



Surveillance Report

PACIFIC HAKE MIDWATER TRAWL FISHERY

USA EEZ Waters

Certificate No.: MML-F-092

Canadian EEZ Waters

Certificate No.: MML-F-091

Intertek Moody Marine Ltd.

30 September 2011

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1.0 GENERAL INFORMATION

Scope against which the surveillance is undertaken: MSC Principles and Criteria for Sustainable Fishing as applied to the PACIFIC HAKE MID-WATER TRAWL FISHERY.

Species: *Merluccius productus*

Area: US Pacific EEZ waters of Washington, Oregon and California and Canadian Pacific EEZ waters

Method of capture: Midwater trawl

Date of Surveillance Visit:	20 – 23 September 2011			
US Fisheries Initial Certification	Date: 13th October 2009		Certificate Ref: MML-F-092	
Canadian Fishery Initial Certification	Date: 13th October 2009		Certificate Ref: MML-F-091	
Surveillance stage	1st	2ⁿ	3rd	4th
Surveillance team:	Lead Assessor: Steven Devitt Assessors: Mark Pedersen, Max Stocker, Jeremy Collie			
US Fisheries Client 1 Name: Address:	Pacific Whiting Conservation Cooperative 4039 21st Avenue West, Suite 400 Seattle, WA 98199			
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Canadian Fishery Client Name: Address:	Association of Pacific Hake Fishermen 2295 Commissioner St Vancouver, BC V5L 1A4 Canada
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2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

This report contains the findings of the second surveillance audit in relation to the Pacific Hake mid-water trawl fishery in the US EEZ off Washington Oregon and California and the EEZ off the Pacific Coast of Canada. Pacific hake are also known as Pacific whiting and the terms will be used interchangeably in this document. The surveillance audit was carried out in accordance with the Marine Stewardship Council (MSC) Fisheries Certification Methodology (FCM) Version 6 and applicable Technical Advisory Board directives and policy advisories.

An announcement of the surveillance site visit was published on the MSC website on 23rd August, 2011 advising stakeholders that the second annual surveillance audit site visit would take place on the 21 – 23rd September, 2011 in Seattle, Washington. The announcement can be seen at the following website: http://www.msc.org/track-a-fishery/certified/pacific/pacific-hake-mid-water-trawl/assessment-downloads-1/23.08.2011_Pacific_Hake_Surveillance_Audit_Announcement.pdf.

The surveillance team – Steve Devitt (in person), Max Stocker and Mark Pedersen (via teleconference) - met with Fisheries and Oceans (DFO) management and scientific personnel, Robyn Forrest, Melissa Evanson, Barry Ackerman and Chris Grandin at DFO Regional Headquarters in Vancouver on 20 September 2011. The following day, all three of the team met with personnel of the National Marine Fisheries Service including Melissa Haltuch, Alan Hicks and Ian Stewart in the morning and with Dayna Matthews, of NOAA Enforcement in the afternoon. On 22 September 2011, the team met with members of the fishery management team from NOAA Northwest Region, including Jamie Goen, Becky Renko and Kevin Duffy. A subsequent phone meeting was held with John DeVore of the Pacific Fishery Management Council (PFMC). On September 23, the team met via conference call with Mike Burner of the PFMC, in his capacity as Staff Lead of the Ecosystem Plan Development Team. The client close-out meeting was held from 1:00 – 3:00pm, September 23rd. Jeremy Collie did not attend the site visit but reviewed information provided by the clients with respect to Principle 2, participated in the re-scoring of relevant Performance Indicators (PIs) and reviewed the final surveillance report.

Additional follow up information requested by the team was received from the Department Fisheries and Oceans (DFO) on October 8th. Information and evidence was gathered on the status of the stock, the performance of the fishery throughout the year, measures to meet the Conditions of Certification and changes in management.

The following section is set out as a table within which general information about the status of the stock and the fishery for this reporting period is provided along with the surveillance team's observations, conclusions and recommendations on the current status of the fishery and the client's progress toward meeting the Conditions of Certification.

The table includes the original assessment scoring guideposts and scoring commentary and the requirements of the original Condition. This identifies the areas in which the fishery was determined to perform below the level required by the MSC standard during the initial assessment, and the required actions to address these issues.

As required by the MSC assessment methodology, the clients produced an Action Plan setting out the stages involved in addressing the Conditions raised. This is set out in the table below the heading "Client Action Plan". The table also identifies the surveillance audit year deadline for deliverables related to closing out the conditions and identified which clients are responsible for the action plan.

According to the terms of the Action Plan, the client has provided information on the work undertaken to date in the second surveillance period.

This progress has been evaluated by the Intertek Moody Marine (IMM) surveillance team and is reported for each performance indicator with a condition. The team defines the activity completed in current surveillance cycle, evaluation against the terms of the condition (milestone deliverables, timeline, results). Finally, the team identifies the status of the condition as of this surveillance audit. The following table summarizes the current status of conditions as of the second surveillance audit.

Condition/ Responsible Client	Deliverable Due (Surveillance Audit No.)	Interim Milestones Prescribed?	Progress Evaluation	Status
Principle 1 Conditions and Status				
1/ US & Canada	2	None	Progress observed	Behind target
2/ US & Canada	3	None	Progress observed	Due at 3 rd Surveillance Audit (SA)
3/ US & Canada	2	None	Preparation started, no formal agreement to for new Treaty committees to conduct necessary work to meet condition	Behind target
Principle 2 Conditions and Status				
4/ US	2	None	Completed	Closed out
5/ US & Canada	2	None	Completed	Closed out
6/ US & Canada	4	Yes – 2 nd SA	2 nd SA milestone met	Due at 4 th SA
7/ US & Canada	4	Yes – 2 nd SA	US milestone met, Canadian fishery is behind target.	Due at 4 th SA
8/ US & Canada (Same as 7)	(Same as 7)	(Same as 7)	(Same as 7)	Due at 4 th SA
9/ US & Canada (same as 7)	(Same as 7)	(Same as 7)	(Same as 7)	Due at 4 th SA
Principle 3 Conditions and Status				
10/ US	2	None	Completed	Closed out
10/ Canada	2	None	Completed	Closed out
11/ US	2	None	Completed	Closed out
12/ US	3	None	Progress observed	Due at 3 rd SA
13/ Canada	2	None	Completed	Closed out
14/ US	3	None	Progress observed	Due at 3 rd SA
15/ Canada	2	None	Completed	Closed out

The influence of any overall regulatory and management changes in the fishery are also taken into consideration.

When the Condition has been judged to have been met, a re-evaluation of the scoring allocated to the relevant Performance Indicator(s) in the original MSC assessment will be included within the evaluation.

Item	Comments regarding <i>M. productus</i> off WA OR CA coast and Canadian EEZ
1	Stock status
Observations	<p data-bbox="335 387 715 409"><u>2011 Pacific Whiting Stock Status</u></p> <p data-bbox="335 443 1452 499">The following summary was adapted from the 2011 Stock Assessment of Pacific Hake in U.S. and Canadian Waters and the 2011 Joint U.S. – Canada STAR Panel Report.</p> <p data-bbox="335 533 1452 824">The joint U.S.-Canada Stock Assessment Review (STAR) accepted the draft stock assessment that had been prepared by the joint Canada-U.S. stock assessment team (STAT). In contrast to previous years where the two assessment models produced divergent results, the 2011 assessment revealed: (1) better agreement in fit to the acoustic survey biomass between the models than in previous years; (2) closer alignment in the spawning biomass trajectories and their associated confidence intervals; (3) closer agreement in depletion at the beginning of the time series (while depletion at the end of the time series became more divergent); (4) improved agreement in the recruitment time series; (5) closer agreement of recruitment deviations in log space; and (6) much closer agreement in the fishing intensity time series. Overall, it was observed that current spawning biomass estimates and the associated confidence intervals showed good agreement between the two models, although uncertainty remained large for both models.</p> <p data-bbox="335 857 1452 1328">Following the 2010 assessment, nearly all of the data sources available for Pacific hake have been reconstructed and thoroughly re-evaluated for 2011 from the original observations using consistent, and in some cases improved methods. In all cases small changes have occurred relative to data used for previous stock assessments; however the current results represent the best available information. Catches from all sectors and both nations were reconstructed from 1966 through 2010. Age-composition information is available from 1975-2010. The acoustic survey time-series was re-analyzed from the raw data, and kriging has been applied in order to provide a more robust estimate of total biomass as well as a measure of the annual sampling variability due to patchiness of hake schools and irregular transects. This has led to the conclusion that survey efforts prior to 1995 failed to sample a sufficient portion of the stock to be comparable with more recent surveys and that a reasonable estimate of the variance for those early years would render them uninformative for the stock assessment. The uncertainty in the 2009 acoustic survey biomass estimate attributable to the presence of large numbers of Humboldt squid has been quantified and explicitly included in the time-series. Age- and length-composition information from the acoustic survey has been re-processed to be consistent with the revised time-series, and the survey team's investigation into haul representativeness and survey stratification has supported their continued use in the stock assessment.</p> <p data-bbox="335 1361 1452 1597">This assessment reports two models representing the collective work of the Joint Technical Working Group (JTWG). Extensive efforts to compare and revise both the Stock Synthesis and TINSS models from the 2010 assessment have been conducted. Both assessments depend upon the acoustic survey index of abundance, the aggregate fishery age-composition data and the age-composition data from the acoustic survey. Both models are fully Bayesian, incorporating prior information on key parameters and integrating over estimation and parameter uncertainty to provide results that can be probabilistically interpreted. The results from both models are presented in parallel throughout the stock assessment document, and the likely causes of observed differences are discussed in the document.</p> <p data-bbox="335 1630 1452 1910">Both stock assessment models indicate that the Pacific hake female spawning biomass was well below equilibrium at the start of the fishery and during the 1970s. The stock increased rapidly after two or more large recruitment events in the early 1980s and then declined rapidly after a peak in the mid- to late 1980s to a low in 2000. This long period of decline was followed by a brief increase to a peak in 2003 (1.44 million mt in the SS model and 1.75 million mt in the TINSS model) as the exceptionally large 1999 year class matured. In 2011 (beginning of year), spawning biomass is estimated to be rebounding rapidly based on the strength of recent year classes (2005, 2006 and particularly 2008, in both the SS and TINSS models), however this estimate is quite uncertain, with 95% posterior credibility intervals ranging from historical lows to well above equilibrium levels. Current median posterior spawning biomass equates to approximately 91% (SS model) or 175% (TINSS model) of the unfished level (<i>S_{B0}</i>). Estimates of</p>

uncertainty in current relative depletion are extremely broad, from 35%-203% of unfished biomass in the SS model and 75%-409% in the TINSS model. The estimate of spawning biomass for 2011 is 1.87 million mt in the SS model and 2.18 million mt in the TINSS model, both much larger than the 0.48 million mt estimated by the SS model in 2010 without information about the above-average 2008 recruitment. The 2010 TINSS median posterior estimate was 0.34 million mt. Model-averaged posterior median estimated 2011 spawning biomass (assuming equal weight for each model) was 2.03 million mt (0.72-5.14). This corresponds to a model-averaged posterior median 2011 depletion level of 126% (42%-350%).

At the March 2011 Council meeting, the Council's Scientific and Statistical Committee (SSC) reviewed the Pacific whiting stock assessment, which was based on the two models identified above. The SSC recommended both model results as equally plausible and recommended key management quantities such as the maximum sustainable yield harvest level and stock depletion in 2011 (126 percent of virgin biomass) be derived using model-averaging with equal weight. Using this approach, the stock assessment estimated that the Pacific whiting biomass was at 126 percent of its unfished biomass in 2011.

Harvest Recommendations

The following has been adapted from the 2011 Final Rule (50 CFR Part 660 RIN 0648-BA01 and 0648-BA95)

The U.S. harvest levels analyzed in the FEIS for 2011 and 2012 specifications and management measures varied between a low of 96,969 mt and a high of 290,903 mt. This range represents 50 to 150 percent of the 2010 U.S. Optimum Yield (OY) of 193,935 mt. These broad ranges in Pacific whiting harvest levels were analyzed in order to assess the potential range of the effects of the harvest of Pacific whiting on incidentally caught overfished species, and the economic effects to coastal communities. The Council adopted the Pacific whiting stock assessment (Stewart et al., 2011) recommended by the STAR panel and the SSC. After consideration of additional input from Council advisory bodies and public comment, the Council adopted a coastwide (U.S. plus Canada) OFL of 973,700 mt for 2011 and a coastwide ACL of 393,751 mt. The final Overfishing Level (OFL) and ACL values recommended by the Council for 2011 are based on the new stock assessments, and are consistent with the U.S.-Canada agreement and the impacts considered in the FEIS for the 2011 and 2012 management measures.

The U.S. share of the OFL is 719,370 mt (or 73.88 percent of the coastwide OFL). The U.S. share of the ACL is 290,903 mt (or 73.88 percent of the coastwide ACL). The Canadian allocation is 26.12 percent or 97,565 mt of the coastwide ACL.

Tribal Allocations

The 2011 final rule establishes the tribal allocation of Pacific whiting for 2011. Since 1996, NMFS has been allocating a portion of the U.S. OY of Pacific whiting to the tribal fishery using the process established in 50 CFR 660.50 (d)(1). The tribal allocation is subtracted from the total U.S. Pacific whiting OY before it is allocated to the non-tribal sectors. The tribal Pacific whiting fishery is a separate fishery, and is not governed by the limited entry or open access regulations or allocations. To date, only the Makah Tribe has prosecuted a tribal fishery for Pacific whiting. For 2011, both the Makah and Quileute have stated their intent to participate in the Pacific whiting fishery. The Quinault Nation has indicated that they do not plan to participate in the 2011 fishery, unless their circumstances change.

This final rule is not intended to establish any precedent for future Pacific whiting seasons, or for the long-term tribal allocation of whiting. Based on the formula for the tribal allocation used in the proposed rule, and taking into account public comments received on the proposed rule, the tribal allocation of Pacific whiting in 2011 is $[17.5 \text{ percent} * (\text{U.S. ACL})] + 16,000 \text{ mt}$. With a U.S. ACL of 290,903 mt, the tribal allocation for the 2011 tribal Pacific whiting fishery is 66,908 mt.

Non-Tribal Allocations

The 2011 commercial (non-tribal) harvest guideline (HG) for Pacific whiting is 220,995 mt. This amount was determined by deducting from the total U.S. ACL of 290,903 mt, the 66,908 mt tribal allocation, along with 3,000 mt for research catch and bycatch in non-groundfish fisheries. These Pacific whiting

fishery allocations are described in regulations at Table 1a to Part 660, subpart C, and footnote e/ and are being revised with this final rule. Regulations at 50 CFR 660.55 (i)(2) allocate the commercial HG among the nontribal catcher/processor, mothership, and shorebased sectors of the Pacific whiting fishery. The catcher/processor sector is allocated 34 percent (75,138 mt for 2011), the mothership sector is allocated 24 percent (53,039 mt for 2011), and the shorebased sector is allocated 42 percent (92,818 mt for 2011). The fishery south of 42° N. lat. may not take more than 4,641 mt (5 percent of the shorebased allocation) prior to the start of the primary Pacific whiting season north of 42° N. lat.

Regarding the shorebased sector, NMFS issued a temporary rule under emergency authority on December 30, 2010 (75 FR 82296) implementing interim measures for the Pacific coast groundfish fisheries beginning in January, 2011. The measures were necessary due to a delay in the finalization of the 2011-2012 harvest specifications and management measures. As part of the December 30, 2010 emergency action, 18,467 mt of Pacific whiting was allocated to the shorebased sector. Therefore, this final rule provides an additional 74,351 mt of Pacific whiting to the shorebased sector, so that the total 2011 amount is 92,818 mt.

2010 Fishery

The 2010 U.S. fishery caught over 160,000 mt (over 85 percent of the U.S. OY). Catcher-processor vessels fished from the May 15 start of the season through to December. Bycatch rates were generally not a problem, although known areas of high historical bycatch were still (anecdotally) being avoided. For periods during the fishing season and in certain areas of the coasts, many fishermen found it difficult to avoid the large schools of age-2 hake (200-300 grams, presumed to be the 2008 year class) present off the U.S. coast. There were reports that increased search time resulted from efforts to avoid the schools of smaller fish. This was especially so for the shore-side fishery, which due to the presence of these small fish and to avoid bycatch of canary rockfish opted for a voluntary stand-down between June 30 to July 20. Some processors were able to make changes during the season in order process the smaller fish. The U.S. tribal fishery reported a reduced amount of hake in their fishing areas and generally smaller sized fish.

Canada established the 2010 Canadian TAC at 68,565 mt, or 26.12 percent of the coast-wide OY taking into account the 2010 assessment, and in agreement with actions of the PFMC on setting the coast-wide OY. The carry forward from the 2009 season was 5,877 mt resulting in a total allowable harvest of 74,442 mt. This was allocated as 65,942 mt for delivery to shore-based facilities and 8,500 mt for delivery in to joint-venture fleet. The total catch for each fleet was 48,833 mt and 8,242 mt respectively, giving a total of 57,075 mt, or 77.0 percent of the 2010 quota. Since 23 percent of the quota was not captured in 2010, the Canadian fishery will carry over the maximum 15 percent into the 2011 season, as an average allowance for 2011.

The Canadian fishery commenced in late April off the west coast of Vancouver Island. From mid-July to mid-August the fishing in the traditional area around La Perouse Bank limited due to presence of large quantities of small Hake in the area. The fishing fleet effort moved more westerly off the edge of the shelf where larger fish were found, however higher bycatch rates particularly of Yellowtail Rockfish were encountered. Vessels in the fleet are held individually accountable and responsible for the all catch and to many the increased bycatch proved to a major point of concern and affected fishing plans. The small fish presence resulted in many vessels to venture to more northerly waters into Queen Charlotte Sound. This resulted in deliveries into Port Hardy and the catch then shipped via trucks to Vancouver. This spatial shift of the fishery has been ongoing since 2008. The fleet moved back near the traditional grounds from August through October. Fishers continued to report the need to avoid large schools of small Hake (thought to be Age 2) in the area.

Humboldt squid – In contrast to 2009, H. squid occurred in much lower amounts in 2010. H. squid were very problematic in 2009; for example, in 2009 ca 10 percent of total catch in the CP sector was H. squid, about 3,800 mt. In contrast, the CP sector caught 138 mt in 2010.

Management Regime

In 2011, management of the U.S. fishery transitioned to a fully rationalized fishery, with an individual quota share program for the shoreside fishery and formal cooperatives for the mothership sector and catcher-processor sector (the catcher-processor sector has been fully rationalized under a voluntary cooperative since 1997). One of the most significant changes in the fishery is the requirement for 100 percent observer coverage at sea and 100 percent monitoring of landings on shore. The combination of 100 percent at-sea observer coverage (including mothership catcher vessels) and 100 percent monitoring of deliveries to shoreside processors will ensure adequate monitoring of total catch and discards in the U.S. hake fishery.

In simplest terms, Amendment 20 rationalized the groundfish trawl fishery and provides for 100 percent monitoring on the fishery. All other features of the U.S. hake fishery management program remain in place. Rockfish catch in the shoreside fishery is now strictly managed under the quota share system. Sector-specific overfished rockfish species catch limits govern bycatch in the mothership and catcher-processor sectors. Season structures remain in place. ESA-listed salmonid impacts remain under the aegis of the Biological Opinion.

As noted, the Canadian hake fishery is managed under an individual quota program. In 2010, DFO implemented 100 percent at sea monitoring into the program. This coupled with the 100 percent dockside monitoring already in place has ensured that all catches and discards are observed and furthermore that all catches are vetted by comprehensive dock-side monitoring. Through at sea observers and on shore viewing of EM data, records of catches and discards by area are being kept thereby allowing DFO to accurately account for bycatch by area for species with area specific quotas.

U.S./Canada Pacific Hake/Whiting Agreement

In September 2010, the 111th U.S. Congress completed technical corrections to implementing regulations for the U.S./ Canada Hake/Whiting Agreement. (Source: Senate_Commerce_Comm_Rpt_S2871_Sept2010.pdf).

This action cleared the way for full implementation of the Hake/Whiting Agreement. In May 2011 (Source: Hake_agreement_call_for_nominations.pdf), NMFS formally solicited nominations for the U.S. delegation to the Advisory Panel (AP) and the fishing industry representative on the Joint Management Committee (JMC). The Department of Fisheries and Oceans (DFO), through the Groundfish Trawl Advisory Process, (GTAC) formally solicited nominations for the Canadian AP and JMC representatives in June of 2007. Once the US Congress completed the technical corrections allowing the treaty to move forward, DFO once again requested and received confirmation of the nominations during another GTAC meeting on January 6th 2011.

It is anticipated that the AP and JMC, as well as the Joint Technical Committee and Scientific Review Committee will meet during 2011 in preparation for the 2012 hake fishery. These initial meetings will likely focus on (1) development of terms of reference to guide each of the various committees and (2) review of the management and harvest policies stipulated in the Hake/Whiting Agreement. A key issue for several stock assessment cycles has been the need for a management strategy evaluation (MSE) for the harvest policies and target reference points used in the hake fishery.

Ecosystem Considerations

In 2009, the PFMC began to make significant progress on implementing an ecosystem plan. The PFMC appointed members of an Ecosystem Plan Development Team and an Ecosystem Advisory Subpanel and provided guidance on the initial tasks for these two new advisory groups.

In September 2010, the Team provided initial advice to the Pacific Council about the purpose of a Pacific Council Ecosystem Plan and the needs for ecosystem-based fishery management within the Council process. (Source: Sept_2010_PFMC_EPDT_Report.pdf)

In March 2011, the Team provided further advice in the form of a discussion document that reviewed “Existing Ecosystem-Based Principles and Management Measures” and “Cross-FMP Review of Common Management Needs and Challenges.” The Team also proposed an initial science product development process for the Council arena, discussed science questions for future considerations, and highlighted some current science tools that could inform Council decision-making. Finally, the Team discussed ways that the scientific information and products could support analyses of the effects of Council actions taken under its four FMPs. (Source: March_2011_PFMC_EPDT_Report.pdf)

In June 2011, the Council approved the draft purpose and need statement as proposed by the Team and moved to develop an ecosystem plan that is primarily advisory in nature with the potential for expanding the plan to include regulatory authority in the future. The Council recommended continued management of stocks and fisheries through existing Council-adopted fishery management plans (FMP), including potential additional management measures for forage fish species as the Council deems appropriate. The Council also tasked the EPDT with developing a list of species in the West Coast exclusive economic zone not included in an FMP, not managed under State authority and not listed under the ESA; additionally, the task included identifying the subset of this species list that could be subject to future target fishing. (Source: June_2011_PFMC_Newsletter.pdf)

A complementary NMFS program (Integrated Ecosystem Assessment) also made significant progress in recent years. In March 2011, NMFS presented initial results of the California Current Integrated Ecosystem Assessment (CCIEA) and an overview of the IEA process and products. They also presented information two documents describing the 2010 CCIEA process and research accomplishments during its first year, including a 2010 status report on the health of the California Current. They stated that the work accomplished thus far by the NOAA IEA team integrates existing ecosystem datasets in a way that provides a richer understanding of how parts of the system will respond to various management approaches. They noted that the CCIEA is a work in progress. (Source: March_2011_NMFS_IEA_letter.pdf)

The most recent IEA information was presented to the SSC and EAS in April 2011. Dr. Phil Levin (NWFSC) presented an overview of the CCIEA. The Assessment is a process involving multiple models and synthesis products that addresses “the science needed for a healthy California Current.” Initiated after an external review of ecosystem science in 2006, its purpose is to organize the relevant science of ecosystem processes, assess the stressors and conditions of the ecosystem, and provide strategic advice to management. A current report has been distributed to the Council.

(Sources: PFMC_SSC_Ecosys_Subcomm_Rpt_June_2011.pdf and Levin_IEA_presentation_for_SSC_April_2011.pdf)

The CCEIEA report provides insights into how increases in fishing pressure could affect CCE fish populations, including Pacific hake. The Levin presentation to the SSC provided initial insights about the effects of the hake fishery on other CCE fish populations.

The CCEIEA Report is titled: *NOAA Technical Memorandum NMFS-NWFSC-109, Technical background for an Integrated Ecosystem Assessment of the California Current – Groundfish, Salmon, Green Sturgeon, and Ecosystem Health, April 2011* and provided as:
(Source: NOAA_Tech_Memo_NMFS_NWFSC_109_2011.pdf)

The Council is scheduled to receive an update from the CCEIEA Team in November 2011.

Principle 1 Conditions.

Item 2	Condition 1
<p>Performance Indicator 1.1.1.2</p> <p>Knowledge of the life history characteristics of the species/stocks is adequate to conduct robust assessments.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • There is adequate knowledge of life history characteristics of the target stock to permit estimation of BRPs (Biological Reference Points). • Life history characteristics are directly estimated, monitored and updated periodically.
<p>Condition</p> <p>A score of 80 or above must be achieved within two years by producing evidence that demonstrates that the life history parameters M and the maturity schedule are periodically updated.</p>	
<p>Client Action Plan</p> <p>Clients will provide a copy of annual stock assessments, which routinely include analysis of biological reference points and life history characteristics such as maturity and M, to the certifier within two years. Clients will commit to re-evaluating maturity at age based on the maturity data collected and will provide a report to the certifier within two years.</p>	
<p>Surveillance Audit Year Deadline: 2nd SA</p>	<p>Client: Both</p>
<p>Activity Completed in First Surveillance Cycle</p> <p>Stewart and Hamel reported that maturity samples have been collected during trawl surveys. They have not been analysed using histological techniques at this time. Thus a revised maturity schedule would not be available for the 2010 assessment. The audit team needs to check with Amy Keller and Patti Burke of the survey team what the plans are to obtain maturity data for hake. The NMFS stock assessment team is meeting with the survey team at the end of the year.</p> <p>In terms of the life history parameter M there is ongoing work by the stock assessment team. Owen Hamel is conducting a meta analysis and a publication is in preparation. Mark Maunder is doing work on behalf of the client group on this issue.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>	
<p>Activity Completed in Second Surveillance Cycle</p> <p>The client has provided a report of annual activities for the current surveillance cycle as well as supporting documents from both the assessment and management of the fishery.</p> <p>Clients provided the final SAFE document "Status of the Pacific hake (whiting) stock in U.S. and Canadian waters. The document includes analysis of Pacific hake reference points. Reference point estimates for the SS and TINSS models are provided (Tables i.1 and i.2).</p> <p>Activities for 2011 regarding analysis of life history characteristics:</p> <p>With regard to natural mortality M, for the 2011 assessment, a combination of the informative prior used in recent Canadian assessments and the results from Hoenig's method were used to generate a log-normal distribution with a mean of 0.2 and a log-standard deviation of 0.1. Sensitivity to this prior is evaluated by examination of the posterior distribution</p>	

as updated by the data, as well as the use of alternate priors, specifically a larger standard deviation about the point estimate.

Owen Hamel of NMFS has a paper in development on a meta analysis of M . The paper is expected to be published in the fall of 2011. The approach is to develop priors of M based on prediction intervals from various meta-analytical approaches (based on life-history correlates such as maximum age, von Bertalanffy growth rate k , asymptotic weight, temperature at which the species resides and gonadosomatic index), and then combine those priors to create a single prior of M for a species, or for males and females of a species.

STAR Panel reported that “Maturity schedules have not been updated for many years. The existing maturity schedule is based on visual examination of gonads from samples collected from 1990-1992 (Dorn and Saunders 1997) and these data have not been revisited since 2006. The Joint STAT recommended collection and re-analysis of maturity data as a high research priority.”

Competing workload in 2010 prevented substantive progress in development of an updated hake maturity ogive. Client strongly supports the 2011 STAR Panel recommendation for “collection and re-analysis of maturity data as a high research priority”

Progress has been made collecting maturity data. Ian Stewart reported that 270 hake histological samples were collected in 2010. The samples have been prepared for reading (i.e., mounted in wax, sliced and mounted on slides). Personnel are being trained this fall by Alaska Science Center personnel to read the samples. There is also a requirement to collect fall/ winter samples in order to be able to confirm ogive development through the annual cycle. Chris Grandin (DFO) is also working on developing an analysis routine to evaluate visual ogive development estimates conducted by at-sea observers.

Activity Evaluation (Milestone deliverables, timeline, results)

The maturity schedule is important because it is an integral component of the estimates of spawning stock biomass and spawners per recruit, which are both leading indicators of stock status. In the US, samples have been taken for histological analysis but not analyzed. In Canada visual estimates of maturity are made on acoustic surveys, but no results are reported. Visual estimates of maturity could likewise be made in the US on acoustic surveys and/or by trained observers on fishing vessels. This study could be funded by a cooperative research program. While progress has been made, this condition has not been met

During this surveillance cycle, the assessment team expected to receive the deliverable for this condition, which is a report demonstrating that the life history parameters M and the maturity schedule are periodically updated. However, neither is complete at this time owing to competing workload for NMFS to re-tool the hake assessment and rebuild the acoustic survey time series.

The client expressed concern that their interpretation of the deliverable for meeting this Condition is not that shared by the team. The client is of the view that they have actually performed the tasks as set out in their action plan.

In order to avoid a similar situation for any Condition occurring at future audits it was agreed that early in 2012, the client will provide IMM with a list of deliverables that they expect to provide at future audits with the intention of ensuring that these meet the expectation of the assessment team. It was not possible to do this prior to providing the MSC with the surveillance report owing to the timeline requirements for submitting reports after completion of the audit.

Status of Condition

Second Surveillance Audit

Progress has been made in regard to updating both life history parameters, M and maturity schedule. However, neither is complete at this time.

In accordance with MSC Section 6.7 of the Fisheries Certification Methodology, v6.1, Intertek Moody Marine (IMM) determined that there is progress against the condition however, the condition timeline has not been achieved. IMM requests that the client provide an updated action plan by 31st January 2012, which defines how

the client will achieve this condition by the next surveillance audit. IMM and the assessment team will evaluate the proposed action and either approve or seek further clarification from the client.

The condition will be evaluated at the next surveillance audit as per Section 6, Post Certification Requirements of the FCM v6.

Item 3	Condition 2	
<p>Performance Indicator 1.1.1.6</p> <p>There is adequate knowledge of environmental influences (e.g. upwelling, ENSO regime shifts) on stock dynamics, such that the effects of fishing can be distinguished from natural fluctuations.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • Effects of environmental influences on stock abundance have been studied, and are taken into account in the assessment. • Effects of environmental influences on distribution and availability of fish have been studied and inform the stock assessment process. 	
<p>Condition</p> <p>A score of 80 or above must be achieved within three years, by considering results of studies of the effects of environmental influences on hake abundance and distribution and these are considered and taken into account in the assessment, as appropriate.</p>		
<p>Client Action Plan</p> <p>There are a series of fisheries and oceanographic efforts in place that routinely collect data, which are evaluated on an ongoing basis to determine the role of climate and oceanography in regulating the abundance of hake. These studies have been presented in the client submission. Studies have shown that distribution and abundance of hake are related to ocean conditions. To date it is possible to analyze data on ocean conditions and make a gross prediction of year-class distribution and survival. Data are accumulated on an ongoing basis from several sources, and from improved biennial surveys.</p> <p>The clients will provide to certifier, within one year, formal requests to relevant agencies, and their written acknowledgement of receipt of such request, for retrospective analyses to be performed on the effects of environmental influences on hake abundance and distribution. If it is established that these results are not included but are considered necessary, the clients will strongly encourage PFMC, NMFS and DFO for changes that seek to include such information in the stock assessment process.</p>		
<p>Surveillance Audit Year Deadline: 1st SA</p>		<p>Client: Both</p>
<p>Activity Completed in First Surveillance Cycle</p> <p>Both clients provided copies of letters submitted to NMFS and DFO requesting the agencies consider results of effects of environmental influences on hake abundance and distribution. Copies can be seen in Appendix A</p>		
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>The first year deliverable and timelines requirements were met. Both agencies provided formal responses which are also included in Appendix A</p>		
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>The first part of this condition is deemed to be completed in accordance with the requirements of the condition.</p>		

Activity Completed in Second Surveillance Cycle

NMFS (Melissa Haltuch) and PBS (Carrie Holt) have started a joint project on environmental influences on hake distribution. The NMFS component describes cross-shelf summertime distribution. Part of the project involves developing a forecast model for hake distribution. (See also Fig 2 in the stock assessment document). It is anticipated that a paper will be published on this research project within 1 year. The PBS project component looks at a fine scale (5km grid) distribution of hake in the central part of the hake distribution in relation to sea surface temperature and other variables.

Funding via the NOAA Fisheries and the Environment (FATE) Program as well as funding via the Department of Fisheries and Oceans (DFO) Canada, International Governance Strategy Funds has lead to a joint project between the Northwest Fisheries Science Center (NWFSC) and DFO, Nanaimo) focusing on building a model to describe hake distribution during the summer migratory season, with the long term goal of being able to both hind-cast and forecast hake distribution. The motivation for this work is that Pacific hake exhibits strong environment-driven inter-annual variation during the stock's annual summer northerly migration that impact monitoring, assessment, and management of hake. Being able to describe and forecast hake distribution could impact management via optimized survey design and planning, resulting in improved estimates of hake distribution and density. Specifically, survey effort could be distributed to minimize (expected) variance given the ability to predict hake distribution and density prior to a survey, resulting in more precise estimates of abundance that form the basis for stock assessment and management advice. Hind-casting hake distribution could also be useful for investigating hake selectivity and availability in the stock assessment model. Essentially the ability to model hake selectivity as a function of a covariate(s) would reduce the number of parameters in the stock assessment model. Finally, understanding and forecasting of hake distribution during migration is important for both short-term management decisions and long-term planning under future climate scenarios.

An effort is also made to reprocess all acoustic survey data in order to estimate an index of 1-year old hake. Potentially this index can be used to see whether there are any environmental variables that correlate with the index.

Stock assessment models also estimate year-class strength and deviations from a stock-recruitment curve. SWFSC (John Field) is looking further into possible relationships between deviations and environmental variables.

Activity Evaluation (Milestone deliverables, timeline, results)

There were no milestone deliverables set for this condition for this surveillance audit.

Status of Condition**Second Surveillance Audit**

- **The condition remains open and will be evaluated at the third surveillance audit when meeting this condition is required.**

Item 4	Condition 3
Performance Indicator 1.1.4.3 The harvest strategy can be shown to be precautionary (including appropriate response to uncertainty).	80 Scoring Guidepost <ul style="list-style-type: none"> • The harvest strategy has been demonstrated to be effective and precautionary, based on past management responses.
Condition The management strategy needs evaluation to test the performance of the 40:10 rule applied to hake, a species with high recruitment variability and uncertain reference points. A report demonstrating that the harvest strategy is effective and precautionary based on past management responses must be prepared within two years.	
Client Action Plan	

An evaluation by the SSC of the control rule will be scheduled for the coming assessment cycle. John DeVore, PFMC pers. Comm. to Vidar Weststad 2/6/08, Seattle WA. See also SSC report on workshops http://www.pcouncil.org/bb/2007/0307/E1c_sup_SSC.pdf.

Client will provide certifier with a report from the SSC with the results of this review within two years.

Surveillance Audit Year Deadline: 2nd SA

Client: Both

Activity Completed in First Surveillance Cycle

During the first SA, there was no evidence presented to indicate that work on evaluating the 40:10 rule is being done by any entity including the management agencies and the client groups.

Activity Evaluation (Milestone deliverables, timeline, results)

There were no milestone deliverables set for this condition for this surveillance audit. However, the CB did convey their concern that this work had not started and is due by the second annual surveillance audit.

Status of Condition

First Surveillance Audit

No result was set for this condition for the first surveillance audit.

Activity Completed in Second Surveillance Cycle

In contrast to previous years, the Canada-U.S. stock assessment team worked in close collaboration prior to the STAR panel with the objective of understanding and aligning the two primary stock assessment models including using consistent data sources.

The joint U.S.-Canada Stock Assessment Review (STAR) accepted the draft stock assessment that had been prepared by the joint Canada-U.S. stock assessment team (STAT). In contrast to previous years where the two assessment models produced divergent results, the 2011 assessment revealed: (1) better agreement in fit to the acoustic survey biomass between the models than in previous years; (2) closer alignment in the spawning biomass trajectories and their associated confidence intervals; (3) closer agreement in depletion at the beginning of the time series (while depletion at the end of the time series became more divergent); (4) improved agreement in the recruitment time series; (5) closer agreement of recruitment deviations in log space; and (6) much closer agreement in the fishing intensity time series. Overall, it was observed that current spawning biomass estimates and the associated confidence intervals showed good agreement between the two models, although uncertainty remained large for both models.

Specific to the Stock Synthesis model, it is critical to point out the amount of work conducted by the NMFS-NWFSC during 2010 to rectify past concerns. Work in 2010 included: 1) reanalysis of the raw acoustic survey data, 2) kriging to improve biomass estimates and characterization of uncertainty, 3) evaluation of the effect of the presence of Humboldt squid during the 2009 acoustic survey, 4) new sampling reveal no a systematic bias in trawl samples, and 5) the analysis results were robust to post stratification.

In preparation for conducting an eventual management strategy evaluation (MSE) of the harvest control rule, the team heard testimony from Ian Stewart that the SS3 model has been improved, allowing for an increase in computational speed. This is important because of the high computational requirements to run MSE simulations.

It was reported that Chris Grandin of DFO is in the process of developing a generic model framework for conducting the MSE.

A formal review of the default harvest policy and management strategy for Pacific hake has been delayed pending implementation of the U.S./Canada Hake Agreement. It is anticipated that the agreement will be fully operational in 2012

when all committees (Bilateral Advisory Panel, Joint Technical Committee, Scientific Review Committee, and Joint Management Committee (JMC)) will be in place. The Fishery Client commits to urging the JMC, NMFS, and DFO to initiate a Management Strategy Evaluation as one of the highest priority first-order tasks for the JMC.

Bilateral Advisory Panel members for Canada and U.S. have been appointed, the first meeting to develop terms of reference for the panel will be conducted in October. Similarly, members for the Joint Technical Committee are being appointed and will also meet in late October to work on terms of reference.

John DeVore (PFMC) indicated that the Council is sponsoring a workshop on harvest control rules. While the workshop is not specifically focussing on a hake MSE the existing hake control rule will form part of the workshop discussion.

Activity Evaluation (Milestone deliverables, timeline, results)

The deliverable is a report of an evaluation of the harvest control rule. Past management responses appear to be precautionary but no formal evaluation has been conducted. A Management Strategy Evaluation (MSE) is particularly important for Pacific hake because of high recruitment variability and fundamental uncertainties in the stock assessment (e.g. retrospective changes in biomass estimates with subsequent stock assessments). The surveillance audit team believes that a MSE does not necessarily have to wait for the implementation of the US/Canada Hake Agreement. The management component of the simulations could reasonably be based on the existing harvest control rule and management practices. The client could initiate this MSE. The MSE could be performed with the TINSS model, which is computationally less demanding.

Status of Condition

Second Surveillance Audit

There is no progress evident on this condition however, the team understands the client perspective that this work is best completed by Joint Technical Committee established under the US/ Canada Agreement on Pacific Hake/ Whiting.

In accordance with MSC Section 6.7 of the Fisheries Certification Methodology, v6.1, Intertek Moody Marine (IMM) determined that the condition timeline has not been achieved. IMM requests that the client provide an updated action plan by 31st January 2012, which defines how the client will achieve this condition by the next surveillance audit. IMM and the assessment team will evaluate the proposed action and either approve or seek further clarification from the client.

The condition will be evaluated at the next surveillance audit as per Section 6, Post Certification Requirements of the FCM v6.

The condition is behind schedule.

- **The surveillance audit team reminds the Client of the importance of this condition as a cornerstone of the objection (i.e. importance to stakeholders)**
- **Unless the client contracts this work out we anticipate that this work will be completed by the Treaty Joint Technical Committee.**
- **Either a new condition or new milestones will be issued dependent upon the TOR and initial work tasks approved for the Treaty committees.**
- **The clients must provide a revised action plan, which will demonstrate how this will be brought back on track by the next surveillance audit or we are required to report the following paragraph.**

Principle 2

Item 5	Condition 4	
Performance Indicator 2.1.2.2 There is information available on the extent of discard (the proportion of the catch not landed).	80 Scoring Guidepost <ul style="list-style-type: none"> • Accurate information is available to allow estimates of discard to be calculated and interpreted. 	
Condition In two years, clients must provide proof that there is adequate monitoring of hake and bycatch discards in all fleet sectors (including catcher vessels delivering to motherships and shoreside processors) and provide a report, which calculates and interprets discards.		
Client Action Plan Summary information on discards has already been provided to the certifier. Amendment 10 of the PFMC Groundfish FMP has been approved by the PFMC, which will provide comprehensive monitoring to all segments of the fleet. Shoreside vessels will be 100% monitored during the offloading at processing facilities. Catcher/ processors are to have either 100% at-sea observer coverage or 100% electronic monitoring. The client will request that the relevant agencies compile annual reports on the frequency of discarding events and estimates of the volume (mass) of fish discarded in each event. Observer data will be used to estimate species composition such that the weight of discarded fish can be estimated by species and accounted for, along with retained harvest amounts. The client will provide the certifier with the above estimates the year following implementation of amendment 10. John DeVore, PFMC personal communication to Vidar Wespstad.		
Surveillance Audit Year Deadline: 2 nd SA		Client: US
Activity Completed in First Surveillance Cycle John DeVore of the PFMC confirmed FMP Amendment 10 passed and has been implemented. This provides for 100 % monitoring coverage of both vessels delivering to shore plants and motherships. Observations are contracted through SeaState, Inc., which puts out bycatch alerts and current trends in real time. Preliminary results are expected in mid-2011. The client indicated that FMP Amendment 20 (Trawl Rationalization) would result in 100% at-sea observer or electronic monitoring of all the Pacific hake fleets. As such, it is expected that this change in the FMP will result in more accurate estimates of bycatch for the fisheries. The client also indicated that there would continue to be operational discards from the cod-end blowout release panels. This is necessary for safety reasons for the vessels towing the trawls.		
Activity Evaluation (Milestone deliverables, timeline, results) There were no milestone deliverables set for this condition for this surveillance audit.		
Status of Condition First Surveillance Audit No result was set for this condition for the first surveillance audit.		
Activity Completed in Second Surveillance Cycle In the 2011 fishing year, Amendment 10 requirements were superseded by Amendment 20 – Trawl Rationalization, which requires 100 percent NMFS-certified observer coverage on all whiting catcher vessels (shoreside and mothership), catcher-		

processor vessels, and mothership vessels.

Prior to 2011, electronic monitoring (EM) was required on all shoreside catcher vessels to document discard events. The Fishery Client requested and received from NMFS-NWR reports compiling information from the EM program (AMR, 2011).

The At-Sea Hake Observer Program places fisheries observers on all vessels that process Pacific hake at sea. Processing vessels over 125 feet are required to have full observer coverage for all fishing days. Each vessel carries two observers so that data collection can take place 24 hours a day. Processing vessels 125 feet, or less, are required to have one observer on board for all fishing days. Observers record haul information, determine the official total catch, sample hauls for species composition, collect length and age structure data, complete projects related to salmon, and record marine mammal and sea bird sighting and interaction data. Currently approximately 15 vessels participate in this fishery, which takes place from May through November. Version 2011 of the At-Sea Hake Observer Program, Observer Sampling Manual (NWFSC 2011) provides a comprehensive description of the procedures for obtaining discard information.

The LE Trawl Report (NWFSC 2010) and the NMFS total mortality reports (Bellman et al. 2010) provide the monitoring data of hake catch, bycatch and discards of all fleet sectors (including catcher vessels delivering to motherships and shoreside processors). Discard rates are being calculated and interpreted. See Bellinger et al. 2009 for example.

Recent discard information presented in Table 17 of Bellman et al, 2010 includes a footnote which states “Non-tribal shoreside hake does not include estimates of hake that was discarded at sea.” Based on the information presented, the assessment team concluded that the 100SG has been fully met, as there is not accurate information available by direct observation on the extent of all discards and associated mortality rates. Though this information may be available for more recent years, it was not provided.

In summary, since the U.S. Pacific hake fishery is now subject to 100 percent observer coverage on all vessel platforms the requirement of the condition is now met. A score of 90 has been awarded.

Activity Evaluation (Milestone deliverables, timeline, results)

The requirement of the condition has been met and this performance indicator for the U.S. has attained a score of 90.

Status of Condition

Second Surveillance Audit

This condition has been satisfied and is closed out..

Item 6	Condition 5	
<p>Performance Indicator 2.1.2.3</p> <p>There is information on unobserved fishing mortality (animals injured by the net but not captured; delayed mortality).</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Information from existing work has allowed qualitative estimates of unobserved fishing mortality to be made. 	
<p>Condition</p> <p>A score of 80 must be achieved within two years. A report must be provided with qualitative estimates of the frequency of bottom contact, and interactions with seabirds and mammals.</p>		

Client Action Plan	
Client will obtain seabird and marine mammal interaction data from NMFS and DFO and provide to certifier within 2 years. Clients will conduct a survey of whiting fishermen to estimate the frequency that whiting trawl nets contact the ocean bottom, both in Canada and the U.S. The clients will process the results of these surveys and forward to the certifier, within 2 years.	
Surveillance Audit Year Deadline: 2 nd SA	Client: Both
Activity Completed in First Surveillance Cycle	
The client indicated that FMP Amendment 20 (Trawl Rationalization) would result in 100% at-sea observer or electronic monitoring of all the Pacific hake fleets. As such, it is expected that this change in the FMP will result in more accurate estimates of bycatch for the fisheries including quantitative data on bird and mammal interactions.	
Activity Evaluation (Milestone deliverables, timeline, results)	
There were no milestone deliverables set for this condition for this surveillance audit.	
Status of Condition	
First Surveillance Audit	
No result was set for this condition for the first surveillance audit.	
Activity Completed in Second Surveillance Cycle	
<p>U.S. - A report of the hake fishery interactions with seabirds and mammals has been provided (Jannot et al. 2011).</p> <p>The Fishery Client has provided qualitative estimates of the frequency that whiting trawl nets contact the ocean bottom (US Pacific Hake MSC Clients, 2011). The information was gathered through a formal survey process of the US fleet by the US Pacific Hake MSC clients. The survey was administered fleet-wide to hake fishermen to estimate the frequency that hake trawl nets contact the ocean bottom.</p> <p>In 2009, 17 respondents reported bottom contact ranging from 0 to 25% of tows (24 – 392 tows per season), with a median of 8% bottom contact. Duration of contact reported ranged from 5 to 120 minutes with a median of 25 minutes. Reported bottom type was exclusively muddy/ sandy bottom.</p> <p>In 2010, 18 respondents reported bottom contact ranging from 0 – 22.5% of tows (5 – 330 tows per season), with a median of 3% bottom contact. Duration of contact reported ranged from 5 to 70 minutes with a median contact time of 16.5 minutes. Reported bottom type was predominantly muddy/ sandy.</p> <p>Canada – Marine mammal encounters in the Canadian hake fishery have been reported by DFO for 2006-11. Out of 6,265 hake tows over 6 seasons, there were only two incidents with records of interaction.</p> <p>The Fishery Client administered a fleet-wide survey of hake fishermen to estimate the frequency that hake trawl nets contact the ocean bottom. DFO has also included a question regarding frequency of trawl nets contacting the ocean bottom in the logbooks.</p> <p>In July 2011 DFO mailed out 202 survey packages to the groundfish fleet. E-reminders were also sent frequently throughout the remainder of the Summer. In September follow up phone calls were placed in order to gather the last of the responses. Of the 104 Option A licenses there were 55 replies received and of those, 26 were from vessels who were active in the hake fishery those two years. As explained above this is indicative of the active fleet and does show a majority participation.</p>	

<p>In 2009, 26 Canadian fleet respondents reported bottom contact ranging from 0 to 10% of tows (30 – 750 tows per season), with a median of 1% bottom contact. Duration of contact reported ranged from 0 to 60 minutes with a median of 4 minutes. Reported bottom type was exclusively muddy/ sandy bottom (APHF, 2011)</p> <p>In 2010, the same 26 respondents reported bottom contact ranging from 0 to 15% of tows (17 – 180 tows per season), with a median of 1% bottom contact. Duration of contact reported ranged from 0 to 60 minutes with a median of 4 minutes. Reported bottom type was exclusively muddy/ sandy bottom.</p> <p>In summary, a report detailing hake fishery interactions with seabirds and mammals was provided and both fleets conducted self-audit surveys to estimate the frequency that whiting trawl nets contact the ocean bottom. The assessment team concluded that no new observations of underwater fish (e.g. scale loss or other stress going through trawl meshes) or benthic fauna mortality resultant from fishing activities was provided. The team has awarded a score 90 on the basis of the information provided but did not conclude that the 100SG (Research has been carried out on unobserved fishing mortality allowing quantitative estimates to be made (or it is known that significant unobserved mortality does not occur) had been met.</p>
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>The requirements of the condition have been met and this performance indicator for the U.S. and Canada has attained a score of 90.</p>
<p>Status of Condition</p> <p>Second Surveillance Audit</p> <p>Condition closed out.</p>

Item 7	Condition 6
<p>Performance Indicator 2.1.3.3</p> <p>There is information on the nature and extent of operational wastes from the fishery and on the potential ecosystem effects of such wastes. (e.g. Processing slurry, oil, trash, nets, etc...).</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • There is knowledge of the type, quantity, and location of operational wastes. • The impact of operational wastes on target and non-target species have been measured.
<p>Condition 6</p> <p>The achieve a score of at least 80, a report must be prepared, within two years, on the nature and extent of operational wastes across the sectors of the hake fishery, including documentation of any discharge violations that have occurred. Based on these estimates, an assessment must be made of the potential ecosystem effects of such wastes.</p> <p>[Condition Intent: Recognizing that the quantity and location of operational waste discharge is known, as required by the current environmental permitting system, the condition is seeking to demonstrate what waste is discharged, quantity and location of operational waste for all fleet sectors. By determining whether there are violations of permits (which are assumed acceptable impact levels), it will be possible to make a statement that waste impacts are within measured limits as demonstrated by the Draft ODCE Seafood GP document (http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/8fc545b9a2c4c47588256da30065a731/\$FILE/Draft_ODCE_Seafood_GP.pdf.)]</p>	
<p>Client Action Plan</p> <p>All seafood processors in the Pacific hake fishery are required by state and federal discharge permit regulations to have valid permits, to comply with discharge restrictions specified by these permits, and to report operational wastes on an annual basis. These permits are granted only after the effect of discharges on the marine environment have been evaluated</p>	

and found to have no “unreasonable degradation of the marine environment.” The most recent analysis of the impacts of seafood discharges on the marine environment can be found at:

([http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/8fc545b9a2c4c47588256da30065a731/\\$FILE/Draft_ODCE_Seafood_GP.pdf](http://yosemite.epa.gov/r10/water.nsf/95537302e2c56cea8825688200708c9a/8fc545b9a2c4c47588256da30065a731/$FILE/Draft_ODCE_Seafood_GP.pdf)], which has already been provided earlier to the certifier. This evaluation is required as a condition for approval of NPDES permits that allow such discharges. The groundfish fisheries and marine environment off the coast of Alaska are not significantly different from that of the Pacific hake fishery; if anything the level of discharges from the Pacific hake fishery is orders of magnitude lower than discharges from seafood processors in groundfish fisheries off the coast of Alaska. The client believes this report is sufficient to meet the condition bullet point that says “The impact of operational wastes on target and non-target species have been measured.”

Clients will provide to certifier within two years data on the type, quantity and location of operational wastes for all fleet sectors. Clients will also summarize the number of discharge permit violations by seafood processors in the hake fishery, and quantify the amount of discharges, if any, that exceed allowable levels. A report will be delivered to the certifier within four years that has assessed the potential ecosystem effects of discharges from the hake fishery.

Surveillance Audit Year Deadline:

2nd SA – Data on type, quantity and location of operational wastes.

4th SA – Report assessing the potential ecosystem effects of discharges from the hake fishery

Client: Both

Activity Completed in First Surveillance Cycle

The client indicated that it is preparing a fleet survey to be completed prior to the forthcoming annual surveillance audit.

Activity Evaluation (Milestone deliverables, timeline, results)

There were no milestone deliverables set for this condition for this surveillance audit.

Status of Condition

First Surveillance Audit

No result was set for this condition for the first surveillance audit.

Activity Completed in Second Surveillance Cycle

The audit team received reports from Oregon Dept. of Environmental Quality and Washington Dept. of Ecology regarding type, quantity and location of operational wastes for the shore-based sector of the whiting fishery, which operates under US National Pollution Discharge Elimination System (NPDES) Permits. No violations were noted from seven plants in Oregon. There are two shoreside plants in Washington. One had one informal action letter regarding of water quality parameters in 2010 and no actions in 2011. The other plants had eight informal action letters in 2010 and seven informal action letters so far in 2011, mainly for exceedences of chlorine and fecal coliforms.

A 2010 report was received from the US at-sea processing sector regarding metric tons of processing waste released by management area. One mother ship operated in the Eureka and Columbia Areas and two in the Vancouver Area. They averaged 4.35 mt/day of discharge for 72 processing days. Three catcher-processors operated in all three Areas and two in the Vancouver Area. They averaged 2.21 mt/day of discharge for 163 processing days.

A report was received from the Client covering the Canadian shore sector. There are two processing facilities that do require Provincial Waste Water Permits, one discharging in Port Hardy and one into Ucluelet Inlet. Both facilities discharge fine-screened fish processing plant effluent, and are situated well inland and not in any real proximity to the hake grounds. It seems very likely that any effects to the hake ecosystem from these two facilities would be negligible.

Due to their ocean access however, the Ministry of Environment requires the facilities to report and comply. The Port Hardy facility’s compliance report covered a time period to July 2010 and that Ucluelet compliance report dated

December 2010 had shown they were not in compliance at that time.

The Port Hardy facility still has an effluent component to their waste discharge. They now utilize a viscera screen during production. All solids and liquids are gathered and then used in their fishmeal and oil production, there is no further waste other than grey water. The Ministry of Environment will continue to conduct periodic reviews on fish processing plants. Furthermore the Ministry is currently reviewing regulation of fish processing plant wastes, in part to address the disparity in permit conditions between authorizations that are very old, and newer more restrictive discharge permits.

Since the 2010 Non Compliance, the Ucluelet facility has undertaken action to resolve the identified issues. They then submitted to the Ministry a Discharge Monitoring Report (provided to the audit team). While this report does not fulfill their reporting obligations under the Compliance Report, it does suggest that the environment is not being adversely affected and therefore drops the prioritization of the issue of the non-compliance report.

Activity Evaluation (Milestone deliverables, timeline, results)

The 2nd year SA deliverables are reports from the Client, which provide data on type, quantity and location of operational wastes. These reports have been received on time, and evaluated by the audit team.

Status of Condition Second Surveillance Audit

The status of this condition is on target.

Item 8	Condition 7	
<p>Performance Indicator 2.1.4.1</p> <p>Impacts on ecosystem structure and function from the removal of the target species have been assessed.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Some quantitative information is available on consequences of current levels of removal of target species. Information suggests that there are no unacceptable fishery impacts on ecosystem structure and function within key fishing areas. 	
<p>Condition</p> <p>To achieve a score of 80 or higher, the client must use available data on the consequences of removal of the target species to determine whether there are any unacceptable fishery impacts on ecosystem structure and function within key fishing areas. The milestones are to synthesize the results of existing ecosystem models within 2 years and to assess whether unacceptable fisheries impacts are occurring within 4 years.</p>		
<p>Client Action Plan</p> <p>NMFS and DFO have ongoing programs to develop and monitor ecosystem indicators, based on existing data collection programs, and they routinely analyze and synthesize the results of new data into existing ecosystem models.</p> <p>Clients will provide a report to certifier within two years that synthesizes the results of existing ecosystem models as they relate specifically to the removal of hake from the ecosystem. A subsequent report will be delivered to the certifier within four years that will include a list of potential ecological impacts (if any), assessments of their magnitude, and a qualitative estimate of the significance of each impact. In the event that unacceptable impacts are established, the clients will strongly encourage PFMC, NMFS and DFO for appropriate change to mitigate these impacts.</p>		
<p>Surveillance Audit Year Deadline: 2nd SA - Synthesizes the results of existing ecosystem models.</p>	<p>Client: Both</p>	

4 th SA - List of potential ecological impacts (if any), assessments of their magnitude, and a qualitative estimate of the significance of each impact.	
<p>Activity Completed in First Surveillance Cycle</p> <p>The surveillance audit team confirmed with the clients and with Mike Burner of PFMC, that the Council continues its activities toward development of an eventual Ecosystem-Based Fishery Management Plan (EFMP). In November 2009, the Council appointed an Ecosystem Plan Development Team (EPDT) and an Ecosystem Advisory Subpanel (EAS) and assigned specific tasks to these groups. In the September 2010 Council Meeting, the EDPT reported on its initial tasks with a report that includes a draft statement of purpose and need of a EFMP; a list of initial goals and objectives; a range of options on 1) the geographic range of the EFMP, 2) the regulatory scope of the EFMP, and 3) the management unit species within the EFMP.</p> <p>Council, its advisory committees and panels continue to work methodically through the issues around development of an EFMP, most recent deliberations of the Council on this issue can be seen at: http://www.pcouncil.org/resources/archives/briefing-books/september-2010-briefing-book-2/#ecosystem. Council will report again on EFMP development in March 2011.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit. It is important to note that the EFMP process underway through the PFMC will likely take longer than the timeline of this condition. The client will need to seek specific information about when a synthesis of existing ecosystem models will be completed and this must be communicated to the CB.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>	
<p>Activity Completed in Second Surveillance Cycle</p> <p>Nine technical reports of existing ecosystem models have been provided by the client and agencies, and the Client has provided a synthesis of these to the surveillance audit team. The National Marine Fisheries Service (NMFS) is developing an Integrated Ecosystem Assessment (IEA) tool to synthesize and analyze science knowledge and present it in a manner that informs management decisions. It will help resource managers understand the status and health of the oceans and how various management actions might influence those factors. It will inform an ecosystem-based management (EBM) approach. The NOAA Technical Memorandum NMFS-NWFSC-109 “<i>Technical background for an Integrated Ecosystem Assessment of the California Current</i>” provides an overview of this evolving tool and the results of the pilot 2010 IEA for the California Current. This ecosystem research relies heavily on the Atlantis model. There are other ecosystem modelling approaches, besides Atlantis, that could be brought to bear, such as Martell’s NSERC work at University of British Columbia.</p> <p>The upcoming November Pacific Fishery Management Council (PFMC) meeting will provide further update on the Integrated Ecosystem Assessment (IEA).</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>The Client has provided a synthesis report (US Pacific Hake MSC Clients, 2011b), supported by nine published technical reports, on time, to the surveillance audit team. Included was a presentation prepared by Levin (2011) that synthesizes the results of existing ecosystem models as they relate specifically to the removal of hake from the ecosystem (page 34). A summary of “ecosystem considerations” is also provided in the 2011 hake assessment document (pages 23-24).</p> <p>The Canadian client provided a document entitled “Overview of DFO Pacific Data Acquisition Activities Relevant to Assessing the Ecosystem Impacts of the Pacific Hake Fishery”. The document provides a list of relevant projects which</p>	

can contribute to responding to the 4th year deliverable for this condition. However, no synthesis of this information was provided in the form anticipated by the assessment team. The progress for the second surveillance audit is considered behind target.

The Canadian client contested that it was not their expectation that they were to contribute to the IEA, rather, the impacts of the Canadian fishery were expected to be very similar to those found in the American models.

Status of Condition

Second Surveillance Audit

The status of this condition appears to be on target for the US Client.

The assessment team concluded that the Atlantis model used in Levin, 2011 only included the US waters, therefore the results are not applicable to the Canadian fishery at this time. The Canadian client provided information summarizing available data sources which can contribute to responding to the conditions, which clearly shows progress to completing the condition, however, the condition states that a synthesis of this information is required. The assessment team concluded that progress for this condition is behind target.

In accordance with MSC Section 6.7 of the Fisheries Certification Methodology, v6.1, Intertek Moody Marine (IMM) determined that the condition timeline has not been achieved. IMM requests that the client provide an updated action plan by 31st January 2012, which defines how the client will achieve this condition by the next surveillance audit. IMM and the assessment team will evaluate the proposed action and either approve or seek further clarification from the client.

Item 9	Condition 8	
Performance Indicator 2.1.5.1	80 Scoring Guidepost	
Levels of acceptable impact on ecosystem function have been determined and reviewed.	<ul style="list-style-type: none"> Levels of acceptable impacts for key components of the ecosystem within main fishing areas have been estimated and are regularly reviewed (e.g. < 10 years). 	
Condition		
To reach a score of 80, client must provide, within two years, evidence that levels of acceptable impacts are estimated and regularly reviewed. This PI should score 80 upon completion of PI 2.1.4.1 above.		
Client Action Plan		
Same as action plan for 2.1.4.1		
Surveillance Audit Year Deadline: 2 nd SA		Client: Both
Activity Completed in First Surveillance Cycle		
See response for PI 2.1.4.1 above.		
Activity Evaluation (Milestone deliverables, timeline, results)		
There were no milestone deliverables set for this condition for this surveillance audit.		
Status of Condition		

<p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>
<p>Activity Completed in Second Surveillance Cycle</p> <p>See response for PI 2.1.4.1 above. A presentation was prepared by Levin (2011) that synthesized the results of existing ecosystem models as they relate specifically to the removal of hake from the ecosystem (page 34). It estimates a 22% increase in zooplankton, a 10% increase in small planktivores, a 8% decrease in midwater rockfish, and 30% decrease in small demersal sharks. The remaining biological components of the ecosystem would remain stable or fluctuate less than 5%.</p> <p>A summary of “ecosystem considerations” is also provided in the 2011 hake assessment document (pages 23-24).</p>
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>Acceptable levels of ecosystem impact by the fishery have not been specifically quantified, but significant progress has been made toward this goal.</p>
<p>Status of Condition</p> <p>Second Surveillance Audit</p> <p>See response for PI 2.1.4.1 above.</p>

Item 10	Condition 9
<p>Performance Indicator 2.2.1.1</p> <p>The effects of the fishery on biological diversity and productivity have been assessed.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • Effects on biological diversity and productivity within fishing areas are being studied. • Programs are in place to determine acceptable limits of impacts in fishing areas, and these are considered in the fishery management. • Current information does not indicate any unacceptable impacts
<p>Condition</p> <p>The corrective action is described under PI 2.1.4.1 above.</p>	
<p>Client Action Plan</p> <p>Same as action plan for 2.1.4.1</p>	
<p>Surveillance Audit Year Deadline: 2nd SA</p>	<p>Client: Both</p>
<p>Activity Completed in First Surveillance Cycle</p> <p>See the response for PI 2.1.4.1 above.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p>	

There were no milestone deliverables set for this condition for this surveillance audit.
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>
<p>Activity Completed in Second Surveillance Cycle</p> <p>See response for PI 2.1.4.1 above.</p>
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>See response for PI 2.1.4.1 above.</p>
<p>Status of Condition</p> <p>Second Surveillance Audit</p> <p>See response for PI 2.1.4.1 above.</p>

Item 11	Condition 10
<p>Performance Indicator 3.6.1</p> <p>The management system has procedures to measure and record and independently evaluates all aspects of the fishery to provide a basis for assessments of stocks and program performance.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • The management system has a comprehensive monitoring program including adequate observer coverage (at-sea personnel/video). • The monitoring program has been subjected to independent outside review to identify gaps. • The results of monitoring efforts are compiled, analyzed, and disseminated to fishery managers such that management and research efforts can be informed as to needed improvements in a timely manner.
<p>Condition</p> <p>(US Only): The fisheries client actively supports the implementation of Amendment 10 to the Council’s Groundfish FMP (which requires electronic monitoring of all catcher vessels targeting hake and delivering to shoreside processors, and 100% observation of all whiting landings by compliance monitors at shoreside processors). Provide a summary report within two years showing how results of monitoring efforts are compiled, analyzed and disseminated to fishery managers such that management and research efforts can be informed as to needed improvements in a timely manner.</p> <p>(Canada Only): The client must subject the hake fishery monitoring program to an independent, external review to identify any gaps within two years.</p>	

Client Action Plan

U.S.-The hake fishery and all groundfish are subject to periodic stock assessment reviews, which includes outside reviewers. The overall stock assessment process is subject to periodic review as well, which includes data collection and monitoring. The 2007 Enforcement Consultants report recommendations on electronic monitoring have been approved by the PFMC and are scheduled for implementation in 2009.

Client will work with the Enforcement Consultants to ensure that a summary report is completed outlining how the results of the monitoring program are compiled, analyzed and disseminated to fishery managers. Clients will provide this report to the certifier within two years.

Canada- DFO will conduct an impartial review of the fishery monitoring program to confirm that the catch, discards and landings are known, and the stock assessment and management is best informed on the fishery. A panel of experts with expertise in fisheries monitoring system will be convened to examine the precision and accuracy of the current monitoring system and to insure that the program provides adequate catch monitoring. A report summarizing the results of this review will be delivered to the certifier within two years.

Surveillance Audit Year Deadline: 2nd SA

Client: US and Canada – One condition each

Activity Completed in First Surveillance Cycle

US: The client reported that the 2009 fishing year was without extraordinary events and that an Enforcement Consultant's report was not produced for the 2009 season. John DeVore of the PFMC is to provide a report of the 2009 season. For the 2010 fishing season, the enhanced monitoring requirements prescribed by Amendment 10 were implemented and results should be available in 2011 for the past season. It is expected that the requirements of Amendment 10 will be subsumed by the requirements of Amendment 20, the Trawl Rationalization amendment.

Canada: There was no information provided on the condition progress. The Canadian client will be follow up with Archipelago Marine Research to find out what can be provided to respond to the condition.

Activity Evaluation (Milestone deliverables, timeline, results)

There were no milestone deliverables set for this condition for this surveillance audit.

Status of Condition**First Surveillance Audit**

No result was set for this condition for the first surveillance audit.

Activity Completed in Second Surveillance CycleUS Condition

While the Clients did not prepare and provide a specific summary report showing how results of monitoring efforts are compiled, analyzed and disseminated to fishery managers such that management and research efforts can be informed as to needed improvements, they did facilitate submittal of several documents to the surveillance audit team that, when combined with information from interviews of agency staff, satisfy the condition.

Prior to 2011, electronic monitoring (EM) was required on all shoreside catcher vessels to document discard events. The Fishery Client requested and received from NMFS-NWR reports compiling information from the EM program. A report entitled "2010 Shoreside Hake Electronic Monitoring Program: Vessel Summaries", authored by AMR was provided.

In the 2011 fishery, there is now 100% at-sea observer coverage throughout all vessels in the hake fishery, catchers, CP, motherships. There is also 100% independent catch verification at dockside. Details of the regulations implanting these

actions are found in 50 CFR Part 660, Subparts C – G: Federal Pacific Coast Groundfish Regulations for Commercial and Recreational Fishing 3-200 Nautical Miles of Washington, Oregon, and California (through September 2, 2011). There is reconciliation between the landings (catch verification) and fish tickets (processor fish tickets). Differences are investigated to find the cause. In the case of differences, the higher value is the accounted value. Periodic NWFSC published data reports and summary analyses of results of the West Coast Groundfish Observer Program of U.S. west coast fisheries demonstrate how the observer data are compiled and analyzed. These reports are disseminated to fishery managers such that management and research efforts can be informed as to needed improvements.

Dayna Matthews reported that a review of the trawl rationalization year 1 presentation would be presented to PFMC at the November meeting. A Powerpoint presentation will be available. The presentation will summarize the fishery, vessels, landings, violations, etc.

Canadian Condition

A June 10, 2011 report titled: “2010 Pacific Hake Monitoring Program Review” was prepared by Archipelago Marine Research Ltd. (experts in fisheries monitoring systems). A detailed summary of the EM program titled: “Details of the Canadian Groundfish Trawl Pacific Hake At-Sea Monitoring Program” was prepared by DFO. These documents were submitted to the surveillance audit team during the Year 2 audit. In addition, the Canadian GTAC reviews and discusses the monitoring program with DFO, and recommends feasible adjustments that are considered in the Groundfish Integrated Fisheries Management Plan (IFMP).

Full details of the groundfish trawl fishery off the west coast of Canada can be found in the Appendix 8 of the 2011-2013 Groundfish IFMP and in particular for the Pacific hake fishery in the Addendum to the IFMP titled the Offshore Pacific Hake Harvest Plan 2011, both of which have been provided to the surveillance audit team.

Tamee Karim, the DFO Regional Manager for Groundfish, provided the surveillance audit team with a May 19, 2011 article from the ICES Journal of Marine Science: “*The advantages of an audit over a census approach to the review of video imagery in fishery monitoring*”, which, while focusing on the Canadian line fisheries, relates directly to the adequacy of monitoring of the hake fishery. The document suggested the only level of monitoring that would be sufficient to adequately account for total mortality is 100%, and the Canadian commercial hake fishery moved to 100% coast-wide monitoring in 2010.

Activity Evaluation (Milestone deliverables, timeline, results)

US Condition

Amendment 20 (Trawl rationalization) is currently being implemented and associated regulations are in force. In 2011, all vessels participating in the Pacific Hake fishery are required to be observed by either NMFS or contracted observers. All shoreside fishery vessels are required to undergo independent catch verification upon landing. All shoreside processors are required to provide fish ticket data.

A report was provided which describes the 5-year electronic monitoring (EM) pilot project, which concluded in 2010. Furthermore, the team was provided with all information from at sea observers (captured in the PacFin database for catch, fish ticket and catch verification is also captured in PacFIN).

Data treatment is described in the Stock Assessment.

While there was no summary document provided by the client describing how other monitoring efforts (i.e. non-EM) are compiled, analysed and disseminated to fishery managers, the 2011 stock assessment report clearly describes the treatment of these data sources. This information clearly informs fishery management and scientists. This was accomplished within the year condition.

Canadian Condition

The Groundfish Trawl Advisory Committee (GTAC) provides a forum for the elected and appointed representatives (membership includes harvesters, processors, coastal communities, union, Province of BC and DFO) to provide DFO with

advice relating to annual harvest plans for the hake fishery, specifically advice on management measures such as TAC and at-sea monitoring requirements. Typically GTAC provides input prior to the next season and strives to reach consensus on proposed changes.

In 2005 DFO announced the intention of moving commercial groundfish fisheries to 100% at-sea monitoring either via on-board observers or video camera systems. In 2010, the commercial hake fishery moved to 100% at-sea monitoring. DFO, working with the electronic monitoring service provider (Archipelago Marine Research, commercial harvester and processor representatives through a GTAC sub-committee collaboratively tailored the at-sea monitoring program to meet the needs of the commercial hake fishery. In June 2011, the GTAC at-sea monitoring sub-committee reviewed the EM program to identify areas of improvement and ensure the program was meeting the objectives identified in the hake harvest plan. A number of changes, including computer hardware, data reporting for DFO and industry,

The surveillance audit team reviewed two documents evaluating the Canadian fishery at-sea monitoring program and evaluated other evidence and testimony, and can confirm that the catch, discards and landings are known, and results of research efforts are disseminated to stock assessment staff and fishery managers such that management can be informed as to needed improvements in a timely manner.

Status of Condition

Second Surveillance Audit

US Condition

The surveillance audit team is satisfied that there is now a process in place that addresses the third 80 scoring guidepost. The team has rescored this performance indicator to 100 and the condition is closed out.

Canadian Condition

The surveillance audit team is satisfied that there is now a process in place that addresses the second 80 scoring guidepost. The team has rescored this performance indicator to 100 and the condition is closed out.

Item 12	Condition 11
<p>Performance Indicator 3.7.2</p> <p>Surveillance and enforcement are in place to ensure that the fishery complies with requirements of the management system.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> Enforcement systems have been implemented and there is control and high compliance with most management measures that affect fishing mortality over the key fishing areas.
<p>Condition</p> <p>(US Only) The fisheries client actively supports the implementation of Amendment 10 to the Council's Groundfish FMP (which requires electronic monitoring of all catcher vessels targeting hake and delivering to shoreside processors, and 100% observation of all whiting landings by compliance monitors at shoreside processors). Provide a summary report within two years, which demonstrates a high degree of effectiveness.</p>	
<p>Client Action Plan</p> <p>The Enforcement Consultants recommendations have been adopted by the PFMC under Amendment 10. Client will work with the Enforcement Consultants to ensure that a summary report documenting evidence of a high degree of effectiveness will be completed and provided to certifier within two years.</p>	
<p>Surveillance Audit Year Deadline: 2nd SA</p>	<p>Client: US Only</p>
<p>Activity Completed in First Surveillance Cycle</p>	

<p>The client confirmed that in the 2010 season will be done under 100% monitoring, including 100% shore side monitoring for the shore based fleet and 100% at-sea monitoring or 100% electronic monitoring for the catcher/ processors and mothership sectors.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>	
<p>Activity Completed in Second Surveillance Cycle</p> <p>Amendment 20 has been implemented, superseding Amendment 10. 100% observer coverage is required. 100% dockside catch verification of landings is required. This demonstrates that enforcement systems have been implemented.</p> <p>The audit team heard testimony that the most common violation was exceeding individual quota share for specific species i.e. that harvesters were in deficit for their allocated quota for catch and bycatch species. The audit team also heard testimony that most mid-water trawl nets are out of compliance with current regulations. Since 2007, fishers have used chaffing gear in the belly of net (not allowed in last 50 meshes of cod end) to protect the net when hauled up the vessel's stern ramp. Council notes this is a misapplication of council intent and it is not a conservation issue, so will be low enforcement priority. It will be addressed in 2nd program improvements and enhancement (PIE) rule in 2012.</p> <p>The client provided compliance and enforcement statistics from enforcement personnel representing the states of Washington, Oregon and California. In addition, an electronic copy of a November PFM Council presentation from the Enforcement Consultants, entitled "TRAT (Trawl rationalization) Compliance Summary, 2011" was also provided to the assessment team.</p> <p>The team reviewed these documents and concluded that the 80SG had been met. The team concluded that sufficient evidence had not been presented to demonstrate that the 100SG had been met, which states as follows:</p> <p style="padding-left: 40px;">There is a high degree of control on and compliance with all regulations that affect fishing mortality and stock health, for target and non-target populations, over all fishing areas.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>The requirement of the condition has been met and this performance indicator for the U.S. fishery has attained a score of 80.</p>	
<p>Status of Condition</p> <p>Second Surveillance Audit</p> <p>This condition is closed out.</p>	

Item 13	Condition 12	
Performance Indicator 3.7.3		80 Scoring Guidepost
Corrective actions can be applied in the event of non-compliance and there is evidence of their effectiveness.		<ul style="list-style-type: none"> • There are explicit measures used to address non-compliance in a formal or codified system.

	<ul style="list-style-type: none"> The most commonly applied measures have been tested and found effective.
<p>Condition</p> <p>(US Only): The US must develop and implement a system to evaluate the effectiveness of corrective measures, within three years.</p>	
<p>Client Action Plan</p> <p>The clients will work with NMFS and state enforcement agencies to develop an annual reporting system within three years for the hake fishery such that at the end of each season, statistics will be compiled on the number of compliance contacts conducted from various platforms (at-sea, shoreside and aerial), and the number of charges resulting from these contacts. Using this information, agency staff will evaluate whether enforcement priorities were met and whether various enforcement activities were effective. Overall compliance rates for each area and harvest segment will be calculated in order to identify priority areas for enforcement in subsequent seasons.</p>	
<p>Surveillance Audit Year Deadline: 3rd SA</p>	<p>Client: US Only</p>
<p>Activity Completed in First Surveillance Cycle</p> <p>Mike Cenci of the PFMC Enforcement Consultants has indicated they will be periodically evaluating the results of year-end statistics for compliance of the whiting fishery, and will report a summary of the findings to the PFMC.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>	
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>	
<p>Activity Completed in Second Surveillance Cycle</p> <p>Dana Matthews of the PFMC Enforcement Consultants and the PFMC staff Jim Seeger) have initiated efforts to prepare periodic reports evaluating the results of year-end statistics for compliance of the whiting fishery, and will report a summary of the findings to the PFMC. There are indications such a report will occur within the next year.</p>	
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>	
<p>Status of Condition</p> <p>Second Surveillance Audit</p> <p>No result was set for this condition for the second surveillance audit. This is due next year, and there appears to be progress at developing the deliverable identified in the client action plan.</p>	

Item 14	Condition 13	
<p>Performance Indicator 3.7.4</p> <p>There is a clear record of enforcement actions (by-catch limits, mesh regulations and closed areas and seasons).</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> • Formal evidence of violations and corrective actions is available and readily retrievable. • Information is sufficiently detailed to characterize violations. 	
<p>Condition</p> <p>(Canada Only): Canada must develop a system, within two years, to provide documentary evidence that there is a clear record of actions and sanctions, and that sufficiently characterizes violations relative to the hake fishery. Once that is addressed, credit can be given for elements under SG 100 that are being addressed.</p>		
<p>Client Action Plan</p> <p>Within two years DFO will provide a comprehensive query of the DVS system and provide documentary evidence of detailed characterization of the hake fishery violations and disposition of violations (charged, ticketed, court, etc.). Commitment from DFO to be verified by certifier.</p>		
<p>Surveillance Audit Year Deadline: 2nd SA</p>		<p>Client: Canada Only</p>
<p>Activity Completed in First Surveillance Cycle</p> <p>In November 2010, the Canadian client and DFO provided a summary of reported violations for the 2009 – 2010 and 2010 – 2011 seasons. The summary was provided by DFO based on queries of the DFO Departmental Violations System (DVS) database. The summary report provides a list of the violation types and the subsequent action taken. The report is in Appendix B.</p>		
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>The requirements of the condition have been met and this performance indicator for Canada has attained a score of 100 because the Canadian system achieved the two scoring issues at the 100SG.</p>		
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>Condition 13 for PI 3.7.4 for the Canadian fishery has been closed out.</p>		
<p>Activity Completed in Second Surveillance Cycle</p> <p>In November 2010, the Canadian client and DFO provided a summary of reported violations for the 2009 – 2010 and 2010 – 2011 seasons. The summary was provided by DFO based on queries of the DFO Departmental Violations System (DVS) database. The summary report provides a list of the violation types and the subsequent action taken.</p>		
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>See first year audit comment.</p>		
<p>Status of Condition</p> <p>Second Surveillance Audit</p> <p>Condition 13 for PI 3.7.4 for the Canadian fishery has been closed out.</p>		

Item 15	Condition 14	
Performance Indicator 3.7.5	80 Scoring Guidepost	
The fishery is fully compliant with fishing regulations and directives to fishing practices.	<ul style="list-style-type: none"> Based on analysis of results from surveillance and monitoring activities, it is concluded that there is overall compliance with fishery regulations that impact fishing mortality, with few exceptions. 	
Condition		
(US Only) A score of 80 or higher will be attainable upon effective implementation of the elements of the Council's Enforcement Consultants 2007 recommendations. A report that documents levels of surveillance and monitoring and presents results of analysis of these activities, including an evaluation of the level of compliance, must be completed within three years.		
Client Action Plan		
The PFMC is in the process of implementing the Enforcement Consultants report of 2007.		
The client will formally petition the PFMC to task the Enforcement Consultants with conducting an analysis of the levels of compliance, to be completed within 3 years.		
Surveillance Audit Year Deadline: 3 rd SA	Client: US only.	
Activity Completed in First Surveillance Cycle		
See response to Item 13, Condition 12.		
Activity Evaluation (Milestone deliverables, timeline, results)		
There were no milestone deliverables set for this condition for this surveillance audit.		
Status of Condition		
First Surveillance Audit		
No result was set for this condition for the first surveillance audit.		
Activity Completed in Second Surveillance Cycle		
Dana Matthews of the PFMC Enforcement Consultants and the PFMC staff Jim Seger) have initiated efforts to prepare periodic reports evaluating the results of year-end statistics for compliance of the whiting fishery, and will report a summary of the findings to the PFMC. There are indications such a report will occur within the next year.		
Activity Evaluation (Milestone deliverables, timeline, results)		
There were no milestone deliverables set for this condition for this surveillance audit.		
Status of Condition		
Second Surveillance Audit		
No result was set for this condition for the second surveillance audit. This is due next year, and there appears to be		

progress at developing the deliverable identified in the client action plan.

Item 16	Condition 15	
<p>Performance Indicator 3.8.2</p> <p>The management system requires a response to outcomes of internal or external reviews.</p>	<p>80 Scoring Guidepost</p> <ul style="list-style-type: none"> The management system has established explicit objective guidelines for responding to internal and external reviews of management performance. The management system shows evidence of improved performance based on the results of internal and external reviews of management performance. 	
<p>Condition</p> <p>(Canada Only): The DFO recently posted a web publication of a new Framework for the management of fisheries resources. The Framework pulls together, in a cohesive package, existing fisheries management policies, and program tools along with new ones, to help establish a more consistent, transparent and results-focused approach to managing fisheries. This will be accomplished with tools for DFO to monitor, self-assess its plans and program delivery, and report on results.</p> <p>SG80 must be met within two years. Canada must provide a summary report of the results of implementation of the Framework as pertains to hake, and its policies and initiatives (stakeholder consultation, data gap analysis, and priority setting), as it relates to explicit objective guidelines for responding to internal and external reviews of management performance in its management system.</p>		
<p>Client Action Plan</p> <p>Within two years DFO will provide a summary report of the results of implementation of the Framework as pertains to hake, and its policies and initiatives (stakeholder consultation, data gap analysis, and priority setting), as it relates to explicit objective guidelines for responding to internal and external reviews of management performance in its management system. Commitment from DFO to be verified by certifier.</p>		
<p>Surveillance Audit Year Deadline: 2nd SA</p>		<p>Client: Canada only</p>
<p>Activity Completed in First Surveillance Cycle</p> <p>The Canadian client confirmed that Framework has been implemented.</p>		
<p>Activity Evaluation (Milestone deliverables, timeline, results)</p> <p>There were no milestone deliverables set for this condition for this surveillance audit.</p>		
<p>Status of Condition</p> <p>First Surveillance Audit</p> <p>No result was set for this condition for the first surveillance audit.</p>		
<p>Activity Completed in Second Surveillance Cycle</p> <p>Tamee Karim, the DFO Regional Manager for Groundfish provided the surveillance audit team with a detailed summary report and examples on how the agency responds to internal and external reviews (“the feedback loop”) of the hake fishery management. For example: At end of year, the advisory committees have a post season wrap up meeting (March or April)</p>		

to summarize how effectively the fishery was managed. Recommendations are developed, can be supported by DFO and then submitted to DFO. The results of the review recommendations are published in the Hake Integrated Fisheries Management Plan (in May) and posted on the DFO website.

Activity Evaluation (Milestone deliverables, timeline, results)

The Client has provided the requested information in an acceptable format within the set timetable. The framework for management of fisheries resources is new and appears to be working. The team is satisfied that the first scoring guidepost for the 100SG (The management system has established comprehensive, objective standards or triggers for responding to internal and external reviews of management performance.) has been met.

The team concluded it is too soon to “demonstrate a consistent pattern”, as required by the second 100SG, which states (The management system has demonstrated a consistent pattern of responding to the results of internal and external reviews of management performance.).

The team rescored this performance indicator and awarded a score of 90 on the basis of meeting one of two 100 Scoring issues.

Status of Condition

Second Surveillance Audit

The surveillance audit team is satisfied that there is now a process in place that addresses the 80 scoring guideposts. The team has rescored this performance indicator to 90 and the condition is closed out.

Item	Any complaints against the certified operation; recorded, reviewed and actioned
17	No complaints that would potentially compromise the certification were reported or brought to the attention of the audit team during the second surveillance audit site visit.

Item	Any relevant changes to legislation or regulation.
18	<p>There were changes to U.S. regulations during the period of the surveillance audit:</p> <p>In September 2010, the 111th U.S. Congress completed technical corrections to the Pacific Whiting Act for implementing regulations of the US-Canada Whiting Treaty. This action cleared the way for full implementation of the Whiting Treaty. The Pacific Whiting Act calls for the appointment of a Joint Management Committee, Joint Scientific Review Group, Joint Technical Committee, and Advisory Panel. The Joint Management Committee and Advisory Panel are to include individuals from the commercial sector of the whiting fishing industry.</p> <p>The final rule for Pacific whiting harvest specifications and tribal allocation became effective May 16, 2011, and was applicable beginning May 15, 2011. This final rule established the 2011 fishery harvest specifications for Pacific whiting in the U.S. exclusive economic zone (EEZ) and state waters off the coasts of Washington, Oregon, and California, as authorized by the Pacific Coast Groundfish Fishery Management Plan (FMP). These specifications include the overfishing level (OFL), catch limits, and allocations for the non-tribal commercial sectors. This final rule also announces the tribal allocation of Pacific whiting for 2011. For details see http://www.gpoaccess.gov/fr/index.html and http://www.pcouncil.org/.</p>

Item	Any relevant changes to management regime.
19	<p><u>Changes to US Management</u></p> <p>Reapportionment of Pacific whiting allocations. Effective 1200 Noon, l.t. October 29, 2010:</p> <p>Regulations at 50 CFR 660.323 (c) provide for the reapportionment of Pacific whiting allocations that the Regional Administrator determines will not be used by the end of the fishing year. The best available information on October 28, 2010 indicates that a significant portion of the tribal allocation of 49,939 mt for the 2010 tribal Pacific whiting fishery will not be used by December 31, 2010. Therefore, NMFS is taking action at this time to reapportion the surplus whiting. Such reapportionments are generally disbursed to the other sectors in the same proportion as each sector's allotted portion of the commercial OY, and all non-tribal commercial sectors have expressed an interest in additional harvest of Pacific whiting.</p> <p>Effective 1200 Noon, local time on October 29, 2010, 8,000 mt of Pacific whiting is reallocated from the tribal allocation to non-tribal commercial fishery. The revised Pacific whiting allocations by sector for 2010 are: catcher/processor 53,379 mt; mothership 37,679 mt; and shore-based 65,938 mt.</p> <p>Changes to commercial fishery management measures effective July 1, 2011: Midwater trawl gear is permitted only for vessels participating in the primary whiting season in Rockfish Conservation Areas (RCA) – closed before and after the primary whiting season.</p> <p>NMFS solicited nominations for the Advisory Panel (AP) and Joint Management Committee (JMC) on Pacific Whiting called for in the treaty (Federal Register Vol. 76, May 31, 2011, p. 31305).</p> <p>The first bilateral meeting of the Pacific Whiting Advisory Panel to begin implementation of the Whiting Treaty will be held in Seattle on Friday, Oct. 7, 2011. As an interim measure, Canada will send a working group of industry representatives for this first meeting.</p> <p><u>Changes to Canadian Fishery Management</u></p> <p>DFO reported implementation of the Sustainable Fisheries Framework (SFF) in 2011. (http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/overview-cadre-eng.htm). DFO developed new conservation policies to implement the ecosystem and precautionary approaches to fisheries management. The Sustainable Fisheries Framework was developed through engagement with resource users and others with an interest in sustainable fisheries.</p>

Item	Any other relevant changes.
20	There were no other changes identified in either fishery.

Item	Overall Conclusions regarding <i>M. productus</i> in US and Canadian West coast waters
21	The Pacific hake resource is in stable condition. No changes in management have taken place that would detrimentally affect the performance of this fishery against the MSC standard. In fact, management under the US/ Canada agreement on Pacific hake/ whiting and the rationalization of the west coast groundfish fishery can be interpreted as improvements for the

	<p>fishery.</p> <p>The management entities continue to be proactive with research to reduce impacts on habitat and bycatch of non-target species. The fishery continues to make progress in meeting the requirements of the MSC Standard.</p> <p>A total of 17 conditions were raised in the initial fishery certification. This included 13 raised against the US fishery client and 11 raised against the Canadian client. A number of the conditions were applied to both clients.</p> <p>During the second surveillance cycle, a total of four conditions for the US client are now closed out, seven are considered on target with adequate progress demonstrated and two are considered behind target. For the Canadian client, four conditions are closed out, two are considered on target and the remaining five are considered behind target.</p> <p>MSC Certification should therefore continue with audits annually. However, both clients need to provide feedback to Intertek Moody Marine and the assessment team by 31st January 2012 as to how conditions deemed currently behind target will be brought into compliance by the next surveillance audit.</p>
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Information Sources:
<p>Meetings</p> <p>September 20, 2011 Meetings with members of DFO</p> <p>September 21, 2011 Meeting with members of NMFS (Science) and NOAA (enforcement) personnel.</p> <p>September 22, 2011 Meetings with NOAA (Fisheries Management) personnel and PFMC staff (teleconference).</p> <p>September 23, 2011: Teleconference with PFMC staff and meetings with members of the client group</p> <p>References</p> <p>AMR, 2011. 2010 Shoreside Hake Electronic Monitoring Program: Vessel Summaries. Archipelago Marine Research Limited.</p> <p>APHF, 2011. <i>Report to certifier: Qualitative bottom contact survey results from Canadian fleet.</i> 1 page.</p> <p>Bellinger, M.R., M. Banks, L. Weitkamp, and P. Lawson. 2009. <i>Mixed stock analysis of Chinook salmon in Pacific whiting (hake) bycatch collected shoreside in Newport, Oregon.</i> Collaborative Research on Oregon Ocean Salmon. Newport, Oregon.</p> <p>Bellman, M.A., E. Heery, J. Jannot, and J. Majewski. 2010. <i>Estimated discard and total catch of selected groundfish species in the 2009 U.S. west coast fisheries. West Coast Groundfish Observer Program.</i> National Marine Fisheries Service, NWFS, 2725 Montlake Blvd E., Seattle, WA 98112.</p> <p>Department of Fisheries and Oceans (DFO) 2010. <i>Addendum To The 2010/2011 Integrated Fishery Management Plan For Groundfish - 2010 Pacific Offshore Hake Harvest Plan.</i> Nanaimo, British Columbia Canada.</p> <p>DFO 2009. <i>Addendum To The 2009/2010 Integrated Fishery Management Plan For Groundfish - 2009 Pacific Offshore Hake Harvest Plan.</i> Nanaimo, British Columbia Canada.</p> <p>Jannot, J., E. Heery, M.A. Bellman, and J. Majewski. 2011. <i>Estimated bycatch of marine mammals, seabirds, and sea turtles in the US west coast commercial groundfish fishery, 2002-2009.</i> West Coast Groundfish Observer</p>

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US Pacific Hake MSC Clients, 2011a. *Report to certifier: Qualitative bottom contact survey results from US fleet*. 3 pages.

US Pacific Hake MSC Clients, 2011a. *Report to certifier:*

Standards and Guidelines used:

1. MSC Principles and Criteria for Sustainable Fishing
2. MSC Fishery Certification Methodology Version 6. September 2006
3. TAB Directives - all