

Another controversial MSC certification was the Antarctic toothfish fishery or Chilean Sea Bass (*Dissostichus mawsoni*). In 2009 this fishery was recommended for full certification despite very little biological information about the fishery. The Commission for the Conservation of Antarctic Marine Living Resources, which oversees fishing in the Southern Ocean, classifies the Antarctic toothfish fishery as "exploratory" due to this lack of information.

Other criticisms about the MSC certifications include issues with some third party certifiers scoring fisheries high for financial gain when there is little information about the fishery to be considered sustainable. Additionally, when population changes occur, critics of MSC state that the certification should be removed when stocks are low. In some of these cases, management agencies change the total allowable catch (TAC), to reflect the lower stock status, therefore in MSC's opinion, the fishery remains sustainable.

Proposed California Certification Standard

In order to benefit from the advantages of the MSC and to compensate for the observed shortcomings, staff recommends that in addition to meeting the above-mentioned MSC criteria, California fisheries will also be required to meet a higher standard with respect to two performance indicators: the stock status and the by-catch of ETP (endangered, threatened, and protected) species. California fisheries will have to obtain a score of at least 80 for these two performance indicators to receive the California sustainable seafood certification.

It is worth noting that the OPC will need to vote in a public meeting to provide funding to certify or recertify any particular fishery after an independent scientific review, as discussed below. This is an additional safeguard against potentially controversial certification decisions. Further, any fishery that will receive funds from the OPC will also be publically noticed, will come before the Council for approval with time for public comment on the fishery.

Ocean Protection Council Protocol for Sustainable Seafood Program

This protocol is designed to explain how the OPC will fund fisheries seeking a California Sustainable Seafood Certification, how the OPC will assist in the certification process, and how fisheries will be certified. This protocol will be updated regularly as new information becomes available.

The OPC may, depending on the availability of funding, implement a competitive grant and loan program to assist qualified California fisheries to receive the California sustainable seafood

[7] Ianelli, J. N. *et al. Assessment of the Walleye Pollock Stock in the Eastern Bering Sea 2009* (Alaska Fisheries Science Center, 2009); available at go.nature.com/TujdKn.

certification. Fisheries that are found to be in good standing following a pre-assessment will be eligible to receive funding to begin the full certification process. Fisheries not meeting the California standards following the pre-assessment will not be eligible to receive funding from the OPC to become certified through the California Sustainable Seafood program.

Fisheries qualifying for the California sustainable seafood certification are limited to only wild capture marine fisheries at this time. As noted in AB 1217, seafood produced through aquaculture or fish farming will not be eligible for certification until nationally or internationally accepted sustainability standards have been developed and implemented.

A California fishery will be defined as fish landed in a California port by a California commercially licensed fisherman. Any fish landed outside California, will not be eligible for the California label.

Independent Scientific Review
Staff will work with the Ocean Science Trust (OST) to develop recommendations about the scientific peer review process for this program and for the most appropriate role for the Ocean Protection Council Science Advisory Team to engage in the certification process. For example, there may be opportunity for scientific peer review throughout various steps of the certification process. This second layer of review (including MSC's peer review) will add credibility, transparency, and independence.

CALIFORNIA SUSTAINABLE SEAFOOD CERTIFICATION STEPS
Below are the steps for a fishery to become certified to internationally accepted standards as part of the California sustainable seafood program.

Criteria for fisheries to begin MSC certification process
Prior to initiating the MSC certification process, OPC staff will work with specific fisheries to evaluate whether they meet the following minimum criteria:

- Degree to which they can meet the standards promulgated by the MSC
- Support from the state or federal management agency, DFG and or the Pacific Fishery Management Council (PFMC)
- Fishery organizational structure: For example, a Community Fishing Association (CFA) or similar entity that can serve as a co-client with the OPC to the MSC
- Fish is landed in California and the fishermen hold a California commercial fishing permit
- Fishery is not listed on a federal or state endangered or threatened species list

Process to becoming certified under MSC:
Certification to the MSC environmental standard is a multi-step process, carried out by an independent organization known as a certifier (also called a third party certification body). Once the certifier has been appointed, the assessment process can proceed as follows.

Pre-assessment
Fisheries wishing to gain certification against the MSC fisheries standard are encouraged by MSC to undergo a 'pre-assessment' in which third party certifiers evaluate, at a provisional level, a fishery's performance against the MSC fisheries standard. This allows any potential issues in a fishery's performance to be identified, and enables potential fishery clients to prepare accordingly for a full assessment.

A report by the certifier tells the fishery if it is ready for full assessment and may also give guidance about how to get ready for full assessment. Although these reports are generally kept confidential when fisheries are undergoing the standard MSC certification process, if public funds are used, then the pre-assessment and any other publicly-funded studies might be subject to disclosure under the Public Records Act. Subject to the availability of funds, OPC may fund a pre-assessment for fisheries that are interested in going through all the steps to become certified. The pre-assessment may identify strategies for improving management and might examine the use of existing and new risk-based methodologies for the assessment of fisheries where information on biological stocks and the fisheries may be insufficient for established scientific assessment techniques.

This pre-assessment may also address:

- Identify systemic weaknesses in current knowledge or practice which, if remedied, will impact positively on the management of a wide range of fisheries;
- Reveal strengths and weaknesses that might not otherwise be readily or normally considered by management; and
- Identify if the fishery is ready for MSC certification, could easily be made ready for certification, or if the fishery need significant reforms to be considered for certification.

Full Assessment
Full assessment is the detailed, public, rigorous process that a third party certifier will follow to see whether the fishery meets the MSC standard. It starts when the fishery client (the OPC and fishery will serve as co-clients) signs a contract with the certifier and the certifier notifies the MSC that the fishery is entering full assessment.

The following chart identifies the main criteria by which the fisheries would be initially assessed. These criteria are measured against the MSC principles, so that they can inform if the fishery will have a successful chance at becoming certified.

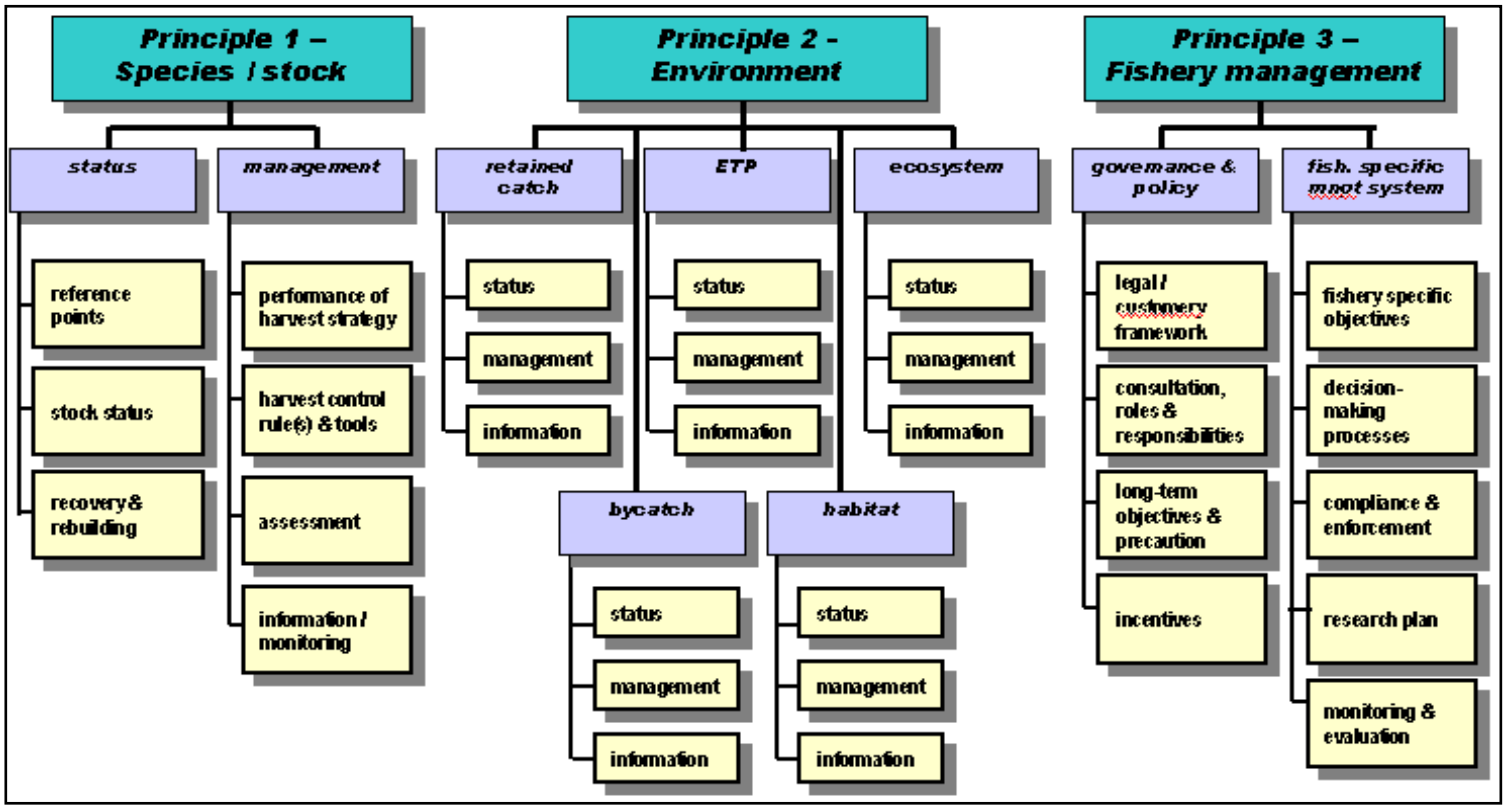


Figure 1: From: Dapling et al. 'Navigating the Future'. Developing Sustainable Inshore Fisheries. The UK Inshore Fisheries Sustainability Project Summary Report. Sussex Sea Fisheries Committee, Shoreham-by-Sea. Sussex – (MSC assessment tree)

Steps through the full certification process:

- **Preparation:** MSC recommends fisheries prepare for full assessment by communicating with colleagues, agencies and buyers, applying for grants, appointing a project manager or steering group, and making contact with stakeholders to encourage participation in the assessment process.

- **Full assessment**: This is a seven-step process to determine whether the fishery meets the MSC standard. The process is led by the appointed certifier and its expert assessment team. It involves consulting with stakeholders, reviewing performance indicators, scoring the fishery, identifying ways that the fishery can strengthen its performance (if needed), peer review and making a final determination about whether the fishery meets the MSC standard. This is an intensive process that calls for a high level of information to be provided by the fishery and others.

- **Post-assessment:** Fisheries must arrange for an annual audit of the fishery and should plan how they wish to make the most of certification using the MSC Chain of Custody standard for seafood traceability.

MSC scoring process
The assessment process involves scoring 31 different performance indicators. The highest mark available is 100%. A score of 80% is the level of acceptable performance for an indicator; whereas a score of 60% is the minimal threshold allowable in an MSC evaluation. In order to obtain MSC certification, the fishery needs to obtain a score of 60% or more for each Performance Indicator. If a fishery achieves a score of less than 60% on any Performance Indicator, certification will not be awarded. Additionally, the fishery must have an aggregate score of 80% or more for each of the three Principles in order to be certified. Where a fishery achieves a score for any Performance Indicator of less than 80%, but at least 60%, the certifier will set one or more conditions for continuing certification. In the absence of exceptional circumstances, the condition(s) shall improve performance of the fishery to at least the 80% level within a period set by the certifier but not longer than the term of the certification. The certifier will specify an appropriate timescale for addressing each condition and should specify the outcome or targets for which the fishery should aim. The certifier's role is to offer guidance and make clear to the fishery the required outcome rather than prescribe actions that should be taken. The decision is therefore the fishery's to make on how to achieve the desired outcomes.[8]

Indicator scores between 80% and 100% do not require any further action. A score between 60% and 80% for an indicator, points out that the evaluating scientists identified a minor deficiency that needs corrective action. An indicator score of less than 60% indicates a major deficiency in the fishery that needs corrective action.

California Standards
Fisheries seeking certification through the California sustainable seafood program would need to receive higher scores (80% versus 60% for MSC for stock status and by-catch of ETP species) under the MSC scoring system, in addition to the standard MSC requirements.

Principle One: Health of the fish stock
Performance Indicator (PI): **Stock Status**
The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing.

Scoring Guideposts (SG):
SG 60%: It is likely that the stock is above the point where recruitment would be impaired.

SG 80%: It is highly likely that the stock is above the point where recruitment would be impaired. The stock is at or fluctuating around its target reference point. *(OPC staff suggests requiring fisheries to meet the 80 benchmark for this SG instead of the 60% threshold).*

SG 100%: There is a high degree of certainty that the stock is above the point where recruitment would be impaired. There is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years.

[8] Get Certified! Fisheries, © Marine Stewardship Council, 2009

Principle Two: Impact on Ecosystem
Performance Indicator (PI): **ETP Species**
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.

Scoring Guideposts (SG)
SG 60%: Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species. Known direct effects are unlikely to create unacceptable impacts to ETP species.

SG 80%: The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species. Direct effects are highly unlikely to create unacceptable impacts to ETP species. Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts. (*OPC staff suggests requiring fisheries to meet the 80% benchmark for this particular SG instead of the 60% threshold).*

SG 100%: There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species. There is a high degree of confidence that there are no significant detrimental effects (direct and indirect) of the fishery on ETP species.

In addition to the more stringent requirements, the California program will also include an innovative traceability component that will distinguish California fisheries from other MSC certified fisheries on the basis of increased tracking and data transparency from ship to plate. The mechanism for tracking traceability will be a unique barcode on each certified California fishery package. This barcode can be either scanned by a smart-phone or linked to a website which will reveal a host of details, such as the name of the vessel or fishermen that caught the fish, what type of gear was used to catch the fish, the port it was landed in, scientific name of the fish, and other unique information about the fishery. If the retailer requests consumer facing materials, the OPC will also provide information to be displayed at the seafood counter to help inform consumers about the sustainable seafood product.

Funding
Subject to the availability of funds, the OPC may fund the pre-assessment, the initial certification of qualified California fisheries, the annual certifications and full re-certification costs (MSC requires that a fishery become re-certified every five years). The OPC would like to work with the MSC on identifying additional funding sources as many of the California fisheries are not large enough to support high re-certification costs.

Toxicity
According to the FDA, fish and shellfish are an important part of a healthy diet. Fish and shellfish are low in saturated fat, and contain omega-3 fatty acids. Eating a variety of fish in a healthy diet can contribute to heart health and children's proper growth and development. However, nearly all fish and shellfish contain traces of mercury. Lead, chlorine, bromine, PCBs, dioxins and biotoxins are also frequently found in fish. Many fish eat algae and other organisms

that contain biotoxins. Biotoxins accumulated in fish/shellfish include (but are not limited to) saxitoxins, ciguatoxine and domoic acid. Both domoic acid and ciguatoxine can be deadly to humans; the others can cause diarrhea, dizziness and a (temporary) feeling of claustrophobia.

A fisheries toxicity monitoring and testing program, while important, goes beyond the intent of AB 1217, which is about developing a sustainable fishing certification program. Additionally, any toxicity monitoring program must be developed with the agencies that have the regulatory authority and knowledge on implementing and addressing these issues. As mentioned briefly, the intent behind AB 1217 is to address sustainable fishing practices and to showcase our local fishermen and seafood. Requiring toxicity issues to be in the protocol go beyond the scope and intent of the legislation.

The OPC is currently working with several state and federal agencies on developing a monitoring program to test marine fisheries – specifically with the California eco-label in mind. The goal is to have a program in place that routinely tests and monitors seafood that is labeled with the California eco-label among other California derived seafood. Currently, there is no consistent statewide monitoring system in place to test for most of the toxins that could cause a health concern to humans. OPC staff is working with staff from the Office of Environmental Health Hazard and Assessment (OEHHA), the Department of Public Health (DPH), the Department of Fish and Game (DFG), the State Water Resources Control Board and others to develop a program that meets the needs of the California sustainable seafood program as well as informs the public about seafood toxicity issues.

Chain of Custody and Traceability in the seafood supply chain

Verifying the seafood industry supply chain is a critically important component to any "eco-label" program, and will be important once a toxicity testing program is in place. In order for California to have a robust and transparent seafood certification program, being able to trace the fish back to the fishery that caught it is paramount. The commercial fishery distribution chain is complex and poorly understood by most Americans. Fish being sold in the United States is often caught, trans-shipped at sea, landed in a port, sent to another country for processing, reloaded on a cargo ship and sent to another country for post processing and then finally arriving in a local distributor to sell to a local market.[9]

Such complexity has created a situation where it is difficult to know whether fish being sold as "sustainable" is in fact derived from a sustainably managed stock. Thoughtful design and management of traceability and a fish tracking system are not only important for a robust certification system, but also to bolster consumer confidence and knowledge in addition to maintaining standards.

Marine Stewardship Council Chain of Custody program

The MSC's Chain of Custody standard for seafood traceability makes sure that the MSC eco-label is only displayed on seafood from an MSC certified sustainable fishery. Each company in

[9] Hepp, Jill. "Understanding the role of fisheries traceability and the connection to certification in light of recent IUU policy developments" *Paper presented at the annual meeting of the International Marine Conservation Congress, George Madison University, Fairfax, Virginia*, May 20, 2009. 2010-09-26 <http://www.allacademic.com/meta/p296533_index.html>

the supply chain must get a certificate from an independent, third-party certifier if the product will ultimately display the MSC eco-label.

To get Chain of Custody certification, businesses must be audited to show they have effective storage and record-keeping systems which prove that only seafood from a certified fishery carries the MSC eco-label. For example, companies have to show that they keep certified fish separate from non-certified fish, and that they can trace every delivery of certified fish to a Chain of Custody certified supplier.

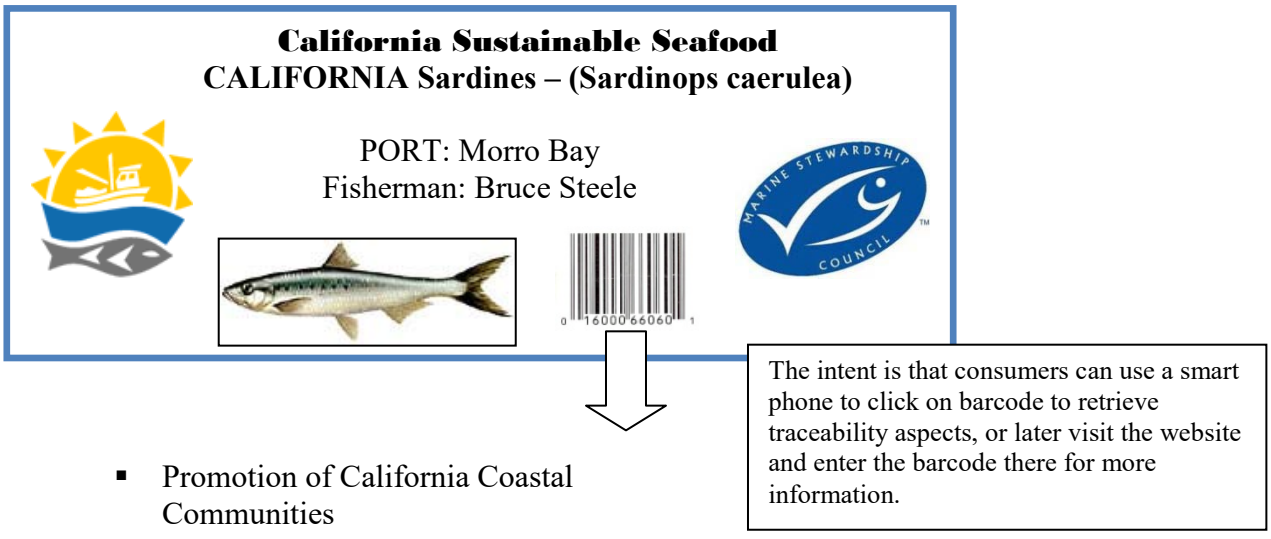
Every company with a valid Chain of Custody certificate is given a unique code which must be displayed on certified seafood products to show buyers and consumers that they are buying from an approved supplier. The MSC eco-label can only be used on seafood from an MSC certified fishery by businesses that have a valid MSC Chain of Custody certificate.

California fisheries that are certified as sustainable will comply with the MSC chain of custody standards for traceability.[10] Additionally, OPC staff plans to include additional traceability components on the California sustainable seafood label that will help to showcase how each fishery meets the standards. The development of a successful traceability program will be undertaken with the involvement of California fishery stakeholders. Capacity building, training, and information sharing will be critical for the program to function.

[10] MSC Chain of Custody Standards, Date of issue: 1 May 2010

California Traceability Components and potential logo:
The California label will provide additional traceability information to the consumer. The label itself will include the MSC label, something to indicate it is from CA, and the name of the port where the seafood was landed. Additional information will be available on a website and accessible via a bar code on each California Sustainable Seafood Certified product or package.

Possible information includes:



- Promotion of California Coastal Communities
  - List the port of origin
  - Landed in California/California permit holder
  - Links to a community fishing organization (CFA)
- Fishing technique used/gear type
  - Hook and line, traps, selective trawl, etc
  - Area where fish was caught
- Who caught the fish
  - Name the captain, and/or fisherman /vessel
  - Link to Community Fishing Association website
  - Link to fishery website
- Date caught
- Species Information
  - Scientific name/more specific information about the fish caught
  - ➔ For example: California Chinook Salmon – *Oncorhynchus tshawytscha*
- Food Safety Information
  - If funds allow, the OPC may commission a study on toxins along the California coast aimed at fish toxicity associated with consumption
  - If funds allow, OPC will work with OEHHA to upgrade their site to include ocean caught fish: http://www.oehha.ca.gov/fish.html
- Links to social media and websites
  - Link to a Facebook page where the consumer can become a "fan" of CA fish
  - Links to research on fisheries issues
  - Link to state and federal fishery regulations

Certification Process and Timeline

Below is the general process for a California fishery to become MSC certified through the California Sustainable Seafood Program. Additionally, fisheries could forego OPC funding and seek certification independently.

Process Steps	Explanation	Timeline
Establish a Standard	MSC standards plus California components	Pending OPC decision
Selection of Fisheries	Fishing groups and associations compete to receive pre-assessment funding	On-going; depending on APA exemption could start as early as Fall 2011 or if APA process is required, Spring-Summer 2012
OPC Meeting: Intent to begin Pre-assessment	OPC notices intent to begin pre-assessment of selected fisheries	Without APA: Fall/Winter 2011 With APA: Spring 2012
Selection of Third Party Certification Body	OPC identifies and selects a third party certification body	Without APA: Early 2012 With APA: Summer 2012
MSC Pre-assessment	Pre-Assessment: • The third party certification body performs a pre-assessment of fishery • OPC/Science Advisory Team (SAT) review of various assessments	Without APA: Early 2012 With APA: Summer 2012 Concurrent with process
OPC Meeting: Intent to begin Full Assessment	OPC notices intent to begin full assessment of an individual fishery	Depends on how long pre-assessment takes (could take a year or more)

Process Steps	Explanation	Timeline
MSC Full Assessment	**Step 1:** Announcement of Full Assessment • The initiation of full assessment of a fishery marks the beginning of public, fully transparent assessment process. Posted on MSC website for 30 days; invite stakeholder comments. • The certification body nominates an expert scientific assessment team and after a period of public review (including stakeholder input), selects the team and develops a project timeline. • Stakeholders identified in the pre-assessment are invited to participate in the assessment process • Note: OPC would be co-client with an appropriate fishery association, who would be responsible for coordinating and providing information to the assessment team. The OPC would help move the process along. **Step 2:** Assessment Team Adopts an Assessment Tree • The default assessment tree includes sub-criteria, performance indicators, and scoring guideposts and is the framework for the entire assessment process • The expert assessment team determines if default assessment tree is to be used, or amended in any way (e.g., incorporate Risk Based Framework for particular performance indicators) • Draft assessment tree is posted on MSC and OPC websites for public	Long process - could take 1-2 years

Process Steps	Explanation	Timeline
	comment **Step 3:** Assess the Fishery • On-site visit, information gathering, stakeholder interviews, and scoring the fishery. Involves notifications published for public consumption. • Evidence is compiled and assessed. The assessment team scores fishery against the MSC principles and criteria. • The team interpret scores and provide detailed rationale for each score **Step 4:** Identify and Set Conditions for Further Improvement of the Fishery • If the fishery scores <80 but >60, conditions are applied to fishery to improve performance against the MSC Principles throughout the duration of a certification period. (*Note, if the fishery scores less than 80 on stock status or by catch of ETP species, the fishery, by California standards will not be eligible for the CA logo*). Conditions provide for agreed further improvement in a fishery and provide one of the bases for subsequent annual audits. • Detailed agreements in the form of an Action Plan are established with client(s) and fishery management agencies for how the conditions will be addressed throughout the duration of the certification period **Step 5**: Review of the Preliminary Draft Report by the co-clients (OPC SAT and	

Process Steps	Explanation	Timeline
	fishery association) • Up to 30 day period for fishery clients to provide comments **Step 6:** External Peer Review • Certifier arranges for the Peer Review Draft Report to be reviewed by a group of experts. • MSC will publish the names and short CVs of the proposed peer reviewers on the MSC website for 10 days (public comment period). This nomination occurs at any point in the assessment process after the site visit. • The fishery clients and stakeholders have an opportunity to comment on nominees • Peer Review Draft Report will be reviewed and comments will be provided to the certifier. All comments will append to successive report drafts **Step 7:** Release of Public Comment Draft Report • Report includes all scores and rationale, full comments from the peer reviewers, recommended certification determination • Report is posted on MSC website for a 30 day public comment period. Stakeholders engaged with the fishery, including the MSC, comment in writing to the certifier. **Step 8:** Release of Final Report, Determination • Expert assessment team reviews all	

Process Steps	Explanation	Timeline
	stakeholder comments and revises Final Report as appropriate • All stakeholder comments are explicitly addressed by the certifier and assessment team and all written submissions are included in the Final Report • The Final Report is posted on the MSC website for 15 working days: this is the formal MSC objections period	
Objections Process	MSC Objections Process • Key component of fishery assessment process • Stakeholders may lodge objection against Certifier determination during 15 working day public comment period (i.e., during posting period of Final Report) • Process is multi-step, overseen by Independent Adjudicator	Process begins after full assessment has been completed
Certification Awarded	The Public Certification Report is released to the public (and posted on MSC site) identifying the conclusion of the assessment process and marking the actual certification of a fishery • If a fishery meets the MSC Standard, certification is awarded by the certifier at the conclusion of the full assessment process (includes the formal objections phase). • If objections are received, the objections process is triggered and runs its course, and at the conclusion of this process the fishery may still be certified depending on adjudicator ruling. • The final decision to award certification is made by persons independent of the certifier audit team.	

Process Steps	Explanation	Timeline
OPC Meeting: Approval of Certification	OPC staff makes recommendation to Council for approval of certification (CA logo); Certification is granted to eligible fishery	After full assessment including the objections process
Traceability and Marketing	Traceability and marketing components are implemented. MSC's Chain of Custody Standard, the traceability element of the MSC program, is available	After fishery has completed MSC certification
Renewal Process	• Yearly surveillance audits; report produced annually and posted on MSC website. • 5-year recertification for fisheries • 3-years recertification for chain of custody	

Members of the California Sustainable Seafood Advisory Panel
The twenty-three panel members represent fish processors, restaurateurs, and commercial fishermen, members from non-governmental organizations, scientists and governmental officials. They include:

Fish processor, Trader, Retailer Representatives
Logan Kock, purchasing director, Santa Monica Seafood Company
Paul Johnson, Founder/Owner, Monterey Fish Market
Matthew Owens, director of Program management, business development, and internal operations, FishWise
Tim o'Shea, Co-founder/Chairman, CleanFish

Restaurant Representatives
Cynthia Walter, co-owner of Passionfish Restaurant in Pacific Grove, California.
Patricia Unterman, chef and co-owner of the Hayes Street Grill in San Francisco
Sam King, co-founder/President King's Seafood Company

Non Governmental Organization Representatives
David Anderson, Seafood Officer, Aquarium of the Pacific Seafood for the Future program
Marcela Gutierrez, Conservation advocacy and communications professional
Mark Gold, President of Heal the Bay
Teri Shore, Program Director, Turtle Island Restoration Network

Scientific Community Representatives
Sarah Glaser, Postdoctoral fellow, Department of Ecology and Evolutionary Biology, University of Kansas
Michael De Alessi, Professor, Stanford University
Sean Anderson, Assistant Professor of Environmental Science and Resource Management at California State Channel Islands

Fishery Management/Government Representatives
Jonathan Hardy, Officer of Senator Denise Ducheny
Mark Helvey, Assistant Regional Administrator for Sustainable Fisheries at NOAA's National Marine Fisheries Service Southwest Region
Rick Algert, former Harbor Director for the City of Morro Bay
Richard Parrish, retired, National Marine Fisheries Service
Paul Siri**,** former Associate Director of the University of California's Bodega Marine Laboratory

Commercial Fishing Representatives
Diane Pleschner-Steele, Executive director of the California Wetfish Producers Association
Pietro Parravano, President of the Institute for Fisheries Resources
Stephanie Mutz, Research coordinator for Commercial Fishermen of Santa Barbara
Wayne Heikkila, Executive director of the Western Fishboat Owners Association