Agenda Item H.1 Situation Summary April 2011

NATIONAL MARINE FISHERIES SERVICE REPORT

The National Marine Fisheries Service (NMFS) Southwest Region will report on recent regulatory matters.

Council Task:

Discussion.

Reference Materials:

1. Agenda Item H.1.a, SWR Report.

Agenda Order:

- a. Regulatory Activities
- b. Reports and Comments of Advisory Bodies and Management Entities
- c. Public Comment
- d. Council Discussion

PFMC 03/23/11 Mark Helvey

NATIONAL MARINE FISHERIES SERVICE HIGHLY MIGRATORY SPECIES REPORT

REGULATORY ACTIVITY

Vessel Capacity Proposed Rule

NMFS issued a final rule under authority of the Tuna Conventions Act of 1950, as amended, that revised the total U.S. vessel well volume carrying capacity limit for the purse seine fishery which targets tuna species in the IATTC Convention Area (76 FR 283, January 4, 2011). This rule went into effect on February 3, 2011. The changes ensure that U.S. regulations are consistent with well volume capacities authorized under resolutions adopted by the IATTC. The rule sets the purse seine carrying capacity limit to 31,775 cubic meters and requires small purse seine vessels to be listed on the IATTC Regional Vessel Register and included in the total capacity limit calculations. These revisions ensure that the United States is satisfying its obligations under the Tuna Conventions Act while eliminating regulatory constraints hampering economic development of U.S. industry.

Vessel Identification Proposed Rule

NMFS is proposing to revise vessel marking requirements for commercial fishing vessels that fish for HMS off, or land HMS in the States of California, Oregon, and Washington. The rule, if adopted, could affect troll, pole and line, longline, and purse seine vessels, particularly if they operate in the Western and Central Pacific Fisheries Commission (WCPFC) Convention Area. The intent of the proposed action is to bring the existing vessel identification requirements under the HMS FMP at 50 CFR 660.704 and under the U.S.-Canada Albacore Treaty at 300.173 into conformity with the binding vessel identification requirements adopted by the WCPFC, and implemented by NMFS for U.S. fishing vessels fishing in the Convention Area (75 FR 3335 and 3416, January 21, 2010).

Specifically, current regulations would be amended so each vessel that fishes on the high seas in the Convention Area must display its International Telecommunication Union Radio Call Sign (IRCS) or, if an IRCS has not been assigned, the vessel's official number, preceded by the characters "USA—," in order to comply with the international requirements at 50 CFR 300.14 and 300.217. The new requirements would also include detailed technical specifications such as minimum size requirements of characters. U.S. pelagic vessels that fish only within the U.S. Exclusive Economic Zone or on the high seas outside of the Convention Area would have the option to display either the international high seas markings, or maintain markings pursuant to existing requirements at 50 CFR 660.704 and 300.173.

The Council was briefed on this issue at the September 2008 meeting. In a letter dated November 20, 2008, the Council formally recommended that NMFS revise regulations accordingly. The proposed rule should publish in the Federal Register in April 2011 and will be available for public comment for 30 days.

Shark Conservation Act of 2010

The Shark Conservation Act of 2010 (Act) was passed by Congress and became law on January 4, 2011. The Act amends the Magnuson-Stevens Act (MSA) and the High Seas Driftnet Moratorium Protection Act (Moratorium Act). The Act amends the MSA to make it illegal for U.S. fishermen to remove any fin (including the tail) from a shark, possess or land any fin not naturally attached to a shark, or transfer at-sea fins not naturally attached to a shark. In addition, the Act amends the Moratorium Act to direct the United States to urge regional fishery management organizations (RFMOs) to adopt shark conservation measures, including fins-attached provisions, and to enter into international agreements fostering the conservation of sharks. The Act also requires that the United States identify nations in a biennial report to Congress that target or incidentally catch sharks on the high seas and do not have regulatory conservation programs for sharks comparable to the United States. If a nation is identified under this provision, the United States would enter into consultations with that nation. The nation would then be either positively or negatively certified in the following biennial report to Congress. If a nation is negatively certified, its fishing vessels would be denied entry into the United States and the nation could be subject to trade sanctions.

Status of HMS FMP Amendment 2 Secretarial Review and Rulemaking

On January 27, 2011, the Pacific Council sent a letter to NMFS Southwest Region officially transmitting required documentation and requesting initiation of Department of Commerce Secretarial review of Amendment 2 to the HMS FMP. Amendment 2 would modify the current suite of management unit species, establish a new category of ecosystem component species, modify the process for revising numerical estimates of maximum sustainable yield and optimal yield, and specify status determination criteria so that overfishing and overfished determinations can be made for all management unit species. The transmitted documents included the combined draft Environmental Assessment/FMP Amendment and the deemed proposed rule which would implement the codified elements of the amendment. NMFS Southwest Region formally submitted the Secretarial Review package to NMFS' Regulatory Division on March 8, 2011, and a Notice of Availability (NOA) was published in the Federal Register on March 14, 2011 (76 FR 13592). The NOA triggers the start of the Secretarial Review timeline whereby the proposed amendment must be approved, partially approved, or disapproved within 90 days. The public comment period is open for 60 days and comments must be received on or before May 12, 2011. Comments can be submitted by mail, fax, or via the Federal erulemaking portal at the www.regulations.gov website.

Status of Deep-set Longline Swordfish Retention Rulemaking

On December 10, 2010, the Pacific Council sent a letter to NMFS Southwest Region transmitting the Council's final decision to recommend modification of regulations under the HMS FMP pertaining to retention limits of swordfish captured during deep-set longline fishing activities. The modifications would make the HMS FMP regulations consistent with a recommendation made by the Western Pacific Fisheries Management Council for vessels operating out of Hawaii under a limited entry longline permit under

the Pelagics Fishery Ecosystem Plan. NMFS Southwest Region has concluded a preliminary NEPA scoping meeting for this action and the required analytical documentation is under development. It is anticipated that a proposed rule will be published in the Federal Register in May 2011.

MRIP HMS Shark Adaptive Sampling Design Report Finalized

The first phase of the Marine Recreational Information Program (MRIP) funded HMS Shark project has been completed with submission of the final Phase 1 report by project consultants Dr. Vince Gallucci and Aneesh Hariharan of the University of Washington School of Oceanography and Fisheries. The report entitled *An Adaptive Sampling Design for the Estimation of Thresher Shark Catch and Angler Effort in a Recreational Fishery in California* is posted on the NMFS Southwest Region's website for review. The Phase 1 report provided the foundation for the preparation and submission of a Phase 2 MRIP proposal. The Phase 2 proposal requests funds to collect the necessary data to test the adaptive sampling design in parallel with the current California Recreational Fisheries Survey random sampling design. The proposal is under review by the MRIP Operations Team with a final funding decision due sometime in April 2011.

UPCOMING MEETINGS IN 2011

April 26-28, San José, Costa Rica. Meeting of the Inter-American Tropical Tuna Commission (IATTC) Working Group on Fleet Capacity.

May 9-12, La Jolla, CA. Meeting of the IATTC Scientific Advisory Committee.

May 10-12, San Diego, CA. U.S. West Coast Swordfish Informational Workshop.

May 13-14, La Jolla, CA. IATTC technical meeting on sharks.

June 29-July 8, La Jolla, CA. Annual meeting of the IATTC and IATTC working groups.

July 11-15, La Jolla, CA. Joint meeting of the tuna regional fishery management organizations (Kobe III).

July 20-25, TBA. International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) Plenary meeting.

August 9-17, Pohnpei, Federated States of Micronesia. Meeting of the Western and Central Pacific Fisheries Commission (WCPFC) Scientific Committee.

September 6-9, TBA. Meeting of the WCPFC Northern Committee.

September 28-October 4, Pohnpei, Federated States of Micronesia. Meeting of the WCPFC Technical and Compliance Committee.

October 4-5, La Jolla, CA. Meeting of the Parties to the Agreement on the International Dolphin Conservation Program (AIDCP).

December 5-9, Koror, Palau. Annual meeting of the WCPFC.

RECENT MEETINGS

RULEMAKING TO MODIFY HMS FMP PRE-TRIP NOTIFICATION REQUIREMENTS

NMFS is initiating rulemaking to propose modifications to the HMS FMP pre-trip notification regulations codified at 660.712(f). The regulations currently require longline vessel operators to notify NMFS 24 hours prior to departing on a fishing trip. This notification requirement is in place to give NMFS time to place observers on longline vessels. NMFS proposes to modify this requirement to a 72 hour notice in order to have adequate time for observer placement.

The rulemaking also proposes to modify the HMS FMP observer regulations codified at 660.719. Currently, only longline vessel operators have a pre-trip notification requirement. NMFS proposes to require pre-trip notifications for all other gear types covered by the HMS FMP. This would allow for adequate time to place observers on HMS vessels and help NMFS attain observer coverage level goals. Adequate pre-trip notification would also help vessel operators avoid the inconvenience of having to remain in port for an extended period while waiting for an observer to arrive at the vessel. Pre-trip notifications would be required for each gear upon annual notice by the agency, so only observed fisheries would be required to give pre-trip notification to NMFS or its designated observer service provider each year.



Agenda Item H.1.a Supplemental Attachment 2 April 2011

UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration NATIONAL MARINE FISHERIES SERVICE

Southwest Region 501 West Ocean Boulevard, Suite 4200 Long Beach, California 90802- 4213

APR -7 2011 150413SWR2010SF00372:MH

Mr. Mark Cedergreen, Chairman Pacific Fishery Management Council 7700 NE Ambassador Place, Suite 101 Portland, Oregon 97220

Dear Chairman Cedergreen:

On behalf of the Secretary of Commerce, NOAA's National Marine Fisheries Service (NMFS) informs the Pacific Fishery Management Council (Council) that overfishing is occurring on Pacific bluefin tuna (*Thunnus orientalis*) in the North Pacific Ocean (NPO). This determination is made pursuant to section 304 (i) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

Pacific bluefin is a management unit species in the Council's *Fishery Management Plan* for U.S. West Coast Fisheries for Highly Migratory Species (HMS FMP) and the Western Pacific Fishery Management Council's (WPFMC) Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region (Pelagics FEP). Mr. Michael Tosatto, NMFS Regional Administrator of the Pacific Islands Region, is similarly informing the WPFMC about this overfishing determination.

In the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean's (ISC's) 2008 stock assessment, as well as updates in 2009 and 2010, it was reported that the fishing mortality rate for Pacific bluefin was greater than many reference points commonly used as limits, including F_{max} . Consequently, on September 3, 2010, the NMFS Southwest Fisheries Science Center determined that the fishing mortality rate had exceeded the Maximum Fishing Mortality Threshold for at least one year. The determination was based on status determination criteria established by the Council's HMS FMP and the WPFMC's Pelagics FEP.

Pacific bluefin is considered a single North Pacific-wide pelagic stock, conservation and management of which are the responsibility of the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC). The United States is a member of both regional fisheries management organizations. At its 2010 meeting the WCPFC adopted a conservation and management measure that obligates its members to ensure that total fishing effort by their vessels fishing for Pacific bluefin in the WCPF Convention Area north of 20° N. latitude, except artisanal fisheries, stay below the 2002-2004 levels in 2011 and 2012. The measure also requires members,



except Korea, to reduce their catches of juveniles to below the 2002-2004 levels. This measure replaced a similar one adopted in 2009. For the Eastern Pacific Ocean, the IATTC has yet to take action.

Although internationally agreed management measures for Pacific bluefin are in place in the WCPFC Convention Area, international measures are currently inadequate to end overfishing for purposes of the MSA and its implementing regulations. Therefore, while the Council is not required to prepare an amendment to its HMS FMP, it must undertake actions under MSA Section 304(i)(2).

One action is to develop recommendations for domestic regulations addressing the relative impacts of U.S. fishing vessels on the Pacific bluefin stock, and submit such recommendations to NMFS. Based on the Pacific Council's most recent Stock Assessment and Fishery Evaluation report¹, the average annual fractional catch by both the U.S. West Coast commercial and recreational sectors has amounted to less than onetenth percent of the catch in the NPO between 2004-2008. Even with this low catch, the Pacific Council took action a few years ago and recommended a 10-fish bag limit in the recreational fishery that NMFS implemented. However, fishing mortality on the stock stems predominantly from non-U.S. fleets in the NPO, and other unilateral management actions to end overfishing by the United States will have a proportionally diminutive effect in terms of reducing fishing mortality and ending overfishing. Nonetheless, the United States is party to both the IATTC and WCPFC and NOAA must implement domestic regulations as appropriate to fulfill its international obligations.

Another action is for the Council to develop and submit recommendations to the Secretary of State, and to the Congress, for international actions that will end overfishing on the stock. These recommendations must take into account the relative impact on the stock of vessels of other nations compared to that of U.S. vessels.

I strongly urge the Pacific Council to work closely and collaboratively with the WPFMC. The Southwest Regional and Pacific Islands Offices will support and provide coordinated assistance to the Councils in crafting and approving a set of unified recommendations to end overfishing of Pacific bluefin tuna. Please let me know if you or the Council staff have any questions.

Sincerely,

Mark Helvey for Rodney R. McInnis Regional Administrator

F - E. Schwaab, S. Rauch cc:

¹ Pacific Fishery Management Council. 2010. Status of the U. S. West Coast Fisheries for Highly Migratory Species through 2009: Stock Assessment and Fishery Evaluation. Portland, OR. 148 pp.

F/IA - R. Lent
F/SF - E. Menashes (Actg)
F/ST - S. Pooley (Actg)
NWR - W. Steele
PIRO - M. Tosatto, C. Karnella
SWFSC - C. Werner
PIFSC - M. Seki (Actg)

GCPI – F. Tucher GCSW - J. Feder DOS - D. Hogan, W. Gibbons-Fly IATTC – G. Compean Starting Starts OF ANALY

Agenda Item H.1.a Supplemental Attachment 3

April 2011 UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration NATIONAL MARINE FISHERIES SERVICE

Southwest Region 501 West Ocean Boulevard, Suite 4200 Long Beach, California 90802- 4213

APR - 6 2011 150413SWR2001SF00182:MH

Dr. Donald O. McIsaac
Executive Director, Pacific Fishery Management Council
7700 NE Ambassador Place, Ste. 101
Portland, Oregon 97220

Dear Dr. McIsaac:

This letter responds to your letter requesting that vessel monitoring system (VMS) requirements for U. S. west coast-based fishermen fishing North Pacific albacore with a Western and Central Pacific Fisheries Convention (WCPFC) Area Endorsement be modified. The regulation in question requires owners or operators of vessels used for commercial fishing for highly migratory species on the high seas in the WCPFC Area to carry an operational shipboard VMS unit which automatically reports the vessel's location whether inside or outside the convention area. My staff spent considerable time working with the National Marine Fisheries Service's (NMFS) Pacific Islands Regional Office and Offices of General Counsel and Law Enforcement in seeking a viable solution. However, after much discussion, NMFS determined that any deviation from the requirements at 50 CFR part 300, subpart O would undermine U. S. efforts in advocating for stronger illegal, unreported, and unregulated fishing measures at the international level.

However, NMFS would like to offer some solutions to alleviate the financial burden of the VMS program to fishermen. The largest single non-recurring cost factor associated with implementation of this regulation is the VMS hardware. Contingent on continued funding availability and owner eligibility requirements, most west-coast commercial albacore fishing vessels obtaining a WCPFC Area Endorsement would be eligible for reimbursement of VMS hardware costs up to \$3,100. This ceiling should accommodate the VMS hardware packages approved by NMFS. I have attached a copy of the reimbursement form with instructions for filing. If owners wish to confirm hardware options or other technical factors prior to purchasing a unit, they should contact the NOAA Fisheries Office of Law Enforcement, Pacific Islands Division at pidvms@noaa.gov.

Another expense is the recurring cost of satellite airtime for VMS position reporting. Given that the west coast fleet may spend extended periods outside the Convention Area, three approved vendors, with NMFS' concurrence, are offering reduced pricing options



from type approved vendors for vessels operating east of 150° West longitude. Information on the three approved vendors including points of contact can be found on Attachment 2.

In closing, I would request that the Pacific Fishery Management Council advise its albacore fishermen of these options described above. Should an owner coordinate with one of the VMS vendors regarding any of the options outlined above, please inform our NOAA Fisheries Office of Law Enforcement, Pacific Islands Division at pidvms@noaa.gov.

Sincerely, 4-

Kon

Rodney R. McInnis Regional Administrator

Enclosures

cc:

PIRO – M. Tosatto, C Karnella GCEL/SW - P. Ortiz GCEL/PI – A. Cole OLE/PI – B. Pickering OLE/SW– D. Masters



PACIFIC STATES MARINE FISHERIES COMMISSION 205 SE Spokane Street, Suite 100 Portland, OR 97202 Tel: (503) 595-3100 Fax: (503) 595-3444 www.psmfc.org



VMS REIMBURSEMENT REQUEST FORM

This reimbursement opportunity is available to fishing <u>vessel owners and/or operators</u> that have purchased an approved E-MTU device in order to comply with fishery management regulations. For units purchased on or after 2.1.2008, the reimbursable expense is the purchase price of a type-approved E-MTU for which the owner and/or operator holds a valid commercial fishing permit or license, not to exceed a maximum of \$3,100.00. For units purchased prior to 2.1.2008, the reimbursable expense is the purchase price of a type-approved MTU/E-MTU for which the owner and/or operator holds a valid commercial fishing permit or license freight, not to exceed maximum reimbursement amount by fishery (AK \$1,750; NE \$2,995; NW \$3,070; PI \$1,750; PI Groundfish \$3,100).

Units purchased prior to July 5, 2006 are no longer eligible for reimbursement per <u>NMFS Directive 06-102</u>.

HOW TO REQUEST REIMBURSEMENT FOR VMS:

- 1. Purchase, install, and activate a NOAA OLE Type-Approved VMS unit.
- 2. Contact NOAA OLE VMS Helpdesk at 1.888.219.9228 to obtain four-digit reimbursement confirmation number.
- 3. Complete and sign this reimbursement request form or visit <u>www.psmfc.org</u> for web form.
- Mail or fax the <u>reimbursement request form</u>, a copy of the <u>itemized sales invoice</u>, and a copy of the vessel's <u>Certificate of</u> <u>Documentation</u> and/or <u>Federal Fisheries Permit</u> and/or <u>State Registration</u> to <u>Pacific States Marine Fisheries Commission 205 SE</u> <u>Spokane Street</u>, Suite 100, Portland, OR 97202 or 503.595.3444.

For additional help with completing this form, consult the VMS Request Form Instructions or contact PSMFC at 503.595.3110.

I. VESSEL INFORMATION

Vessel Name:					
Region (select one):	🗌 Alaska (AK)	Northeast (NE)	Northwest (NW)	Pacific Islands (PI)	Southeast (SE)
Permit Number:		Fishery/Permit T	ype:		
USCG Documentation Number:		State Registration	State Registration Number:		
License Number:		Other:			

II. VESSEL OWNER INFORMATION

As it appears on permit, title, license, registration, etc. If under business ownership, provide business name and owner name.

First Name:	MI:	Last Name:
Business Name:		
Mailing Address:		
Phone Number:	Email Address	
Phone Number:	Email Address	

III. NOAA OLE COMPLIANCE AND REIMBURSEMENT CONFIRMATION INFORMATION

NOAA OLE Issued Confirmation Number:			Date Confirmation Issued:	
	 	 		<u></u>

PSMFC Form VMS-2009-2.1

Form Effective Date 6.2009 (Previous Versions Obsolete)



PACIFIC STATES MARINE FISHERIES COMMISSION

205 SE Spokane Street, Suite 100 Portland, OR 97202 Tel: (503) 595-3100 Fax: (503) 595-3444 www.psmfc.org



VMS REIMBURSEMENT REQUEST FORM

IV. VMS TRANSMITTER INFORMATION

VMS Transmitter ID and/or serial number must be on itemized sales invoice in order for processing of reimbursement request.

Transmitter ID/Serial Number:	Vessel Email Address:	
VMS Brand:	VMS Model:	
Installation Date:	Installed By:	
Electronics Dealer:		
Dealer Contact:	Dealer Phone:	

V. REIMBURSEMENT PAYMENT INFORMATION

Make reimbursement check payable to:

Check one of the following selections. If approved, a reimbursement check will be sent to the person/entity specified in this section.

Applicant:	Vessel Owner			Vessel Operator			
Vendor:	Boatracs Inc.	CLS America Inc.	🔲 Faria Watchdog Inc.	GMPCS Personal Communications, Inc.	SkyMate Inc.	Thrane & Thrane Inc.	

Applicant Information:

Applicant information <u>required</u> for reimbursements to be made to applicant <u>or</u> vendor as specified above. The applicant is the Vessel Owner or Operator responsible for purchasing the installed VMS transmitter unit, and completing and signing this form.

Applicant:	Vessel Owner	Vessel Operator
First Name:	MI:	Last Name:
Business Name:		
Mailing Address:		
Phone Number:	Email Ac	ldress:

VI. APPLICANT SIGNATURE

Under penalties of perjury, I hereby declare that I, the undersigned, completed this application and the information contained herein is true, correct, and complete to the best of my knowledge. I also declare that the VMS transmitter described above has been installed on board the vessel listed above and is intended for use only on this vessel.					
Applicant First Name:	MI:	Last Name:			
Business Name:					
Applicant Signature:			Date:		

DO NOT WRITE BELOW THIS POINT – PSMFC OFFICE USE ONLY							
DATE RECEIVED	DATE APPROVED	CONFIRM DATE	UNIT TYPE	APPROVED AMT	ΡΑΥ ΤΟ	INVOICE DATE	INVOICE NUMBER

PSMFC Form VMS-2009-2.1

Form Effective Date 6.2009 (Previous Versions Obsolete)

Attachment 2

NMFS Approved VMS Units

- Faria, which utilizes Iridium satellite services for its "Watchdog 750 with vTerm" VMS units is offering the west coast albacore fleet an option of \$24.95/month flat rate which will cover hourly reporting west of 150° West, and 4-hour interval reporting when east of 150° West, without any additional fees. The POC at Faria for this pricing option is Bill MacNeilly at billmac@fariawatchdog.net (ph: 860-848-6600, ext 114).
- CLS America, which also utilizes Iridium satellite services for its "Thorium" VMS units is offering the fleet two options (at the owner's discretion): 1) a "Dormant Mode" when east of 150° West, reporting 4 positions per day at \$20/month flat rate. They indicated, though, that to obtain this reduced price the vessel would need to remain in this status (ie., east of 150° West) continuously for at least 6 months, and there would be a \$60 "re-activation fee" if/when the vessel moves west of 150° West and resumes hourly reporting, or 2) a "Reduced Reporting Mode" when east of 150° West, reporting 4 positions per day at \$25/month flat rate which would not have the 6-month-continuous requirement or re-activation fee. The POC at CLS America for this pricing option is Dana Potts at dpotts@clsamerica.com, (ph: 240-492-1905).
- **GMPCS** (for Thrane and Thrane 3026D units) utilizes INMARSAT-C satellite services and features per-report pricing (approx. 10 cents/report) rather than a flat rate, but has indicated that reduced charges for vessels could be achieved by altering the software code resident on the VMS unit to automatically reduce the polling rate (and associated costs) when east of 150° West. The POC for GMPCS, Tony Pancho, at tony.pancho@GMPCS-US.com, (ph: 954-973-3100) has indicated that owners interested in this feature will need to ensure sufficient time prior to installation/departure for testing prior to deploying units, since this is a new feature in this region has yet to be tested.

HIGHLY MIGRATORY SPECIES ADVISORY SUBPANEL REPORT ON THE NATIONAL MARINE FISHERIES SERVICE REPORT

Shark Conservation Act

The Highly Migratory Species Advisory Subpanel (HMSAS) brings to the attention of the Council that the Shark Conservation Act that became effective on January 4, 2011 makes the harvesting of our West Coast shark resources impossible to comply with for the following reasons:

- 1. In the commercial net fishery, it is virtually impossible to remove the sharks with the fins attached without damaging the net and/or catch.
- 2. In all fisheries, many sharks with fins attached cannot be maintained at proper holding temperatures to assure seafood safety.
- 3. When the fins are left intact, blood coagulation occurs and prevents proper bleeding and cleaning.
- 4. There is a personal safety issue to fishermen if the fins are not removed as quickly and efficiently as possible (see Magnuson-Stevens Fishery Conservation and Management Act [MSA], National Standard 10).

Summary: The HMSAS is informing the Council that shark harvesting would be impossible under the Federal Shark Act of 2010. We ask that a letter go to Eric Schwaab (Assistant Administrator, National Oceanic and Atmospheric Administration Fisheries) requesting amendments to allow our west coast fishery to legally proceed. The Shark Finning Prohibition Act of 2000 amended the MSA to prohibit any person under U.S. jurisdiction from:

- 1. Engaging in the finning of sharks;
- 2. Possessing shark fins aboard a fishing vessel without the corresponding carcass; and
- 3. Landing shark fins without the corresponding carcass.

Section 9 of the Shark Finning Prohibition Act defines finning as the practice of taking a shark, removing the fin or fins from a shark, and returning the remainder of the shark to the sea.

The HMSAS believes that the Act was NOT designed to prevent fishing, and therefore requires an amendment that addresses the issues above. An example is the exclusion for dogfish on the east coast because they could not remove them from the nets.

National Marine Fisheires Service Pre-notification Requirement for Observers

The HMSAS requests an amendment to the 72-hour pre-notice proposed regulation: "If the observer does not show up within the 72-hour notice, the vessel is free to depart on the planned trip."

Vessel Monitoring System (VMS) Requirement

The HMSAS advises the Council that the industry appreciates the efforts of the Council and National Marine Fisheries Service to reduce the financial burden on the vessel owners. However, the industry does not understand the reason why the VMS unit is required to be activated while the vessel is not in the Western and Central Pacific Fisheries Commission (WCPFC) convention area. A recent letter to the WCPFC from the European Union also questions the VMS requirements when the vessel is outside WCPFC area. The HMSAS understands that the Western Pacific Fishery Management Council (WPFMC) has taken the lead for the VMS requirement. The HMSAS requests that the Council pursue in cooperation with the WPFMC a change in WCPFC regulations so that VMS activation is not required when a vessel is outside the WCPFC convention area.

PFMC 04/10/11

NORTH PACIFIC ALBACORE TUNA CONSERVATION AND MANAGEMENT

At their April 2010 meeting the Council considered the need to establish a limited entry program for the west coast surface hook-and-line fishery for albacore. The issue was raised in part because the last stock assessment for North Pacific albacore (in 2006) concluded that the estimate of spawning stock biomass (SSB) was the second highest in history but if the current fishing mortality rate ($F_{CUR(2002-2004)}=0.75$) continued SSB would gradually decline to the long-term average by the mid 2010s. As a result, the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) recommended reducing fishing mortality from F_{CUR} .

A new stock assessment is scheduled to be completed in 2011. A meeting of the ISC Albacore Working Group (Model Subgroup) was scheduled for March 14 – March 18 in Shimizu, Japan. However, because of the recent earthquake in Japan the meeting has been rescheduled to April 18 - 30.

At the April 2010 meeting the Council requested additional information in order to support the development of U.S. proposals for albacore conservation and management at the international regional fishery management organization level and to support further consideration of controls domestic measures. They directed the Highly Migratory Species Management Team (HMSMT), with assistance from the Highly Migratory Species Advisory Subpanel (HMSAS) to gather additional information about characteristics of domestic and international albacore fishing fleets. Agenda Item H.2.b, HMSMT Report contains the requested information.

Because the North Pacific albacore stock assessment results were delayed subsequent to the scheduling of this agenda item, the Council action has to be refocused. After reviewing reports from the HMSMT and HMSAS the Council may want to request additional information to support future decision-making. The Council could also consider potential recommendations and responses under different "what if" scenarios for the impending stock assessment, such as stable or improving stock status versus a decline in SSB consistent with F_{cur} continuing or a more rapid decline in SSB.

It is expected that stock assessment results will be available for the Council to review at the June meeting. If the Council requests additional information from the advisory bodies this could be provided as well. Finally, as described in Agenda Item K.4.c, Supplemental Public Comment, March 2011, a consultant secured by National Marine Fisheries Service has proposed to deliver an economic analysis of the west coast U.S. commercial albacore industry to the Council at the June meeting.

Council Action:

Provide Guidance for further Analyses to Support Council Management Decisions and for the Development of Preliminary Recommendations for Conservation Measures at the International Level

Reference Materials:

1. Agenda Item H.2.b: HMSMT Report.

Agenda Order:

a. Agenda Item Overview

Kit Dahl

- b. Reports and Comments of Advisory Bodies and Management Entities
- c. Public Comment
- d. **Council Action**: Provide Guidance for further Analyses to Support Council Management Decisions and for the Development of Preliminary Recommendations for Conservation Measures at the International Level

PFMC 03/22/11

HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON NORTH PACIFIC ALBACORE FISHERIES

I. <u>Introduction</u>

In April 2010, the Council directed the Highly Migratory Species Management Team (HMSMT) to gather additional information about characteristics of international and domestic albacore fishing fleets. This information could be used to develop any U.S. proposals for albacore conservation and management at the international regional fishery management organization (RFMO) level and appropriate domestic management measures should action be necessary in response to an updated stock assessment. The Council asked to receive a report on these matters in the first half of 2011 in order to consider possible mechanisms for controls on albacore fishing effort. This report presents an overview of the catch of and fishing effort estimates for the main U.S. fishery targeting albacore, the commercial surface hook-and-line fishery¹; details on the participation of U.S. west coast-based commercial fishing vessels landing albacore; and information on illegal, unreported and unregulated (IUU) fishing.

II. International and U.S. Albacore Catch and Effort

A stock assessment for North Pacific albacore is due to be completed by the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) Albacore Working Group (ALBWG) in early 2011 and recommendations based on the status of the stock will come from the ISC Plenary at their July meeting. The last assessment was completed in 2006. Biomass and spawning biomass were estimated to be near historical high levels; however, fishing mortality rates were also considered high relative to most reference points used to manage large pelagic fish. Based on the 2006 assessment results, the Inter-American Tropical Tuna Commission (IATTC) and the Western and Central Pacific Fisheries Commission (WCPFC) passed conservation measures² requiring that the fishing effort of all member nations is not to increase beyond the "recent levels," later proposed by the Northern Committee as the period from 2002-2004. The U.S. submits statistics to the IATTC and WCPFC on commercial albacore catch every six months and on effort annually. If the results of the 2011 stock assessment demonstrate a worsened condition for the albacore stock, the international RFMOs may update their conservation measures and require a reduction in catch and/or effort. This section of the HMSMT report summarizes the recent catch and effort levels for the U.S. west coast based commercial surface fleets (i.e. troll and pole-and-line which will be collectively referred to as surface hook-and-line throughout this report), which constitute the major U.S. fleets landing North Pacific albacore. In addition, albacore catch by foreign fleets has been compiled by the ISC Albacore Working Group and is presented.

Over the past 10 years (2000-2009), the U.S. commercial fleets have accounted for roughly 15 percent of the total North Pacific wide albacore catch (Table 1 and Figure 1). Of that, approximately 94 percent is taken by the commercial surface hook-and-line fleets (See Table 1). Japanese fleets account for the

¹ The surface hook-and-line fishery for albacore is defined in the HMS FMP as commercial vessels landing albacore using pole, troll, or another combination of one or more hooks attached to the vessel by one or more lines.

² IATTC Resolution C-05-02 available at <u>http://www.iattc.org/PDFFiles2/Resolutions/C-05-02-Northern-albacore-tuna.pdf;</u> and WCPFC Conservation and Management Measure CMM 2005-03 available at

http://www.wcpfc.int/doc/cmm-2005-03/conservation-and-management-measure-north-pacific-albacore.

greatest proportion of the catch at about 65 percent during the same period. Other nations with significant catch include Chinese-Taipei and Canada, each with roughly 7 percent of the total North Pacific catch since 2000. See ISC ALBWG report from July 2010 (ISC 2010) for more detail on international albacore catch and effort including a table of catch history by fleet for the main fishing nations since 1952.

Korea Chinese-Taipei Mexico Canada Other Japan United States Grand Yea Distant Other Surface Total Offshore Pole-and Water Purse ole-and Hook-and Longline Other ongline Longline Seine Sport Longline Othe Line onaline. Line Troll Troll Lonaline Line 1995 1,177 20,981 29,050 1,244 14 4,280 8,045 102 882 230 1,763 94 67,947 80 5 469 1996 581 20.272 32.440 1.101 158 7.596 24 16.938 88 1.185 282 21 3.316 1.735 86.207 337 1997 1.068 38.899 404 9.119 1.018 196 2.824 106.756 32.238 2,119 73 14.252 1.653 53 2.168 336 1998 1.554 22.926 35.755 1.541 226 8.617 193 79 14.410 1.208 1.120 203 8 4.177 341 5.871 98.229 207 1999 6.872 50.369 33.339 1,332 99 8.186 60 10.060 3.621 1.542 529 57 2.734 228 6.307 125.542 2000 2.408 21.550 29.995 934 15 7.898 944 69 9.645 1.798 940 182 103 4.531 386 3.654 85.052 2001 974 29,430 28,801 646 64 7,852 832 139 11,210 1,635 1,295 339 23 5,248 230 1,471 90,189 2002 3,303 48,454 23,585 1,313 112 7,055 910 381 10,387 2,357 525 269 28 5,379 466 700 105,224 145 2003 627 36,114 20,907 1,133 146 6,454 712 59 14,102 2,214 524 28 6,861 378 (2,400)92,804 887 4,061 927 127 13,346 1,506 170 7,856 4,096 90,316 2004 7,200 32,255 17,341 78 361 104 2005 850 16.133 20.420 1.053 420 3.990 483 66 8.413 1.719 296 195 0 4.845 4.168 63.052 2006 364 15,400 21,027 138 3,848 469 23 12,524 385 270 98 109 5,832 5,039 66,249 723 2007 5,682 37,768 22,336 819 2,465 451 21 11,887 1,225 250 102 6,075 3,510 92,687 56 40 365 1,050 68,528 2008 825 19,060 22,386 (2,196 2,490 579 10,672 257 353 30 10 5,478 2,777 (365) (203) (5,685) 2009 (2,151) (32,421) (17,516) (2,196) (1,866) (512) (2,084)(10,686)(541) (141)(17) (1,553) (77,937)

Table 1. Total North Pacific albacore landings in metric tons, 1995-2009.

Notes: Data provided by John Childers, ISC Albacore Working Group Data Manager.

Values in parentheses are considered preliminary.

Japan "Other" includes gill net, set net, troll other unspecified gears.

U.S. "Other" includes purse seine, gill net, tropical troll and handline, and other unspecified gears.

Mexico fisheries include purse seine and pole-and-line.



Figure 1. Total North Pacific albacore landings by nation, 1952-2009.

Notes: Data provided by John Childers, ISC Albacore Working Group Data Manager.

Under the international conservation measures for North Pacific albacore, all nations are required annually to report on their commercial catch and effort on albacore to the regional fishery management organizations (RFMOs; IATTC and WCPFC). These data are supposed to be provided by fleet in the most appropriate unit of measure to gauge effort; however, detailed effort data are not readily available in the annual summary reports circulated by the IATTC and WCPFC and the data are held by the RFMOs under strict confidentiality rules. Data on the number of vessels targeting North Pacific albacore are also compiled by the ISC ALBWG for the primary nations targeting albacore by fishery and are provided in Figure 2. The numbers of Japanese longline, Japanese pole-and-line, and U.S. surface hook-and-line vessels have trended down since the mid-1990s, while the numbers of vessels in other fleets have largely remained flat.



Figure 2. Number of vessels operating by several international fleets targeting North Pacific albacore, 1971-2009.

Notes: Data provided by John Childers, ISC Albacore Working Group Data Manager. Data for 2009 are considered preliminary.

Effort for the U.S. surface hook-and-line fleet is presented in Table 2 and Figure 3. Effort in vessel-days for the small proportion of catch allocated to other U.S. pole-and-line vessels in Table 1 was calculated based on the catch rates for the surface hook-and-line fleet. Effort both in vessel-days and the number of vessels participating has been decreasing since the late 1990s. A characterization of the total effort for the U.S. commercial fleets was done by the SWFSC staff and HMSMT in 2007 (PFMC 2007). In that analysis, the units of effort for fleets catching albacore in relatively low numbers with gears other than surface hook-and-line were converted to reference fishing days using an algorithm based on calculated albacore catch rates. The results of that analysis for the total commercial effort are shown in Figure 3 for comparison with the current effort analysis for the surface hook-and-line fleet. Generally the analyses show the same trend for data through 2005, with the surface hook-and-line effort representing 90-95 percent of the total effort, on average. The divergence in the effort data for 2006 reflects data that were preliminary at the time and have since been updated to reflect lower effort than was first estimated.

Fishing Season	Catch (mt)	No. of Vessels	No. of Trips	Effort (Vessel- Days)	CPUE (Fish per Day)
1995	8,125	471	1,094	26,273	45
1996	16,962	676	1,816	32,740	89
1997	14,325	1172	4,000	45,710	45
1998	14,489	841	2,358	21,370	104
1999	10,120	776	2,555	35,665	35
2000	9,714	753	1,880	38,022	38
2001	11,349	964	2,824	26,091	66
2002	10,768	716	1,868	26,201	67
2003	14,161	798	2,370	21,711	75
2004	13,473	737	2,400	26,446	79
2005	8,479	565	1,574	24,925	46
2006	12,547	623	1,857	22,046	87
2007	11,908	672	2,212	24,042	70
2008	11,722	523	1,498	18,241	88
2009	(12,770)	(652)		(25,675)	(74)

Table 2. Catch and effort for the U.S. surface hook-and-line fleet.

Notes: SWFSC data; provided by John Childers, HMS Data Manager.

A small proportion of the catch and effort, roughly 3% annually on average, are reported for "unspecified pole-and-line" vessels; effort for those vessels was estimated based on the catch rates for the main surface hook-and-line fleet.

CPUE is based on logbook data and standardized by 1 degree square and 10 day period.



Figure 3. U.S. commercial catch and effort for North Pacific albacore, 1995-2009.

Notes: SWFSC preliminary analysis.

While each nation is left to manage their fisheries domestically to comply with IATTC and WCPFC conservation measures if they fish within the respective RFMO areas, there is little information publicly available on the specific national regulations and management structure for foreign fishing nations such as Japan and Taiwan. At this time the HMSMT is uncertain what, if any, national regulations have been put in place to implement the conservations measures for North Pacific albacore.

III. Characterization of the West Coast Albacore Fishery

Historical Trends in the Fishery

Figure 4 shows U.S. west coast albacore landings recorded in the PacFIN database. The vast majority of landings were made by pole-and-line or troll gear that in most years accounted for 99 percent or more of the total landings. Landings fell in the late 1980s-early 1990s but have been generally trending upward since then. Landings in 1981, 1996, 1998, 2003, and 2004 were more than one standard deviation above the mean (9,129 mt), while landings in 1987 through 1992 series were more than one standard deviation below the mean in each year. Figure 1 includes a smoothing spline, which smoothes annual fluctuations in order to capture local trends. The smoothing spline illustrates the downtrend in albacore landings from the early 1980s through the early 1990s, followed by subsequent recovery by 1996 to a similar level as that in the early 1980s.



Figure 4. West coast albacore landings (mt), 1981-2009.

Notes: Landings obtained from fishticket data using the PacFIN Explorer tool on February 8, 2011. Landed weight in pounds converted to metric tons by dividing by 2204.6. Pole/troll landings represent PacFIN gear codes "POL" and "TRL."



Figure 5. Ex-vessel revenue from west coast albacore landings in real (inflation adjusted, 2010 prices) dollars, 1,000s, 1981-2009.

Notes: Revenue obtained from fishticket data using the PacFIN Explorer tool on February 8, 2011. Real prices determined using the gross domestic product: implicit price deflator (2005=100). Pole/troll landings represent PacFIN gear codes "POL" and "TRL."

Figure 5 shows ex-vessel revenue converted to real (inflation adjusted) dollars, with a smoothing spline added to capture local trend. Inflation adjusted revenues show a similar pattern of decline (1981-1991) and subsequent recovery (1991-1996) to that seen in the landings data. Ex-vessel revenue was more than one standard deviation above the mean (\$21.8 million) in 1981 and 1996 and more than one standard deviation below the mean in 1986, 1987, and 1989-1991.

Figure 6 shows the prices per pound paid for surface hook-and-line caught albacore, adjusted for inflation. A trend line and a smoothing spline have been added to the figure to highlight average and cyclical trends. The trend line shows a gradual downward trend in real prices over the entire period. The smoothing spline, which is sensitive to the cyclical features of the price data, shows a downtrend in real prices from 1981 (\$1.82/lb) through 1985 (\$0.93/lb), followed by a subsequent uptrend through 1992 (\$1.52/lb), another downtrend through 2002 (\$0.77/lb), and finally an increase to the recent levels above \$1.00/lb (\$1.20/lb in 2008).



Figure 6. Average annual price per pound for albacore in real (inflation adjusted, 2010) dollars, 1981-2010.

Notes: Prices obtained from fishticket data using the PacFIN Explorer tool on February 8, 2011. Real prices determined using the gross domestic product: implicit price deflator (2005=100). Pole/troll landings represent PacFIN gear codes "POL" and "TRL."

Geographic Variation in Landings over Time

Figure 7 shows albacore landings by west coast state from 1981 to 1999. Landings have generally declined in California while increasing in Washington, and to a lesser degree in Oregon.

Table 3 shows the percentage of coastwide landings by state for three decadal periods, illustrating the northward shift in landings.

Period	California	Oregon	Washington
1981-1989	65%	21%	14%
1990-1999	31%	31%	38%
2000-2009	11%	34%	54%

 Table 3. Percentage of coastwide albacore landings by state for three time periods, 1981-2009.



Figure 7. landings by state (mt), 1981-2009.

Notes: Landings obtained from fishticket data using the PacFIN Explorer tool on February 8, 2011. Landed weight in pounds converted to metric tons by dividing by 2204.6. Assignment by state based on PacFIN agency id (agid) code.

Figure 8 shows total albacore landings by county for the two most recent decades (1990-1999 and 2000-2009). The panels show the geographic shift in landings at a finer scale.

Table 4 shows the 10 top-ranked counties by landings for these time periods. Los Angeles County shows the largest decline in landings among these counties. Although still ranked in the top 10 for the 2000-2009 period, this county dropped from second to eighth place. It also appears that landings have become more concentrated in the top-ranked counties. For example, during the 1990-1999 period the three top-ranked counties accounted for 57 percent of coastwide landings while in the 2000-2009 period they accounted for 67 percent of coastwide landings.

	1990-1999			2000-2009				
	County	Landings		County	Landings			
1	Pacific County, WA	2,103.00	1	Pacific County, WA	3,482.10			
2	Los Angeles County, CA	1,449.28	2	Grays Harbor County, WA	2,651.90			
3	Lincoln County, OR	1,119.37	3	Lincoln County, OR	1,780.28			
4	Grays Harbor County, WA	983.51	4	Clatsop County, OR	1,180.67			
5	Clatsop County, OR	929.84	5	Coos County, OR	811.92			
6	Coos County, OR	271.43	6	Humboldt County, CA	340.85			
7	Monterey County, CA	269.94	7	Whatcom County, WA	302.07			
8	Humboldt County, CA	232.08	8	Los Angeles County, CA	244.09			
9	Del Norte County, CA	158.54	9	Monterey County, CA	187.42			
10	San Diego County, CA	120.57	10	San Luis Obispo County, CA	174.03			

Table 4. Top-ranked counties for albacore landings and average annual landings (mt) for two time periods.



Figure 8. Albacore landings by county, 1990-1999 and 2000-2009.

Notes: Landings obtained from fishticket data using the PacFIN Explorer tool on February 8, 2011. Landed weight in pounds converted to metric tons by dividing by 2204.6. Assignment to county based on PacFIN county id (cid) code in apr table. Interval values are total landings for the period; average annual landings obtained by dividing by 10. Counties where less than three vessels made landings during the period are excluded based on data confidentiality rules.

Vessel Participation

Figure 9 shows the numbers of vessels making albacore landings on the U.S. west coast by year; a smoothing spline was added to highlight the intermediate-term trends in participation. As mentioned previously, the vast majority of landings are made by vessels using pole-and-line or troll gear. The graph shows the number of vessels participating generally declined from the early 1980s through the early 90s, then subsequently recovered to about 75 percent of the early-1980s level by 1997. Participation has been generally declining since the interim peak in 1997 of 1,213 vessels (1,191 using pole-and-line or troll gear). From 1998 through 2009 participation by pole/troll vessels has averaged 744 vessels per year.





Notes: Vessel counts obtained from fishticket data using the PacFIN Explorer tool on February 9, 2011.

Taken together, Figures 4, 5, 7, and 9 reflect a historic period of the west coast albacore fishery marked by decline in landings, real revenues and participation during the 1980s through the early-1990s, followed by subsequent recovery, at least in terms of landings, to similar levels as those of the early-1980s. The real price and number of participating vessels were at their highest levels in 1981, which have not been subsequently approached. The decline in the fishery during the 1980s may reflect growth of high-seas driftnet effort during the 1980s. The United Nation's adoption in the early-1990s of a global moratorium³ on all large-scale pelagic drift-net fishing on the high seas of the world's oceans and seas may help explain the subsequent recovery of the fishery.

³ United Nations General Assembly 79th plenary meeting (20 December 1991): Large-scale pelagic drift-net fishing and its impact on the living marine resources of the world's oceans and seas (http://www.un.org/documents/ga/res/46/a46r215.htm)

Description of Fleet by Percent of Landings and Revenues from Albacore

Table 5 and Table 6 update the analysis of vessel participation presented to the Council in April 2010. The figure and tables present counts of vessels grouped in percent intervals according to surface hookand-line (pole-troll albacore, or PTA) as a proportion of total landings or revenue from all species (the lines in the panels in Figure 10). The figure and tables also show average annual per-vessel PTA landings / revenue for each percent bin and the tables additionally show each bin's share of total PTA landings / revenue.

In 1990-1999, 54 percent of all vessels fell in the "10 percent or less" bin (i.e., PTA accounted for less than 10 percent of their total landings) but this group fell to 42 percent of all vessels in the 2000-2009 period. In 1990-1999 this group averaged 550 kg PTA landings per-vessel annually, increasing slightly to 770 kg in the 2000-2009 period. The next largest group of vessels falls in the "more than 90 percent" bin. Measured by landings, this group accounted for 16 percent of all vessels 1990-1999, increasing to 24 percent in the 2000-2009 period. This group of vessels accounted for 44 percent of total PTA landings, 1990-1999, increasing to 50 percent, 2000-2009. Interestingly, on a per-vessel basis vessels in the 80-89 percent range have the highest per-vessel average annual catches of PTA even though they account for a small fraction of total PTA catch. The fishery is dominated by vessels that rely on albacore for upwards of 90 percent of their landings and by fringe vessels that rely on albacore for less than 10 percent of their landings, possibly as part of a portfolio strategy, which relies on albacore landings when it is economical to opportunistically prosecute the fishery. The data suggest that the fringe vessels account for a very small share of overall landings through time.

Comparison of the two time periods indicates that specialization has increased somewhat over time. As mentioned above, vessels in the "more than 90 percent" bin increased their share of total PTA landings and the number of vessels in this bin increased in both absolute and percent terms. The trend holds true for both landings and revenue.



Figure 10. Number of vessels by percent of landings (left) and revenue (right) from albacore, 1990-1999 (top) and 2000-2009 (bottom).

Table 5.	Landings (mt) and revenue	(real \$) from surface	hook-and-line (PTA)	caught albacore as a percen	nt
of total la	andings, revenue, 1990-1999.				

		Landings			Revenue					
Interval	Vessels	PTA landings (ves./yr.)	Percent of all vessels	Percent of all PTA landings	Vessels	PTA revenue (ves./yr.)	Percent of all vessels	Percent of all PTA revenue		
<=.1	1240	0.55	54%	8.5%	1371	\$1,454	60%	10.3%		
.119	223	3.35	10%	9.3%	203	\$8,140	9%	8.5%		
.229	133	3.45	6%	5.7%	119	\$15,663	5%	9.6%		
.339	79	5.78	3%	5.7%	64	\$26,246	3%	8.6%		
.449	68	5.96	3%	5.0%	47	\$14,627	2%	3.5%		
.559	58	8.05	3%	5.8%	38	\$12,763	2%	2.5%		
.669	47	9.20	2%	5.4%	39	\$18,938	2%	3.8%		
.779	41	7.72	2%	3.9%	40	\$28,461	2%	5.9%		
.889	50	10.97	2%	6.8%	28	\$40,547	1%	5.8%		
>.9	364	9.71	16%	43.9%	354	\$22,796	15%	41.5%		

		Landings			Revenue					
Interval	Vessels	Landings (ves./yr.)	Percent of all vessels	Percent of all landings	Vessels	Revenue (ves./yr.)	Percent of all vessels	Percent of all revenue		
<=.1	918	0.77	42%	6%	1101	\$1,986	50%	9%		
.119	219	2.58	10%	5%	203	\$8,185	9%	7%		
.229	131	3.20	6%	4%	115	\$13,193	5%	6%		
.339	106	5.77	5%	5%	78	\$24,992	4%	8%		
.449	84	7.10	4%	5%	66	\$28,891	3%	8%		
.559	61	14.39	3%	7%	44	\$23,571	2%	4%		
.669	51	14.54	2%	6%	34	\$23,015	2%	3%		
.779	66	11.51	3%	6%	36	\$26,741	2%	4%		
.889	48	12.75	2%	5%	34	\$38,044	2%	5%		
>.9	519	11.37	24%	50%	492	\$23,887	22%	47%		

 Table 6. Landings (mt) and revenue (real \$) from surface hook-and-line (PTA) caught albacore as a percent of total landings, revenue, 2000-2009.

Table 7 and Table 8 update and expand the analysis of the gear-species combinations, or "primary fishery," participation by vessels catching PTA, presented to the Council in April 2010. These primary fisheries are identified by determining what combination of PacFIN gear code and species code accounts for the largest proportion of each vessel's total catch or revenue over the two periods, 1990-1999 and 2000-2009. (Management group species codes are used except that albacore is broken out separately from the other HMS species codes. For confidentiality reasons all gear-species combinations with fewer than three vessels are grouped into a single category called other gears.) The left panel in each table presents this information by landings weight while the right panel presents it by ex-vessel revenue (adjusted for inflation to 2010 prices). Each panel ranks the primary fisheries by the number of vessels in that fishery, shows the average annual per-vessel landings/revenue from pole-troll albacore (PTA), the percent of total PTA landings/revenue that the vessels in the fishery account for, and PTA as a percent of landings / revenue from all species. Tables 5 and 6 corroborate the great diversity of participation in other fisheries of vessels with at least some PTA landings/revenue.

Table 7. Number of vessels landing pole-troll albacore (PTA) by primary gear-species combination in terms of PTA landings (left panel) and PTA revenue (right panel), average PTA landings (mt) and revenue (\$real), PTA landings / revenue as a percent of total PTA landings / revenue, and PTA landings / revenue as a percent of total landings / revenue (all gear-species), 1990-1999.

Gear-Species Combinations	Vessels	PTA Landings (ves./yr.)	PTA landings % all PTA	PTA landings % all landings	Gear-Species Combinations	Vessels	PTA revenue (ves./yr.)	PTA revenue % all PTA	PTA revenue % all revenue
TROLL-ALBC	557	9.06	62.7%	80.2%	TROLL-ALBC	479	\$22,632.98	55.8%	80.9%
TROLL-SAMN	360	0.44	2.0%	12.2%	TROLL-SAMN	410	\$1,314.48	2.8%	8.7%
CRAB POT-CRAB	251	2.77	8.6%	10.5%	CRAB POT-CRAB	301	\$7,378.43	11.4%	6.3%
LONGLINE OR SETLINE-GRND	137	0.65	1.1%	3.5%	CRAB AND LOBSTER POT-CRAB	156	\$4,487.22	3.6%	5.5%
GROUNDFISH TRAWL (OTTER)-GRND	134	1.54	2.6%	0.7%	LONGLINE OR SETLINE-GRND	127	\$1,539.39	1.0%	2.8%
CRAB AND LOBSTER POT-CRAB	120	1.35	2.0%	8.4%	GROUNDFISH TRAWL (OTTER)-GRND	121	\$2,715.48	1.7%	0.9%
POLE (COMMERCIAL)-GRND	112	0.19	0.3%	3.9%	POLE (COMMERCIAL)-GRND	82	\$340.41	0.1%	2.7%
POLE (COMMERCIAL)-ALBC	50	10.91	6.8%	88.6%	POLE (COMMERCIAL)-SAMN	59	\$971.96	0.3%	8.7%
DIVING GEAR-OTHR	46	1.52	0.9%	4.5%	POLE (COMMERCIAL)-ALBC	49	\$31,416.84	7.9%	92.4%
SHRIMP TRAWL, DOUBLE RIGGED-SRMP	45	2.74	1.5%	1.9%	POLE (COMMERCIAL)-OTHR	46	\$124.29	<0.1%	2.1%
POLE (COMMERCIAL)-OTHR	39	0.03	0.0%	2.8%	SHRIMP TRAWL, DOUBLE RIGGED-SRMP	43	\$5,761.14	1.3%	2.3%
OTHER HOOK-AND-LINE GEAR-GRND	37	1.12	0.5%	16.9%	DIVING GEAR-OTHR	41	\$3,454.44	0.7%	3.5%
OTHER POT GEAR-CRAB	35	0.57	0.2%	6.6%	LONGLINE OR SETLINE-OTHR	39	\$6,058.80	1.2%	6.9%
LONGLINE OR SETLINE-OTHR	31	2.10	0.8%	9.9%	DRIFT GILL NET-HMSP	37	\$13,852.67	2.6%	12.1%
DRIFT GILL NET-HMSP	28	2.92	1.0%	12.2%	OTHER POT GEAR-CRAB	36	\$1,588.43	0.3%	5.7%
POLE (COMMERCIAL)-SAMN	28	0.19	0.1%	13.0%	SET NET-HMSP	28	\$18,114.22	2.6%	13.5%
SEINE-CPEL	23	4.69	1.3%	1.1%	FISH POT-GRND	20	\$1,116.77	0.1%	1.1%
FISH POT-GRND	21	1.10	0.3%	2.5%	CRAB AND LOBSTER POT-OTHR	20	\$128.47	<0.1%	0.3%
OTHER TRAWL GEAR-GRND	21	0.70	0.2%	0.3%	POLE (COMMERCIAL)-HMSP	19	\$35,337.24	3.5%	24.5%
POLE (COMMERCIAL)-HMSP	19	15.12	3.6%	16.0%	OTHER HOOK-AND-LINE GEAR-GRND	18	\$2,124.95	0.2%	16.9%
SHRIMP TRAWL, SINGLE OR DOUBLE RIG- SRMP	18	3.99	0.9%	3.4%	SEINE-CPEL	13	\$11,692.49	0.8%	4.1%
SET NET-HMSP	15	5.16	1.0%	21.0%	SHRIMP TRAWL, SINGLE OR DOUBLE RIG-SRMP	13	\$3,456.41	0.2%	1.8%
OTHER TRAWL GEAR-SRMP	13	1.24	0.2%	1.4%	OTHER KNOWN GEAR-HMSP	10	\$251.17	<0.1%	0.4%

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Gear-Species Combinations	Vessels	PTA Landings (ves./yr.)	PTA landings % all PTA	PTA landings % all landings	Gear-Species Combinations	Vessels	PTA revenue (ves./yr.)	PTA revenue % all PTA	PTA revenue % all revenue
SHRIMP TRAWL, SINGLE RIGGED-SRMP	13	1.45	0.2%	4.2%	LONGLINE OR SETLINE-HMSP	9	\$12,479.18	0.6%	11.4%
CRAB AND LOBSTER POT-OTHR	11	0.08	0.0%	2.6%	GROUNDFISH TRAWL (OTTER)-OTHR	9	\$738.68	<0.1%	1.3%
GILL NET-CPEL	11	0.28	0.0%	1.7%	OTHER TRAWL GEAR-GRND	8	\$2,450.89	0.1%	1.2%
FISH POT-OTHR	10	0.75	0.1%	6.6%	SEINE-SAMN	7	\$3,826.33	0.1%	11.0%
OTHER KNOWN GEAR-HMSP	10	0.10	0.0%	1.7%	OTHER POT GEAR-SRMP	7	\$3,441.82	0.1%	5.2%
SET NET-CPEL	9	0.14	0.0%	0.9%	VERTICAL HOOK-AND-LINE GEAR-GRND	7	\$121.93	<0.1%	4.7%
DIP NET-CPEL	8	0.34	0.0%	1.4%	PRAWN TRAP-SRMP	6	\$2,594.84	0.1%	5.2%
MIDWATER TRAWL-GRND	8	0.08	0.0%	0.0%	OTHER TRAWL GEAR-SRMP	6	\$1,424.37	<0.1%	0.7%
LONGLINE OR SETLINE-HMSP	7	0.02	0.0%	0.1%	SHRIMP TRAWL, SINGLE RIGGED-SRMP	6	\$377.27	<0.1%	0.2%
SEINE-SAMN	7	1.62	0.1%	10.8%	FISH POT-OTHR	5	\$2,935.46	0.1%	9.7%
VERTICAL HOOK-AND-LINE GEAR-GRND	7	0.04	0.0%	8.4%	DIVING GEAR-SHLL	5	\$2,340.71	0.1%	2.8%
JIG-GRND	6	0.12	0.0%	4.0%	GILL NET-CPEL	5	\$658.26	<0.1%	1.1%
OTHER KNOWN GEAR-OTHR	6	0.35	0.0%	1.0%	OTHER KNOWN GEAR-OTHR	5	\$365.48	<0.1%	0.5%
SET NET-OTHR	6	0.08	0.0%	0.9%	JIG-GRND	5	\$229.55	<0.1%	4.1%
GROUNDFISH TRAWL (OTTER)-OTHR	4	0.27	0.0%	3.1%	DIP NET-CPEL	5	\$148.34	<0.1%	0.8%
OTHER NET GEAR-CPEL	4	0.39	0.0%	0.8%	MIDWATER TRAWL-GRND	5	\$29.38	<0.1%	<0.1%
DIP NET-OTHR	3	11.03	0.4%	2.6%	OTHER POT GEAR-OTHR	4	\$236.62	<0.1%	1.0%
GILL NET-OTHR	3	0.01	0.0%	0.1%	SET NET-OTHR	4	\$78.56	<0.1%	0.5%
OTHER POT GEAR-SRMP	3	1.43	0.1%	24.9%	DIP NET-OTHR	3	\$26,131.92	0.4%	4.4%
TROLL-GRND	3	0.00	0.0%	0.1%	OTHER NET GEAR-CPEL	3	\$1,044.54	<0.1%	1.3%
Other gear	24	1.22	0.4%	1.7%	SET NET-CPEL	3	\$344.21	<0.1%	0.8%
					GILL NET-OTHR	3	\$13.99	<0.1%	<0.1%
					Other Gear	16	\$1,116.00	0.1%	0.6%

Species codes: ALBC- albacore, CPEL-coastal pelagic species, CRAB-crab and lobster, GRND-groundfish, HMSP-highly migratory species other than albacore, OTHR-other species, SAMN-salmon, SHLL-shellfish, SRMP-shrimp.

Table 8. Number of vessels landing pole-troll albacore (PTA) by primary gear-species combination in terms of PTA landings (left panel) and PTA revenue (right panel), average PTA landings (mt) and revenue (\$real), PTA landings / revenue as a percent of total PTA landings / revenue, and PTA landings / revenue as a percent of total landings / revenue (all gear-species), 2000-2009.

Gear-Species Combinations	Vessels	PTA Landings (ves./yr.)	PTA landings % all PTA	PTA landings % all landings	Gear-Species Combinations	Vessels	PTA revenue (ves./yr.)	PTA revenue % all PTA	PTA revenue % all revenue
TROLL-ALBC	724	12.44	76.4%	83.6%	TROLL-ALBC	611	\$26,743	65.2%	85.8%
TROLL-SAMN	358	0.45	1.4%	14.3%	TROLL-SAMN	435	\$2,170	3.8%	11.7%
CRAB POT-CRAB	326	3.50	9.7%	10.7%	CRAB POT-CRAB	380	\$10,428	15.8%	7.0%
CRAB AND LOBSTER POT-CRAB	174	3.41	5.0%	15.1%	CRAB AND LOBSTER POT-CRAB	191	\$11,482	8.8%	9.9%
LONGLINE OR SETLINE-GRND	68	0.31	0.2%	2.1%	LONGLINE OR SETLINE-GRND	68	\$1,580	0.4%	2.7%
POLE (COMMERCIAL)-ALBC	56	0.42	0.2%	90.5%	POLE (COMMERCIAL)-OTHR	65	\$288	0.1%	7.9%
POLE (COMMERCIAL)-OTHR	50	0.06	0.0%	10.1%	POLE (COMMERCIAL)-ALBC	49	\$1,037	0.2%	84.2%
SHRIMP TRAWL, DOUBLE RIGGED-SRMP	40	4.67	1.6%	2.1%	POLE (COMMERCIAL)-GRND	45	\$252	0.0%	4.4%
POLE (COMMERCIAL)-GRND	38	0.08	0.0%	7.1%	ROLLER TRAWL-GRND	36	\$3,365	0.5%	1.2%
OTHER HOOK-AND-LINE GEAR-GRND	33	0.08	0.0%	6.0%	OTHER HOOK-AND-LINE GEAR-GRND	31	\$231	0.0%	4.4%
ROLLER TRAWL-GRND	30	2.48	0.6%	1.3%	CRAB AND LOBSTER POT-OTHR	28	\$326	0.0%	0.5%
DRIFT GILL NET-HMSP	24	4.37	0.9%	20.5%	DRIFT GILL NET-HMSP	24	\$10,116	1.0%	13.7%
SEINE-CPEL	22	2.26	0.4%	0.2%	SHRIMP TRAWL, DOUBLE RIGGED-SRMP	21	\$8,277	0.7%	2.4%
DIVING GEAR-OTHR	19	1.75	0.3%	3.8%	DIVING GEAR-OTHR	19	\$4,582	0.3%	5.5%
GROUNDFISH TRAWL, FOOTROPE < 8 IN GRND	19	0.39	0.1%	0.5%	SEINE-CPEL	17	\$3,923	0.3%	1.0%
GROUNDFISH TRAWL, FOOTROPE > 8 IN GRND	18	3.97	0.6%	2.3%	GROUNDFISH TRAWL, FOOTROPE > 8 INGRND	15	\$4,556	0.3%	2.1%
CRAB AND LOBSTER POT-OTHR	18	0.11	0.0%	2.7%	LONGLINE OR SETLINE-HMSP	13	\$19,976	1.0%	16.6%
FISH POT-OTHR	14	2.56	0.3%	9.7%	OTHER KNOWN GEAR-HMSP	13	\$711	0.0%	2.1%
MIDWATER TRAWL-GRND	14	0.42	0.0%	0.0%	FISH POT-GRND	12	\$5,849	0.3%	5.5%
FISH POT-GRND	14	0.29	0.0%	8.0%	GROUNDFISH TRAWL, FOOTROPE < 8 INGRND	12	\$844	0.0%	0.8%
POLE (COMMERCIAL)-HMSP	13	0.03	0.0%	10.5%	POLE (COMMERCIAL)-HMSP	12	\$230	0.0%	16.9%
SHRIMP TRAWL, SINGLE OR DOUBLE RIG- SRMP	12	5.92	0.6%	4.1%	LONGLINE OR SETLINE-OTHR	10	\$3,528	0.1%	2.7%
DIP NET-CPEL	12	3.22	0.3%	5.3%	DIP NET-CPEL	9	\$8,624	0.3%	17.5%

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Gear-Species Combinations	Vessels	PTA Landings (ves./yr.)	PTA landings % all PTA	PTA landings % all landings	Gear-Species Combinations	Vessels	PTA revenue (ves./yr.)	PTA revenue % all PTA	PTA revenue % all revenue
					SHRIMP TRAWL, SINGLE OR DOUBLE				
LONGLINE OR SETLINE-HMSP	12	0.41	0.0%	2.2%	RIG-SRMP	9	\$5,789	0.2%	3.7%
FLATFISH TRAWL-GRND	10	1.12	0.1%	1.3%	MIDWATER TRAWL-GRND	8	\$329	0.0%	0.1%
OTHER KNOWN GEAR-HMSP	10	0.39	0.0%	8.5%	GILL NET-OTHR	7	\$793	0.0%	2.8%
SEINE-SAMN	9	2.36	0.2%	15.7%	PRAWN TRAP-SRMP	7	\$80	0.0%	0.1%
LONGLINE OR SETLINE-OTHR	8	1.82	0.1%	6.6%	FISH POT-OTHR	6	\$9,220	0.2%	17.7%
SELECTIVE FF TRAWL, SMALL FOOTROPE- GRND	6	0.68	0.0%	0.8%	FLATFISH TRAWL-GRND	6	\$742	0.0%	0.6%
GILL NET-OTHR	6	0.10	0.0%	2.0%	GILL NET-SAMN	6	\$78	0.0%	0.6%
VERTICAL HOOK-AND-LINE GEAR-GRND	6	0.05	0.0%	3.4%	VERTICAL HOOK-AND-LINE GEAR-GRND	5	\$120	0.0%	0.6%
PRAWN TRAP-SRMP	6	0.05	0.0%	0.6%	GROUNDFISH TRAWL (OTTER)-OTHR	3	\$4,344	0.1%	3.7%
GILL NET-SAMN	5	0.03	0.0%	0.6%	SHRIMP TRAWL, SINGLE RIGGED-SRMP	3	\$914	0.0%	2.4%
OTHER NET GEAR-CPEL	4	4.25	0.1%	1.6%	SEINE-SAMN	3	\$716	0.0%	10.3%
GROUNDFISH TRAWL (OTTER)-GRND	3	2.12	0.1%	12.8%	OTHER NET GEAR-CPEL	3	\$269	0.0%	0.5%
SHRIMP TRAWL, SINGLE RIGGED-SRMP	3	1.98	0.1%	4.3%	OTHER KNOWN GEAR-CRAB	3	\$137	0.0%	9.1%
GILL NET-CPEL	3	0.01	0.0%	0.2%	Other gear	18	\$620	0.2%	0.6%
Other gear	16	3.11	0.4%	3.5%					

Species codes: ALBC- albacore, CPEL-coastal pelagic species, CRAB-crab and lobster, GRND-groundfish, HMSP-highly migratory species other than albacore, OTHR-other species, SAMN-salmon, SHLL-shellfish, SRMP-shrimp.

Table 9. Five top-ranked primary fisheries by landings and revenue, sho	wing percentages of total for top-ranked (troll-albacore) and top-5 ranked,
1990-1999 (top panel) and 2000-2009 (bottom panel).	

Lan	dings	Rev	venue				
Rank by no. vessels	Rank by percent of total PTA landings	Rank by no. vessels	Rank by percent of total PTA rev.				
TROLL-ALBC (24.2%)	TROLL-ALBC (62.7%)	TROLL-ALBC (20.8%)	TROLL-ALBC (55.8%)				
TROLL-SAMN	CRAB POT-CRAB	TROLL-SAMN	CRAB POT-CRAB				
CRAB POT-CRAB	POLE (COMMERCIAL)-ALBC	CRAB POT-CRAB	POLE (COMMERCIAL)-ALBC				
LONGLINE OR SETLINE-GRND	POLE (COMMERCIAL)-HMSP	CRAB AND LOBSTER POT-CRAB	CRAB AND LOBSTER POT-CRAB				
GROUNDFISH TRAWL (OTTER)-GRND	GROUNDFISH TRAWL (OTTER)-GRND	LONGLINE OR SETLINE-GRND	POLE (COMMERCIAL)-HMSP				
Percent all vessels: 62.5%	Percent all PTA landings: 84.2%	Percent all vessels: 64.5%	Percent of all PTA revenue: 82.1%				
Lan	dings	Revenue					
Rank by no. vessels	Rank by percent of total PTA landings	Rank by no. vessels	Rank by percent of total PTA rev.				
TROLL-ALBC (32.9%)	TROLL-ALBC (76.4%)	TROLL-ALBC (27.7%)	TROLL-ALBC (65.2%)				
TROLL-SAMN	CRAB POT-CRAB	TROLL-SAMN	CRAB POT-CRAB				
CRAB POT-CRAB	CRAB AND LOBSTER POT-CRAB	CRAB POT-CRAB	CRAB AND LOBSTER POT-CRAB				
CRAB AND LOBSTER POT-CRAB	SHRIMP TRAWL, DOUBLE RIGGED-SRMP	CRAB AND LOBSTER POT-CRAB	TROLL-SAMN				
LONGLINE OR SETLINE-GRND	TROLL-SAMN	LONGLINE OR SETLINE-GRND	LONGLINE OR SETLINE-HMSP				
Percent all vessels: 74.9%	Percent all PTA landings: 94.1%	Percent all vessels: 76.5%	Percent of all PTA revenue: 94.6%				

Fishery ranked by landings (# vessels)	Percent of vessels whose main source of revenue is a different fishery	Fishery ranked by revenue (# vessels)	Percent of vessels whose main source of landings is a different fishery			
	1990)-1999				
TROLL-ALBC	16.9%	TROLL-ALBC	3.2%			
TROLL-SAMN	7.2%	TROLL-SAMN	15.6%			
CRAB POT-CRAB	2.0%	CRAB POT-CRAB	15.4%			
LONGLINE OR SETLINE-GRND	16.8%	CRAB AND LOBSTER POT-CRAB	21.2%			
GROUNDFISH TRAWL (OTTER)-GRND	14.9%	LONGLINE OR SETLINE-GRND	9.3%			
	2000	-2009				
TROLL-ALBC	16.4%	TROLL-ALBC	1.0%			
TROLL-SAMN	2.8%	TROLL-SAMN	20.0%			
CRAB POT-CRAB	2.1%	CRAB POT-CRAB	14.7%			
CRAB AND LOBSTER POT-CRAB	0.0%	CRAB AND LOBSTER POT-CRAB	12.7%			
LONGLINE OR SETLINE-GRND	10.3%	LONGLINE OR SETLINE-GRND	10.3%			

Table 10. Comparison of primary source of landings to primary revenue source for two periods, 1990-1999 and 2000-2009.

Table 9 focuses on the five top-ranked primary fisheries for the two periods, showing percentages of the total for number of vessels and total landings or revenue. As expected, the troll albacore fishery is the top-ranked primary fishery in both periods for both landings and revenue when ranked by number of vessels in the fishery and the percent of total PTA landings or revenue that primary fishery accounts for. Troll-salmon ranks second in all cases in terms of number of vessels, but crab pot-crab ranks second in terms of the proportion of total PTA revenue. This reflects the fact that troll-salmon accounts for a much smaller fraction of total PTA landings/revenue (1-4 %) than crab pot-crab (9-16%). Other primary fisheries showing up in the top five by these two ranking methods and in the two periods include longline-groundfish, trawl-groundfish, pole-albacore, pole-HMS, and crab and lobster pot-crab for the 1990-1999 period. (It should be noted that the PacFIN gear code for crab pot and crab and lobster pot are based on state gear codes—crab pot for Washington and Oregon and crab and lobster pot for California—and are probably functionally equivalent from a fishery perspective.) During the 2000-2009 period shrimp trawl-shrimp and pelagic longline-HMS were additionally in the top five by one of these ranking methods.

Table 9 also shows the percentage values for the PTA fishery (the top-ranked fishery in all cases) and for the top-five primary fisheries combined. Notably, in all cases the percentages, whether by number of vessels or total landings/revenue, increased from the 1990-1999 period to the 2000-2009 period for both troll-albacore and the top-five fisheries combined. This corroborates the evidence discussed above indicating that there has been more specialization over time. In other words, vessels with the largest fraction of their landings and revenue from troll albacore account for a larger fraction of the total number of vessels catching PTA and the total amount of PTA caught. The same holds true for the top-five ranked fisheries. In general, we can say that the troll albacore, troll salmon, and crab fisheries are closely interlinked in terms of vessel participation.

Another interesting result that shows up in these tables is the difference between the number of vessels in the troll albacore fishery in terms of PTA landings versus PTA revenue. During the 1990-1999 period, for example, 463 vessels in the troll albacore fishery as computed from landings were also in this primary fishery as computed by revenue. Therefore, 94 vessels whose primary source of landings was PTA derived their primary source of revenue from some other fishery while 16 vessels whose primary source of revenue was PTA landed greater amounts from some other gear-species combination. Table 10 takes this comparison a bit further by comparing fisheries in terms of the percent of vessels that derive more revenue from a fishery different from where most of their landings come from and vice versa. The results are shown for the top-five ranked fisheries in Table 9. In both periods about 16 percent of vessels whose main source of landings was troll albacore derived their largest source of revenue from some other fishery. Conversely, only 3 percent, 1990-1999, and 1 percent, 2000-2009, of vessels whose primary source of revenue was troll albacore derived more landings from some other fishery. For troll salmon and crab-pot crab, the next ranked fisheries, the pattern is reversed. For example, in the 1990-1999 period only 7.2 percent vessels whose primary source of landings was troll-salmon derived the largest share of their revenue from some other fishery. For crab pot-crab it is only 2 percent. This suggests that in comparison to these other fisheries troll albacore is relatively less valuable.

Participation by Canadian Vessels in the U.S. West Coast EEZ

Under the U.S.-Canada Albacore Treaty, a limited number of Canadian albacore troll vessels are allowed to fish in the U.S. west coast EEZ and reciprocal rights are granted to U.S. vessels, thus U.S. vessels are also allowed to fish in Canadian waters. Figure 11 is based on data provided by Craig D'Angelo, NMFS SWR, from a query run on PacFIN fishticket data. It shows landings and vessel counts broken out for Canadian, U.S. surface hook-and-line and U.S. other gear types. (Ambiguous vessel identification numbers are excluded from the vessel counts, but associated landings are included in landings amounts.) Landings by Canadian vessels fishing in U.S. waters (and landing to U.S. ports as recorded in PacFIN)

averaged just under 8 percent of total landings for the period displayed. On average, 45 Canadian vessels made albacore landings in west coast ports annually during the period, representing just under 6 percent of all vessels making albacore landings.



Figure 11. Canadian and U.S. vessel landings and numbers for the U.S. west coast EEZ, 1996-2010.

A Note on the PacFIN Pole and Troll Gear Codes

Table 11 shows the state gear codes grouped under the PacFIN gear id (grid) codes "POL" and "TRL" and their inclusion on the HMS SAFE fishery classification "surface hook-and-line." It can be seen that there are three state codes in these gear ids that are not considered part of the surface hook-and-line fishery. A query on PacFIN fishticket data indicates that of these three codes, albacore landings occurred under C-004 (mooching) in 2001 and 2003 but in small amounts. To simplify the PacFIN query used to obtain the data for this analysis the PacFIN grid codes were used rather than the state codes. This may have introduced a minor discrepancy between the characterization here and the HMS SAFE characterization of the fishery.

GRID	State Code	Description	SAFE "surface hook-and-line" fishery?
POL	C-001	HOOK-AND-LINE	Yes
POL	C-002	LIVE BAIT	Yes
POL	C-004	MOOCHING (DRIFTING FOR SALMON)	No
POL	C-006	JIG (ALBACORE)	Yes
TRL	C-007	TROLL (ALBACORE)	Yes
TRL	C-009	TROLL, (SALMON)	Yes
TRL	O-120	OCEAN TROLL	Yes
POL	O-170	TUNA BAITBOAT	Yes
POL	W-10	HOOK-AND-LINE	No
TRL	W-41	TROLL (SALMON)	Yes
TRL	W-61	TROLL (BOTTOMFISH)	No

Table 11. State gear codes included in the PacFIN "POL" and "TRL" gear ids.

IV. <u>Illegal, Unreported, and Unregulated (IUU) Fishing: Potential Impacts on North Pacific</u> <u>Albacore Stock</u>

The Magnuson-Stevens Act recognizes the importance of active U.S. involvement in international efforts to combat IUU fishing through activities such as adoption of IUU vessel lists; stronger port State controls; improved monitoring, control, and surveillance; implementation of market related measures to help ensure compliance; and capacity-building assistance. This section briefly highlights some of these current efforts; however, several factors make reporting on monitoring, control, and surveillance of IUU fishing activities very challenging. These factors include: the covert nature of IUU fishing activities; the vast expanse and offshore nature of where IUU fishing takes place; the need to coordinate with foreign governments and surveillance assets; the potential use of transshipment to launder IUU fishing activities; and the expanding homeland protection role of the U.S. Coast Guard (USCG). As such, there is very little quantitative catch and effort data available to assess the potential removals of NPA by IUU fishing for incorporation into stock assessment models and outputs. Oftentimes a qualitative analysis is included in stock assessments along with a recommendation to take precaution in interpreting the results of the stock assessments and developing management measures based on those results.

Regulatory and Conservation Measures to Combat IUU Activities

On April 12, 2011, NMFS published the final rule in the Federal Register (76 FR 2011) to implement identification and certification procedures to address IUU fishing activities and bycatch of protected living marine resources (PLMRs) pursuant to the High Seas Driftnet Fishing Moratorium Protection Act (Moratorium Protection Act). The intent of these procedures is to promote the sustainability of transboundary and shared fishery stocks and to enhance the conservation and recovery of PLMRs. The rule implements existing U.S. statutory authorities to address noncompliance with international fisheries management and conservation agreements and encourage the use of bycatch reduction methods in international fisheries that are comparable to methods used by U.S. fishermen. Agency actions and recommendations under this rule will be in accordance with U.S. obligations under applicable international trade law, including the World Trade Organization Agreement. The Moratorium Protection Act also requires the establishment of procedures to certify whether nations identified in the biennial report are taking appropriate corrective actions to address IUU fishing or bycatch of PLMRs by fishing vessels of those nations. Identified nations that are not positively certified by the Secretary of Commerce could be subject to prohibitions on the importation of certain fisheries products into the United States and other measures, including limitations on port access, under the High Seas Driftnet Fisheries Enforcement Act (Enforcement Act)(16 U.S.C. 1826a).

The 2011 Biennial Report of the Secretary of Commerce to the Congress of the United States Concerning U.S. Actions Taken on Foreign Large-Scale High Seas Driftnet Fishing⁴ provides a detailed summary of enforcement efforts taken under the Moratorium Protection Act. The report includes historical information on sighting of vessels violating the moratorium and various nations' enforcement efforts in the North Pacific Ocean. The 2011 report identified six countries (Colombia, Ecuador, Italy, Panama, Portugal, and Venezuela) as having been engaged in IUU fishing during 2009 or 2010; although, none of the IUU fishing activities that were considered in the identification process occurred in the North Pacific Ocean involving NPA. As in 2009, the identifications are based on violations of international measures, not on overfishing of shared stocks or on fishing practices destructive of vulnerable marine ecosystems. NMFS considered 12 other countries for identification during the reporting period, but consultations with those nations indicate corrective actions have already been taken to address the IUU fishing activities of concern, or the allegations of IUU fishing information were refuted.

This report also contains updates on U.S., regional, and global efforts to combat IUU fishing and to minimize bycatch of protected species. Important developments of interest to IUU issues in the North Pacific Ocean include:

- Adoption of the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported, and Unregulated Fishing, in November 2009. One of the Agreement's objectives is to eliminate "ports of convenience" that serve as safe havens for IUU vessels and as portals for illegally harvested fish to enter the stream of commerce;
- Recommendations by an FAO Technical Consultation in November 2010 that the Committee on Fisheries should launch the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels, beginning with Phase I (2011-2013) during which the largest vessels would enter the record;
- Expansion of the negotiations to establish a new RFMO in the North Pacific Ocean, to cover a wider geographic area (all high seas areas of the North Pacific Ocean) and include additional countries and entities, as well as agreement by negotiators on interim measures with regard to bottom fishing and steps to protect vulnerable marine ecosystems; and
- Entry into force on August 27, 2010, of the Antigua Convention, with improved enforcement provisions to combat IUU fishing as well as new measures to minimize impacts on bycatch species and conserve marine ecosystems.

Monitoring, Control, and Surveillance Activities

According to the report on Extent of Global Illegal Fishing⁵ (April 2008), estimates of the annual value of IUU-harvested fish range from USD 9 to 25 billion. Based in part on enforcement reports from existing multi-national surveillance programs, illegal catch in the northeast Pacific Ocean is currently estimated to be low and may have steadily declined in recent years (2008, NPAFC Doc 1132). However, during this time NMFS has received anecdotal information from several members of the U.S. NPA fleet that indicates that some level of large-scale high seas driftnet fishing continues to occur in the North Pacific Ocean potentially impacting albacore resources. The primary information provided to NMFS has been photographs of "net-marked" albacore and industry-reported sightings of vessels and/or vessel radio traffic signifying potential IUU fishing activities. The NMFS Southwest Regional office catalogs all IUU information sent as evidence and passes on relevant information to USCG and NOAA's Office of Law Enforcement (NOAA OLE). In 2010, a U.S. NPA fisherman notified NMFS Southwest Region, the

⁴ This report was compiled by the NMFS pursuant to Section 206(E) of the Magnuson-Stevens Fishery Conservation and Management Act, as amended by Public Law 104-297, the Sustainable Fisheries Act of 1996. Electronic copies are available at http://www.nmfs.noaa.gov/msa2007/intlprovisions.html

⁵ MRAG and Fisheries Ecosystems Restoration Research, Fisheries Centre, University of British Colombia, April 2008.

USCG, and NOAA OLE that he had sighted a vessel illegally fishing on the high seas in the North Pacific Ocean using a driftnet. A USCG C-130 was sent to the area several days later and initiated a search for the suspected vessel. The vessel was not encountered. USCG asked for position location verification from U.S. vessels once they were in the general area; however, unfortunately they did not receive the desired level of assistance.

The USCG has been actively involved with NOAA OLE in a multi-national high seas IUU surveillance program under the auspices of the North Pacific Anadromous Fisheries Commission (NPAFC). Although the NPAFC Enforcement efforts are targeting IUU fishing for salmon stocks, the area under surveillance and the IUU fleets in question also intercept NPA and squid. Information on the surveillance program is available on the NPAFC website⁶ and summarized below. Agencies responsible for the planning and execution of enforcement activities coordinate their enforcement efforts to detect and deter illegal fishing in the NPAFC Convention Area (Figure 12). Since the establishment of the NPAFC, the Parties to that Convention have cooperated on the exchange of information regarding violations of the provisions of the Convention and on the exchange of enforcement plans and actions. The agencies of Contracting Parties which are directly responsible for the planning and execution of enforcement activities within the Convention Area are:

- Department of Fisheries and Oceans of Canada and Department of National Defense, Canada;
- Fisheries Agency of Japan and Japan Coast Guard;
- Ministry of Food, Agriculture, Forestry and Fisheries of the Republic of Korea;
- Fisheries Agency of the Russian Federation and Federal Security Service of Russia; and
- United States National Marine Fisheries Service and United States Coast Guard.



Figure 12. The North Pacific Anadromous Fisheries Commission Convention Area.

On 2 November 1992, the President signed Public Law 102-582, the High Seas Driftnet Fisheries Enforcement Act. Among other things, this Act is intended to enforce implementation of UNGA

⁶ http://www.npafc.org/new/index.html

Resolution 46/215, which called for a worldwide driftnet moratorium beginning 31 December 1992.⁷ From 1993-2009, the cooperative enforcement efforts of the NPAFC Parties resulted in the detection of 41 vessels conducting directed driftnet fishing operations for salmon in the NPAFC Convention Area. Of those vessels, 16 were apprehended (Table 12). Joint long-range aircraft patrols and coordination with each Party's enforcement vessels are used to detect illegal fishing during various high effort months in the Convention Area (Figure 13). Member countries conducted 188 ship patrol days and 279 aerial patrol hours in the Convention Area. In 2009, no Parties sighted any vessels suspected of illegal fishing, although Taiwan (a NPAFC observer) sighted one vessel with driftnets deployed. Recent years' results may reflect a reduction in IUU fishing in the North Pacific Ocean and may be a result of a significant increase in patrol efforts in recent years. Due to the continued threat of high seas fishing for salmon in the NPAFC Convention Area, all Parties reaffirmed their commitment to maintain 2010 enforcement activities at high levels as a deterrent to the threat of potential unauthorized fishing activities.

 Table 12. Number of detected/apprehended vessels for the period 1993-2009 under the NPAFC Surveillance

 Program. Source: NPAFC Annual Report 2009.

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Detections	6	1	3	1	6	9	11	2	0	0	0	1	0	0	1	0	0
Apprehensions	2	0	1	1	2	4	3	1	0	0	0	1	0	0	1	0	0

In 2006 the development of the Integrated Information System (IIS) was completed. The IIS allows the Parties to NPAFC to keep all electronic information about illegal or suspected vessels in the NPAFC Convention Area on a closed website. In 2007, the NPAFC Enforcement Committee initiated a program of cooperation with the Technical and Compliance Committee of the WCPFC and the Fisheries Working Group of the North Pacific Coast Guard Forum. In 2008 the first ever International North Pacific IUU Workshop was held in Vancouver, B.C., Canada.



Figure 13. Multi-national joint long-range patrol efforts in 2009 within the NPAFC Convention Area. Source: Enforcement Activities Section of NPAFC's 2009 Annual Report.

⁷ "U.S. Actions Taken on Foreign Large-Scale High Seas Driftnet Fishing Compiled by the National Marine Fisheries Service Pursuant to Section 206(E) of the Magnuson-Stevens Fishery Conservation and Management Act, as Amended by Public Law 104-297, The Sustainable Fisheries Act of 1996" (available at http://www.nmfs.noaa.gov/ia/intlbycatch/docs/congo_08_rpt.pdf)

Level of NPA removals by IUU fishing activities

The International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) Albacore Working Group held a workshop from April 20-26, 2010 in Shizuoka, Japan. According to the report of the workshop (see Annex 6: page 15),⁸ reports are received periodically of net marked albacore and other highly migratory species. It was clarified that IUU fishing refers to activities on the high seas, e.g., driftnets used outside the coastal waters of member countries. The working group noted that it considered the issue at a March 2008 meeting in La Jolla, California, and that the working group had no further information since that meeting. The following text was excerpted from the March 2008 meeting report of the Albacore Working Group:

"Anecdotal evidence confirms that IUU is occurring, but the level of removals and impact(s) on the North Pacific albacore stock are unknown. At present, no country has a formal program for monitoring IUU or obtaining data for inclusion in Table 1 (catches by country and gear) and it would be speculative of the ALBWG to attempt to estimate an IUU time-series for technical use. The ALBWG recommends the creation of a joint multi-member discussion paper on IUU at the ISC level rather than technical level as a first step in addressing the issue. Since IUU is also an enforcement issue, the ALBWG felt that the Enforcement Committees of the WCPFC and IATTC should be engaged to begin surveillance during the fishing season and perhaps obtain some preliminary data on IUU."

The working group considered these observations, conclusions and recommendations to be relevant in 2010. The ISC Plenary also noted concerns about the lack of IUU data and the impact this may have on stock assessments at their 2010 meeting.

V. <u>References:</u>

International Scientific Committee for Tuna and Tuna-like Species in the North Pacific (ISC). 2010. Annex 9 - Report of the Albacore Working Group Workshop, 12-13 July, 2010 *In* Report of the Tenth Meeting of the International Scientific Committee for Tuna and Tuna-like Species In the North Pacific Ocean, 21-26 July 2010, Victoria, B.C. Canada.

Bartoo, Norman, David Holts and Cheryl Brown. Evidence of Interactions Between High Seas Driftnet Fisheries and the North American Troll Fishery for Albacore. International North Pacific Fisheries Commission Bulletin Number 53(III).

Pacific Fishery Management Council (PFMC). 2007. Characterization of Recent U.S. North Pacific Albacore Commercial Fishing Effort Report and Analyses Prepared by NOAA Fisheries Southwest Fisheries Science Center and the Pacific Fishery Management Council's Highly Migratory Species Management Team. May 2007.

⁸ Available at: http://isc.ac.affrc.go.jp/pdf/ISC10pdf/Annex_6_ISC10_ALBWG_Apr10.pdf

HIGHLY MIGRATORY SPECIES ADVISORY PANEL REPORT ON NORTH PACIFIC ALBACORE FISHERIES

The Highly Migratory Species Advisory Subpanel (HMSAS) has the following comments on Agenda Item H.2.b, HMSMT Report:

- 1. The lack of color, hatch marks, and labels on the various charts throughout the report in the printed black and white copies that were distributed makes them hard to interpret.
- 2. Table 1, p. 2 Under "United States other pole and line" landings, there is a change in the methodology between the 2008 and 2009 methodologies for computing surface hook and line and the pole and line landings and how these computations will be addressed in the future.
- 3. The fisheries graphs did NOT account for a seasonal fishery and instead presented the information as an annual reporting period.
- 4. The report fails to emphasize that fishermen from other fisheries are dependent on the seasonal albacore fishery to supplement their income.
- 5. The charts showing percent of landings by different levels of dependence on albacore landings do not convey the economic dependence of the vessel owner on fisheries income, considering they may have other economic income sources.
- 6. Figure 7, p. 8 showing the landings by state is more effective than Table 4, p. 9 which shows the shift in landings during the two decade periods. An underlying cause that is not clearly identified might be the absence of availability of the albacore off of each state.
- 7. In Figure 11, p. 21, showing Canadian vessels fishing in the U.S. west coast Exclusive Economic Zone (EEZ), it is limited only to Canadian participation within the U.S. EEZ and does not cover Canadian and U.S. participation in the Canadian EEZ. The entire discussion is inadequate to evaluate Canadian participation in the U.S. EEZ. Significantly more information exists to determine landing and catch data.

Council Action Related to Participation of Canadian Vessels in West Coast Albacore Fishery

The HMSAS asks the Council to request that the U.S. government in the upcoming bilateral treaty negotiations to pursue clarification of Canadian albacore catch and landing statistics in regards to:

- 1. The procedure in which Canadian catch and landing data are collected.
- 2. If catch data collected by log books are verified by fish landing receipts and shared with the Canadian Department of Fisheries and Oceans.
- 3. How U.S. landings of albacore in Canada are reported and to which fishery, is the catch credited to U.S. or Canadian landings?

The HMSAS urges the Council to request these actions by the U.S. government in time for the April 18, 2011 bilateral meeting between the U.S. and Canada. Please note, 2011 is the final year of the present treaty regime, and negotiations will begin soon on the treaty from 2012 and beyond.

As a side issue on the U.S./Canadian treaty discussions, the information on the Canadian 2010 harvest has not been provided to the U.S. fishing industry.

Comments on the Supplemental HMSMT Report

With regard to recommendations to delegations to the Western and Central Pacific Fisheries Commission Northern Committee and the Inter-American Tropical Tuna Commission, the HMSAS requests that any additional information that the Highly Migratory Species Management Team provides to the Council at the June 2011 meeting be prepared in consultation with the HMSAS.

PFMC 04/10/11

HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON NORTH PACIFIC ALBACORE TUNA CONSERVATION AND MANAGEMENT

The Highly Migratory Species Management Team (HMSMT) has provided a characterization of the west coast commercial albacore fisheries, as requested by the Council at the April 2010 Council meeting. The HMSMT seeks Council guidance on any further analyses of the fishery needed to support potential future management actions. For example, the HMSMT could prepare information at the vessel level on the history of participation, socioeconomic factors, catch, effort and other variables.

Due to the devastating earthquake and tsunami in Japan, the Interim Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC) Albacore Working Group assessment meeting has been postponed until June 4-11, 2011. The HMSMT discussed the potential need for additional information to support future decision-making based on assessment results. The ISC Plenary will provide conservation advice based on the assessment results at their annual meeting July 19-25, 2011. The Northern Committee of the Western and Central Pacific Fisheries Commission (WCPFC) will meet and likely discuss the results of the ISC albacore assessment September 6-9, 2011, and may come up with recommendations for revised conservation measures depending upon the results of the assessment.

The Council typically provides recommendations to the US delegation to the IATTC and Northern Committee at their June Council meeting; however, given the timing of the ISC Albacore Working Group assessment meeting, assessment results will not become available in time for the Council as a basis for recommendations. The Council could direct the HMSMT to develop recommendations for the Northern Committee and IATTC delegations based on a range of potential assessment results, to be presented at the June Council meeting.

Timeline of upcoming meetings relevant to ISC albacore assessment and management:

- June 4-11 ISC Albacore Working Group assessment meeting (assessment completed and report drafted to be ready in time for the ISC Plenary)
- June 8-13 Council Meeting (develop recommendations for IATTC and Northern Committee delegations)
- June 29-July 8 IATTC Meeting
- July 19-25 ISC Plenary Meeting (will provide conservation advice based on assessment)
- Sept 6-9 WCPFC Northern Committee (may draft conservation advice for WCPFC)
- Sept 14-19 Council Meeting
- Nov 2-7 Council Meeting (develop recommendations for WCPFC delegation)
- Dec 6-9 WCPFC Meeting (potential conservation measure adopted)

PFMC 04/10/11

Agenda Item H.2.b Supplemental HMSMT PowerPoint April 2011

HMSMT Report on North Pacific Albacore Fisheries Overview

Pacific Fishery Management Council Meeting San Mateo, California 10 April 2011

Context of the assignment

- Update effort estimates for major US commercial fisheries
- Characterize west coast commercial albacore surface hook-and line fishery
- Provide information regarding IUU fishing

International albacore catch and effort information

- US fishery takes about 15% of total international North Pacific albacore catch
- US surface fishery takes about 94% of US North Pacific catch
- Revised effort time series for surface hook-and-line fishery demonstrates continued decline

Figure 3: U.S. commercial catch and effort for North Pacific albacore, 1995-2009.



Characterization of West Coast Albacore Fishery

- Decline (1980-1991) and subsequent recovery (1991-2009) of the fishery
- Shift in effort and catch after 1981 from South to North
- Heterogeneity of participation





Figure 7. Albacore landings by state (mt), 1981-2009.



Figure 10. Number of vessels by percent of landings from albacore cumulated for each year from 1990-1999 (upper left panel).



Illegal, Unreported and Unregulated Fishing

- Little quantitative information available
- Report contains:
- Regulatory and conservation measures
- Monitoring, control and surveillance activities
- Levels of NPA removals by IUU fishing activities

Timeline of upcoming meetings relevant for albacore

- June 4-11 ISC Albacore Working Group assessment meeting
- June 8-13 PFMC Meeting
- June 29-July 8 IATTC Meeting
- July 19-25 ISC Plenary Meeting
- Sept 6-9 WCPFC Northern Committee
- Sept 14-19 PFMC Meeting
- Nov 2-7 PFMC Meeting
- Dec 6-9 WCPFC Meeting

Figure 1: Total North Pacific albacore landings by nation, 1952-2009



Figure 2: Number of vessels operating by several international fleets targeting North Pacific albacore, 1971-2009.



Figure 3: U.S. commercial catch and effort for North Pacific albacore, 1995-2009.







Figure 5. Ex-vessel revenue from west coast albacore landings in real (inflation adjusted, 2010 prices) dollars, 1,000s, 1981-2009.



Figure 6. Average annual price per pound for albacore in real (inflation adjusted, 2010) dollars, 1981-2010.



Figure 7. Albacore landings by state (mt), 1981-2009.



Figure 8. Albacore landings by county, 1990-1999 and 2000-2009.



Figure 9. Number of vessels landing albacore with surface hookand-line gear and other gears, 1981-2010.



Figure 10. Number of vessels by percent of landings (left) and revenue (right) from albacore cumulated for each year from 1990-1999 (top) and 2000-2009 (bottom).







Figure 11. Canadian and U.S. vessel landings and numbers for the U.S. west coast EEZ, 1996-2010.

