MEMORANDUM

TO: Ocean Protection Council

FROM: Valerie Termini McCormick and Sam Schuchat

DATE: November 29, 2010

RE: California Sustainable Seafood Initiative – Phase 1

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
4) Summary of the inshore fisheries sustainability pilot, *"Navigating the Future."*
5) Marine Stewardship Council Fisheries Assessment Methodology and Guidance to Certification Bodies Including Default Assessment Tree and Risk-Based Framework

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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 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 to the OPC about developing a sustainable seafood program in California (Exhibit 2). Since March 2010, staff has been developing a draft protocol for advisory panel input to craft recommendations for implementing a sustainable seafood program in California.

This memo outlines a draft protocol to help guide California fisheries through a sustainable seafood certification process. This draft protocol will be open for public comment until January 18, 2011.

BACKGROUND:

Over the past few 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 overall marine biodiversity and 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 approaches that may inform national and international efforts. As a result of policies such as the Marine Life Protection Act and the Marine Life Management Act, many California fisheries are considered productive, sustainable, and well-managed. These programs 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 increased awareness and momentum. Such labels add value to fisheries due to market demand and 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 markets formerly not available to them without a sustainable eco-labeling program.[1]

Generally, eco-labeling programs evaluate the 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 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 while also supporting our coastal communities.

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 and to promote the purchase and consumption of certified sustainable California seafood. (See Section 1(a) of AB 1217 §1).

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

[1] Roeim C, *Thalassorama. Earlu 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

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 in California. This staff recommendation 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). It is the intent of this document to serve as a draft protocol that is available for public comment for a period of 70 days to solicit feedback about the voluntary program.

Ocean Protection Council Protocol for Sustainable Seafood Labeling
This protocol will describe the guidelines that the OPC will use to fund fisheries seeking a California Sustainable Seafood Certification, how the OPC will assist in the certification process, and how fisheries will be selected for certification. This protocol is intended to be a living document and will be reviewed and updated regularly. The California sustainable seafood eco-label criteria were developed following consultation with advisory panel members between May 2010 and November 2010. This consultation included three regional meetings and several expert speakers.

I. DRAFT SUSTAINABLE SEAFOOD PROTOCOL

Scope of protocol

The foundation of the California sustainable seafood initiative will be the Marine Stewardship Council (MSC) certification program for sustainable seafood. The MSC standards meet or exceed the Guidelines for the Eco-labeling of Fish and Fishery Products from Marine Capture Fisheries promulgated by the FAO. In the view of OPC staff, MSC is the most appropriate foundational system because MSC:

- Has been established;
- Certification status and performance indicators are maintained and improved by the MSC;
- Meets the requirements of AB 1217;
- Helps avoid consumer confusion;
- Includes third-party verification, 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.

The OPC may assist state and federally-managed California fisheries (fish landed in California by California licensed fishermen) who qualify to become certified for full MSC certification. It is the intention of the OPC to support the sustainable fishing practices of California fishermen as well as the coastal communities they in turn support. Fisheries that are found to be in good standing following the coast-wide pre-assessment

may be eligible to receive funding to begin the MSC full certification process. This certification will also include a California component that adds specific conditions to the already rigorous MSC criteria. 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 label are limited to only wild capture marine fisheries at this time. As noted in AB 1217, seafood produced through aquaculture or fish farming shall not be certified as sustainable until nationally or internationally accepted sustainability standards have been developed and implemented.[3]

In order for a fishery to receive the "California Sustainable Seafood" label, it must meet all of the following guidelines (each of these guidelines is described in greater detail in section II below):

Pre-assessment

Subject to the availability of funds and OPC approval, OPC will fund a coast-wide pre-assessment to generate a snapshot of California state and federal commercial fisheries. The pre-assessment will measure California fisheries against the MSC environmental standard for well-managed fisheries[4]. The OPC pre-assessment will be modeled after the pilot study performed in the United Kingdom (UK), which assessed a number of commercially important fisheries in a large region of the UK. This pre-assessment will identify strategies for improving management and will 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.

Full Assessment (MSC + California Standards)

Marine Stewardship Council Criteria

OPC will use the MSC criteria as the foundational certifying mechanism for a California sustainable seafood certification program as thus far it has been shown to be the most robust certification scheme to date. Fisheries will be scored against the MSC methodology and the California standards (described below).

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.

The MSC methodology also includes chain of custody requirements for certifying seafood as sustainable. MSC-accredited third-party certifiers will undertake the certification of chain of custody verification for fish and fish products originating from fisheries certified to the MSC Principles and Criteria for well-managed fisheries.

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[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

[4] MSC Fishery Standard: Principles & Criteria and Criteria for Sustainable Fishing. Date of issue: 1 May 2010

California Standards

Due to increasing concern about the true sustainability of some fisheries certified through the MSC process, two important performance indicators were selected to require a higher score than MSC currently requires. These performance indicators are related to stock status and the by-catch of endangered, threatened and protected (ETP) species. Current MSC methodology requires a 60% score; the fisheries wishing to receive both the California label and OPC funding to go through the full MSC certification process must meet an 80% score in the pre-assessment for stock status and by-catch of ETP species. The specifics of this will be addressed in section II. Requiring California fisheries to meet these standards will help to ensure that only truly sustainable fisheries in California are certified and labeled as sustainable.

The California standards will also include a robust traceability component. In addition to the MSC chain of custody requirement, the California traceability component 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 traceability 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.

Funding

Subject to the availability of funds and OPC approval, 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.

II. CALIFORNIA SUSTAINABLE SEAFOOD CERTIFICATION STEPS

As mentioned above, each fishery that would like to participate in the program must go through a pre-assessment to determine the sustainability of the fishery. If the fishery meets the criteria, the fishery may then be eligible to receive funding from the OPC to go through the full MSC assessment. The fishery must meet the California criteria as well as participate in the increased traceability program to receive funding for this program. Fisheries who do not meet the 80% requirement on performance indicators will not qualify for the California label. Each of these steps is described in more detail below.

a) Pre-assessment

The OPC will consider funding an initial assessment of California commercial fisheries. This study will assess each fishery's stocks, environmental impacts and management against MSC standards. The pre-assessment may be loosely based on a similar study conducted in the United Kingdom, entitled, *"Navigating the Future:" Developing Sustainable Inshore Fisheries. The UK Inshore Fisheries Sustainability Project Summary Report*. The summary of that pilot is attached as Exhibit 4.

Study components (as conducted by the UK Study):
The key elements of the pre-assessment of California fisheries may include the following:

- **Scoping exercise** – collection and preliminary analysis of available quantitative and qualitative information on the local fisheries, stocks exploited, and the marine environment off the coast of California.
- **Selection of fisheries** –inclusion of as many California fisheries as possible in the pre-assessment. In the case of limited funding, participation in the pre-assessment will be determined by key factors such as size and economic value of fishery, fleet and gear participation, industry and management interest, and future potential.
- **Documentation of fisheries** – preparation of a synopsis of each selected fishery – by species and by gear – based on published information, supplemented by available statistical data and information from interviews with representatives of industry and managers.
- **Pre-assessment** – initial assessment of each selected fishery (species / gear combination) to provide a preliminary determination of how closely each fishery might match up to the MSC standards. This would include identifying where stock status and/or fishing practice either falls short or meets the acceptable standards, where each may fall within the scope of the standard but below "good practice," and where each met or exceeded "good practice."
- **Ranking of fisheries** – use of information generated by the pre-assessment process to group the fisheries according to those ready for full assessment to the MSC standard, those that could be entered for assessment following relatively minor corrective work, those that could reasonably be entered for assessment in the medium term but following significant work, and those for which a longer term program of work would be required if the fishery were to be expected to meet the standard.
- **Identification of strategic issues** – capture of the strategic issues revealed as a result of the systematic auditing of fisheries against the MSC assessment framework.

• **Outlining of research and development plan** – use of audit findings to draw up a program of remedial work, together with elements of prioritization based on need, benefit and costs[5].

This pre-assessment will also:

- 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 fisheries that are ready for MSC certification, could easily be made ready for certification, or that need significant reforms to be considered for certification.

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. This pre-assessment precedes the MSC full assessment and may be kept confidential.

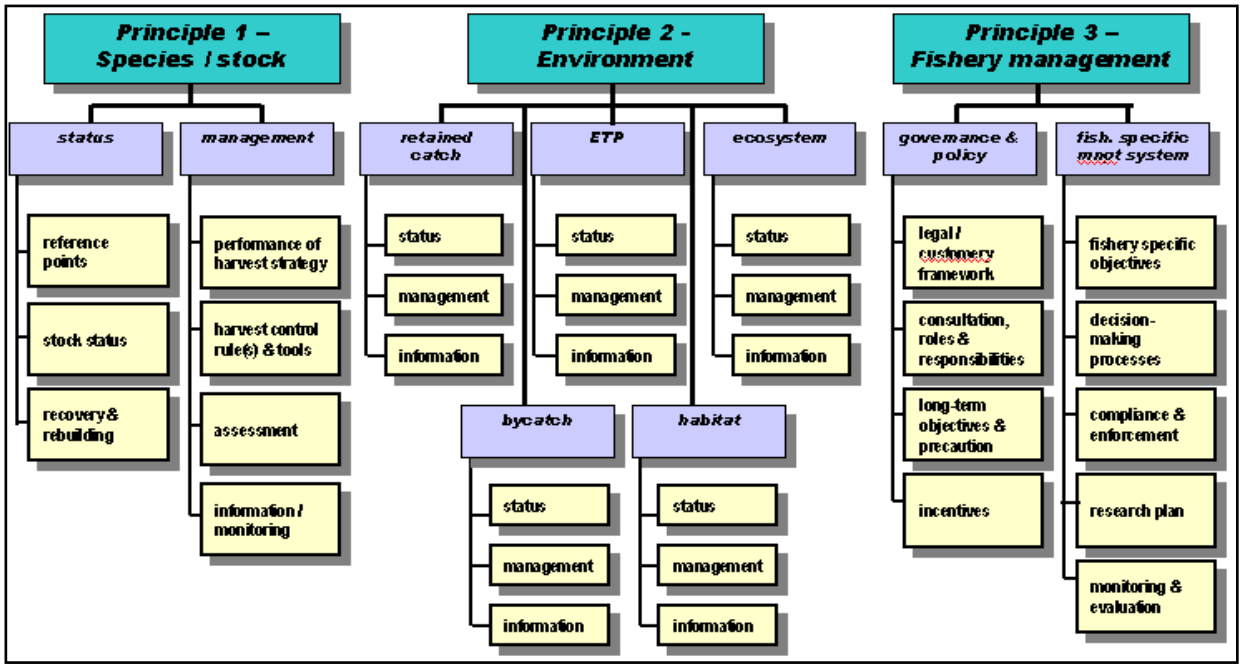

Figure 1: From: Dapling et al. 'Navigating the Future'. Developing Sustainable Inshore Fisheries. The UK Inshore Fisheries Sustainability Project Summary Report. Sussex Sea Fisheries Committee, Shoreham-by-Sea. Sussex

b) Fisheries Selection

The pre-assessment will sort California's fisheries into categories based on how viable they are for MSC certification. Based on the results of this analysis, the OPC will support and encourage fisheries meeting the requirements for performance indicators (listed above) as well as meeting the California requirement of attaining an 80% score on stock status and by catch of ETP species. In addition, California fisheries that pass the certification will then be eligible to participate in a marketing program (with OPC and the

[5] Dapling T.M., Clark R.W.E., & Vause B.J., Medley, P., C.R.C. Carleton (2010). '*Navigating the Future*'. Developing Sustainable Inshore Fisheries. The UK Inshore Fisheries Sustainability Project Summary Report. Sussex Sea Fisheries Committee, Shoreham-by-Sea. Sussex.

Department of Food and Agriculture, [as required by AB 1217]) and obtain the California logo affixed to their fishery product. For fisheries that are not yet ready for the full MSC certification, the OPC will encourage the fishery to pursue fishery and management reforms that will result in the fishery becoming more sustainable. The OPC may also be interested in developing programs to help the fisheries who are not yet ready for certification develop new types of fishing gear or engage in collaborative fisheries research.

c) Marine Stewardship Council Criteria

The Marine Stewardship Council (MSC) is a non-profit, non-governmental, international organization established in 1996 as a way to reduce overfishing through market incentives. The MSC has also developed a logo that informs consumers that when they buy seafood products with the MSC logo, they are supporting fisheries that meet their criteria for sustainable fishing. The World Wildlife Fund (WWF) teamed up with Unilever, a multi-national corporation, to create the MSC.[6] In addition, the MSC has developed "Principles and Criteria" (Exhibit 3) to measure fishing practices in addition to developing traceability programs that demonstrate the fish MSC certifies are in fact caught from the certified fishery.

Steps 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 certification body). Once the certifier has been appointed, the assessment process can start:

- **Pre-assessment:** A confidential 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.

- **Preparation:** We recommend 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.

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

The MSC bases its decision to certify fisheries on the Principles and Criteria for sustainable fishing. The criteria aim to promote responsible, environmentally appropriate, socially beneficial, and economically viable fisheries practices, while maintaining the biodiversity, productivity, and ecological processes of the marine environment through three principles. These criteria are based on three principles (outlined below) and 31 performance indicators. AB 1217 states that certified fisheries must conform to all of 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[7] 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.[8]

Intent: The intent of this principle is to ensure that the productive capacities of resources are maintained at high levels and are 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.

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[7] The Principles & Criteria are intended to guide the efforts of the Marine Stewardship Council towards the development of sustainable fisheries on a global basis. They were developed assuming that a sustainable fishery is defined, for the purposes of MSC certification, as one that is conducted in such a way that: it can be continued indefinitely at a reasonable level; it maintains and seeks to maximize, ecological health and abundance, it maintains the diversity, structure and function of the ecosystem on which it depends as well as the quality of its habitat, minimizing the adverse effects that it causes; it is managed and operated in a responsible manner, in conformity with local, national and international laws and regulations; it maintains present and future economic and social options and benefits; it is conducted in a socially and economically fair and responsible manner. MSC Fishery Standard: Principles & Criteria and Criteria for Sustainable Fishing. Date of issue: 1 May 2010, pg 4

[8] MSC Fishery Standard: Principles & Criteria and Criteria for Sustainable Fishing. Date of issue: 1 May 2010, pg 5 Criteria: 1. the fishery shall be conducted at catch levels that continually maintain the high productivity of the target population(s) and associated ecological community relative to its potential productivity. 2. Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame. 3. Fishing is conducted in a manner that does not alter the age or genetic structure or sex composition to a degree that impairs reproductive capacity.

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.[9]

d) MSC scoring process

The assessment process involves scoring 31 different performance indicators. 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.[10]

- *"The flexibility in the MSC evaluation methodology is achieved in two ways: first, the scientists conducting an evaluation translate the MSC Principles and Criteria into a set of sub-criteria and performance indicators to provide appropriate and specific measures of performance for the fishery or fisheries being assessed. In addition, a set of "scoring guideposts" is provided to describe the basis by which fisheries will be measured against the indicators. Once the sub-criteria, indicators, and scoring guideposts are finalized, the evaluation team of scientists prioritizes and weights the sub-criteria and indicators to indicate the importance of each of the factors to the overall sustainability of the fishery or fisheries.*
- *Sets of sub-criteria and performance indicators are provided under each of the three MSC Principles. Sub-criteria are not used as specific measures of performance; they are more refined categories of inquiry under MSC Principles and Criteria. A fishery is only measured against individual performance indicators. Under the MSC assessment protocols, each indicator must receive a score between 0 and 100. Therefore, scoring guideposts are provided to illustrate what the assessment team will be looking for in assigning scores to an indicator."*[11]

Criticism of MSC

As mentioned above, there is criticism of the MSC certification practices from environmentalists, non-governmental organizations, and scientists about the credibility of the sustainable label. For example, the 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 has recently experienced a population crash. This fishery was

[9] MSC Fishery Standard: Principles & Criteria and Criteria for Sustainable Fishing. Date of issue: 1 May 2010

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

[11] Chaffee Chet, et al. MSC Assessment, Southlake's and Corrong Fishery; Final performance Indicators and Scoring Guideposts. June 30, 2005. South Lakes and Coorong Fishery Assessment. Page 2

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.[12] 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 came from 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 knowledge.

Most of the criticisms about the MSC certifications have to do with third party certifiers scoring fisheries high when there is little information about the fishery to be considered sustainable, or the fishery experiences large population fluctuations and does not have the certification label removed while the population is in question. 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, most likely after an independent scientific review by the Ocean Protection Council Science Advisory Team. This is an additional safeguard against potentially controversial certification decisions.

e) California Standards

Due to this growing concern about the rigor and actual sustainability of fisheries being certified by the MSC, (scoring by third party certifiers and a growing debate in scientific journals [such as *Nature*] on the issue of MSC scoring), OPC staff suggests that in addition to meeting the above-mentioned MSC criteria, California fisheries also meet a higher threshold for two performance indicators than currently set by MSC. California fisheries wishing to receive funding from the OPC for full MSC certification, obtain the California label, and participate in the marketing program, must exceed MSC's current 60% threshold[13] on stock status and by-catch of ETP species with a required a score of 80% for stock status and by-catch of ETP species. The OPC will not fund the certification of any fishing entity that does not meet these thresholds (which will be identified in the pre-assessment).

The two performance indicators in question are found in the MSC chart below (figure 2) in Principle 1 and Principle 2:

[12] 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

[13] Scoring guideposts labeled as '100' indicate the best performance achievable for an indicator. This is the highest mark any fishery could be expected to receive. The '80' scoring guidepost references the level of acceptable performance for an indicator; whereas, the '60' scoring guidepost indicates the minimal threshold allowable in an MSC evaluation. 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.

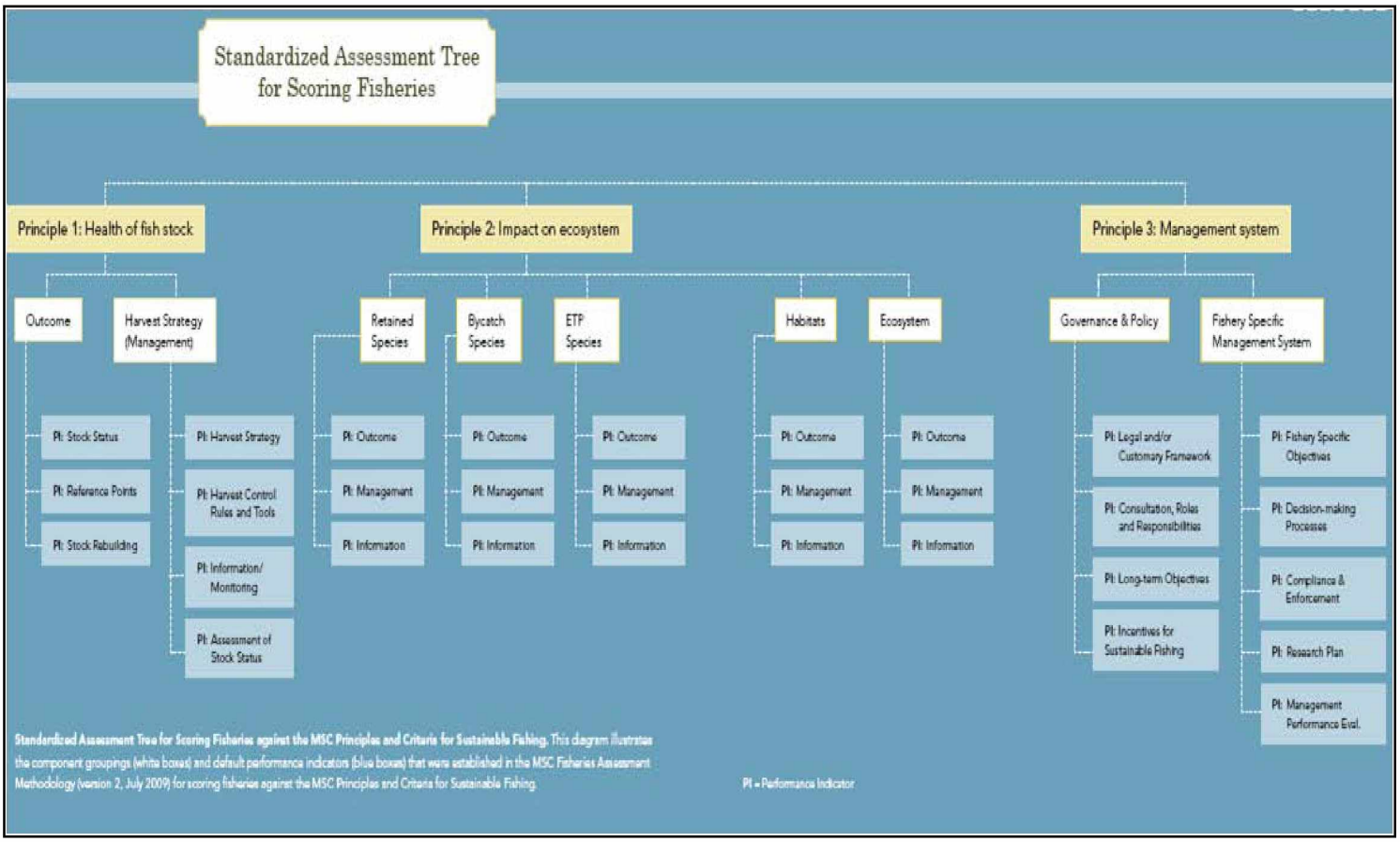


Figure 2 MSC Assessment Tree for Scoring Fisheries

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 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 this 80% benchmark 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.

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 this 80% benchmark 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.

f) Traceability

Understanding the seafood industry supply chain is a critically important component to any "eco-label" program. In order for California to have a robust and transparent seafood certification program, being able to trace the fish back to a California sustainable fishery 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, transshipped 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.[14]

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.

California fisheries that are certified as sustainable will comply with both the MSC chain of custody standards for traceability[15] (see link below) as well as additional California components that will help to showcase how each fishery meets the standards. The development of a successful traceability program will be undertaken with the

[14] 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>
[15] MSC Chain of Custody Standards, Date of issue: 1 May 2010

involvement of California fishing stakeholders. Capacity building, training, and information sharing will be critical for the program to function.

g) Marine Stewardship Council Chain of Custody

The MSC chain of custody standard is intended to be used on a global basis by MSC-accredited third-party certifiers to undertake the certification of chain of custody verification for fish and fish products originating from fisheries certified to the MSC Principles and Criteria for well-managed fisheries. The objective of chain of custody certification is to provide an assurance for suppliers to demonstrate and claim that products originate from an MSC certified fishery and minimize the risk of public confusion. The MSC chain of custody standards focuses on the following elements to demonstrate the traceability of the fishery:

- Control system (Section 1)
- Confirmation of inputs (Section 2)
- Separation and/or demarcation of certified and non-certified inputs (Section 3)
- Secure product labeling (Section 4)
- Identification of certified outputs (Section 5)
- Record keeping (Section 6)
- Calculation of percentage of certified and non-certified fish inputs (for flavoring purposes) (Annex 1)

h) California Traceability Components:

Along with the traceability standards set by the MSC, certified California fisheries may also include a robust and innovative traceability aspect[16] which will provide additional information to the consumer regarding[17]:

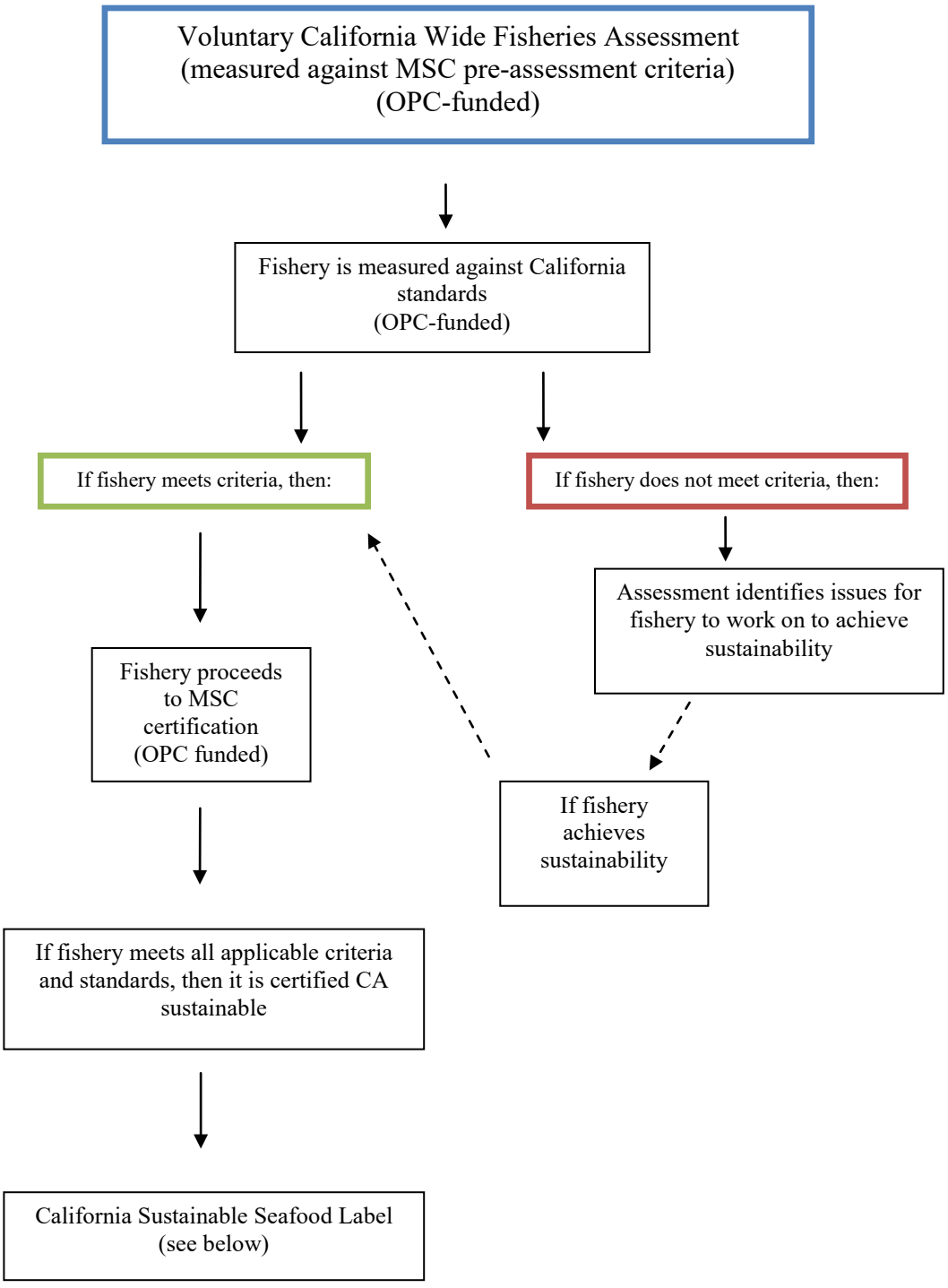
- Promotes California Coastal Communities
  - List the port of origin
  - Landed in California/California permit holder
  - Links to a community fishing organization (CFA)
- Fishing technique used/Gear Type
  - Hook and line, traps, selective trawl, etc
  - Area where fish was caught
- Caught by whom
  - Name the captain, and/or fisherman /vessel
  - Link to Community Fishing Association website
  - Link to fishery website
- Date caught
  - Date that fish was 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
  - OPC will work with OEHHA to upgrade their site to include ocean caught fish: http://www.oehha.ca.gov/fish.html
- Other Traceability Aspects
  - Link to a website; Facebook page/Twitter/etc – become a 'fan' of CA fish
  - Links to research on fisheries issues
  - Link to state and federal fishery regulations

[16] The label itself will include the MSC label, something to indicate it is from CA, and the name of the port where it was landed. Additional information will be available to the consumer over the Web.

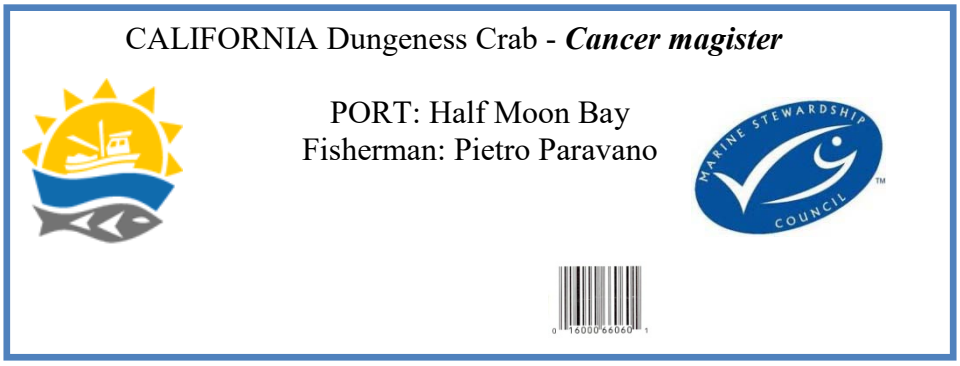
[17] Traceability information would be available on a website and accessible via a bar code on each California Sustainable Seafood Certified product or package.

i) Process

Below is a process for a generic California fishery to become certified as a 'California sustainable seafood fishery'



DRAFT Example of the California Label:



The intent is that consumers can use a smart phone to click on barcode to retrieve traceability aspects, or later visit the website and enter the barcode there for more information.

Traceability aspects may include:

- Coastal Community Support
  - List the port of origin
  - Landed in California/California permit holder

- Fishing technique / Gear Type used:
  - Hook and line, traps, trawl, etc
  - Area where that fish was caught

- Caught By whom
  - Name the Captain, fishermen /vessel
  - Link to the Community Fishing Association website
  - Link to fishery website

- Date Caught
  - Date that fish was 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 will commission a study on toxins along the California coast aimed at fish consumption
  - We will work with OEHHA to upgrade their site to include ocean caught fish: http://www.oehha.ca.gov/fish.html
- Other?
  - Link to a website; facebook page/twitter/etc – become a 'fan' of CA fish?
  - Link to MSC traceability criteria
  - Link to research on fisheries issues
  - Link to state and federal fishery regulations

III. ADVISORY PANEL PROCESS

The OPC CSSI Advisory Panel (Panel) was appointed by the OPC in March 2010 and 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 three times to provide input and feedback on: (1) a California protocol approach, (2) traceability of seafood, and (3) marketing a sustainable seafood product in California.

The twenty-three panel members represent fish processors, restaurateurs, 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, Marine Conservation Program Manager WiLDCOAST
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-Steel, 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

Comments on the OPC Sustainable Seafood draft protocol can be submitted to Valerie Termini at vtermini@scc.ca.gov until January 18, 2011. Staff will synthesize and incorporate relevant public comment into a final protocol to be considered by the OPC at a later date.