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AUG 15 2008

2 PFMS  
Dr. DONALD MCISAAC

Hope you don't mind  
me passing my problems  
on to you for review.

I have tried to co-operate  
all these years, but  
it looks like my  
shell rockfish days are  
finally finished.

Joanna Thiel says  
no R.C.A. changes are  
expected until 2012.  
I doubt I'll be around  
for the next change.

Allocations mean little  
if all fishing must  
occur where those  
fish do not live.

415 868-0982

JOSH. CHURCHMAN  
@ G. MAIL

JOSEPH CHURCHMAN

Box 5 OP.  
BOLINAS CA. 94924.

# Last Bodega hook-and-line fisherman may see the end

by Jacoba Charles

The last hook-and-line fisherman making his living on the deep seas near Bodega Bay hauled his boat out of the water yesterday after learning that his prime fishing grounds are within a protected area.

Josh Churchman of Bolinas may face a fine or have his permit revoked because of inadvertently fishing in a rockfish, or red snapper, conservation area whose boundary had been changed.

"I'm not giving up yet, but it really is a hassle," said Churchman. "I'm getting tired of fighting."

The local rock cod fishing industry has been essentially eliminated by a combination of decreasing allowed catch, increasing regulatory hurdles and expanded rockfish conservation areas (RCAs).

At the beginning of this year there were still five active hook-and-line fishermen between Bolinas and Bodega Bay; Churchman is now the last and worries that he too may give up the industry soon.

In 2006, fishermen landed 6,460 pounds of chilipepper rockfish, which are one of the most abundant and popular rockfish species to fish, in Bodega Bay. In 2000, over 80,000 pounds of the fish were landed at the same port.

"At this point, it's a hobby, not a profession. We can only go out two days per month," Churchman said.

Fishing rock cod provides roughly a quarter of his annual income whereas it used to account for well over half. He also fishes for crab and salmon, but worries that he won't be able to make ends meet—especially this year, with the salmon season closed.

"The fishery management council favors higher impact trawl fisheries," said Paul Johnson of the Monterey Fish Market, who buys Churchman's catch. "Oftentimes you'll go to San Francisco and there are three trawlers working but no hook-and-line fishermen. In Bodega Bay there used to be ten hook-and-line guys; now there's one."

There are two separate rock cod fisheries available to local fishermen: the state-regulated nearshore fishery and the federally regulated limited entry fishery in deeper water. A labyrinth of regulations surrounds each.

"It's become so complicated to fish—these things are tough to keep up with," said Tom Moore, a biologist with the Department of Fish and Game who is based in Bodega Bay. "It's getting to be too much; but a lot of these complicated regulations the only way that you can allow some fishing given the current management schemes."

For example, Churchman has two boats: a small one in Bolinas that fishes in nearshore waters, and a larger one in Bodega Bay that fishes in deeper waters.

From Bolinas, he could take the small boat out to the Farallone Islands, where

he is allowed to catch 700 pounds of fish per trip, six times a year.

However, in order to legally travel home across federal waters carrying his catch, he would have to install an expensive Vessel Monitoring System (VMS) that the port at Bolinas is not equipped to support. So the Farallones are out, Churchman said.

The only other fishing area near Bolinas is Duxbury, where he refuses to go because it has been over harvested and fish there are depleted.

"The VMS requirements have removed all of West Marin's rockfish fishermen in six months," Churchman said. "It's an incredibly effective tool."

Churchman's larger boat, which also has to have a cumbersome VMS, used to bring home 80,000 pounds of rock cod each year.

"It's a drop in the bucket compared to what the trawlers are bringing in," he said. But when law protected the rockfish, both small and large fishermen were curtailed by roughly 90 percent, said Johnson.

Hook-and-line fishermen are now allowed to bring in 2,500 pounds of fish every two months during the fishing season, whereas large commercial boats bring in 30,000 pounds.

"I just don't see how there isn't room for a few people to keep doing it," Churchman said. "It's a big ocean and I don't see how the few fish me and Rob [Knowles] catch with a fishing pole are tipping the

balance of the ecosystem.

Then there is the matter of where those fish can be caught. Hook-and-line fishermen can only fish safely to 1,000 feet, but many areas with depths under 1,200 feet are now in RCAs.

"I am supposed to stay outside of certain coordinates," Churchman said. "So, I drew a little pencil line on my chart, and then I went along where I think that line is, looking for spots that I could fish."

He found two high points, each about the size of a football field, where the species that he wanted to catch could be found on what he thought was the legal side of the line. He has fished there for the last five years.

However, about three years ago the line was moved deeper, and Churchman didn't realize the change had been made. Last week, he got a call informing him that, according to the VMS, he was in violation of his permit.

"I have been calling them and asking, 'How am I doing? Am I on the right side of the line?'" he said. "They always said, 'We can't tell you that.'"

Even though he is hoping to only receive a slap on the wrist for his first violation, Churchman still will have to find a new fishing ground, learn new techniques, go broke, or give up. But even if he isn't catching them, no one is going to stop eating fish.

"I went down to the Bolinas store to-

Please see facing page

July 24, 2008 POINT REYES LIGHT



Josh Churchman is one of the last commercial rock cod fishermen left. He has been fishing along the Marin and Sonoma coasts for over 30 years. Photo by J. Charles.

day, and they have red snapper—but it all comes from Canada,” Churchman said. “The tuna comes from Hawaii and the tilapia is farm raised god-knows where. All three fish that you can buy in Bolinas, down by the sea, come from thousands of

miles away—and this is one of the richest oceans in the world. This is an oasis. That’s another ironic thing: you can’t have any fishing in the richest ocean in the world.”

# Fear of the sea

**GUEST COLUMN**  
**BY JOSH CHURCHMAN**

People ask many questions. "Are you ever scared to go out in the ocean?" is one I get all the time. My usual response is, "Absolutely."

The day you are not afraid of the ocean is the day you should quit going out on it. I believe this is one of those universal truths: any healthy respect contains a bit of fear. There is the wind and the waves, the whales and the sharks; there are days of thick fog and a coastline full of rocks. Then there is the ocean. She really does not care, one way or another, about your well being. And now, there is our government's new approach to a boat on the water. Of all the things to fear it is the last I fear the most.

Being pulled over in your car by the Highway Patrol is mellow compared to being pulled over by the Coast Guard in a boat. In the car it is one guy with a gun, in the boat, it is closer to ten armed men. They launch the little boat out the back of the big boat and the little boat has six big guys on it. The big boat "stands by" as the little one does the boarding. The

big boat has a pair of 50-millimeter machine guns mounted on the bow, and the bow is pointing at you. The last time I was boarded I had my hands in the air. Too many TV cop shows I guess, but I couldn't help it.

I got a letter last week stating that I had been "randomly selected" to take a federal observer with me the next time I went out. What the letter really said was that it is illegal for me to untie my boat without notifying a federal observer no less than 24 hours prior to departure, and no more than 36 hours in advance. This federal order is for all trips made in July and August. If I skip that two-month period, it advances to the next two months until I actually take the observer fishing. Can you imagine being a plumber and getting a letter like that?

The worst idea our government has had for keeping a watchful eye on the boats in the sea is a thing they call VMS, the infamous Vessel Monitoring System. Six years ago I got another letter from the federal government (NOAA) stating that all boats fishing ground fish (fish that like to live near the bottom) needed to buy, and professionally install, a VMS (GPS satellite tracking system).

It is a cute little box with red and green blinking lights. It has two antennas and it

must be giving a signal all day every day. It cost \$1,600 to buy, \$500 to install, and \$29.99 a month to maintain. I use that boat once or twice a month and I wonder if I am just plain stupid to keep at it.

It was the four-hour meeting with the "special agents" that really put the fear of the sea in me. Apparently I was a quarter mile inside a line. My own GPS tracking system provides indisputable proof of the error of my ways. Twenty-five miles from shore, in a 20-foot boat, in 1000 feet of water, and I am in serious trouble.

It is a world gone mad. If we are not careful it is a world coming to you too. First it is the fishermen, and then it will be the truckers. From there it will spread out to where a small GPS tracking device will be implanted in every child, prior to release from any hospital. You may think this silly, or improbable, but I have been living with mine for six years now and I still have not grown to love it.

In all those six years I have only seen one other boat out where I once fished off Bodega Bay. Think about all the government spending that went into eliminating me as a fisherman; the observer program, that now has nobody to observe in this section of coastline; the VMS technical staff and the makers of the VMS system and all the "special agents"

it takes to enforce those laws; the Coast Guard, boarding the same two boats over and over again because there are no other boats; and the State Fish and Game laws that need a team of officers and backup as well.

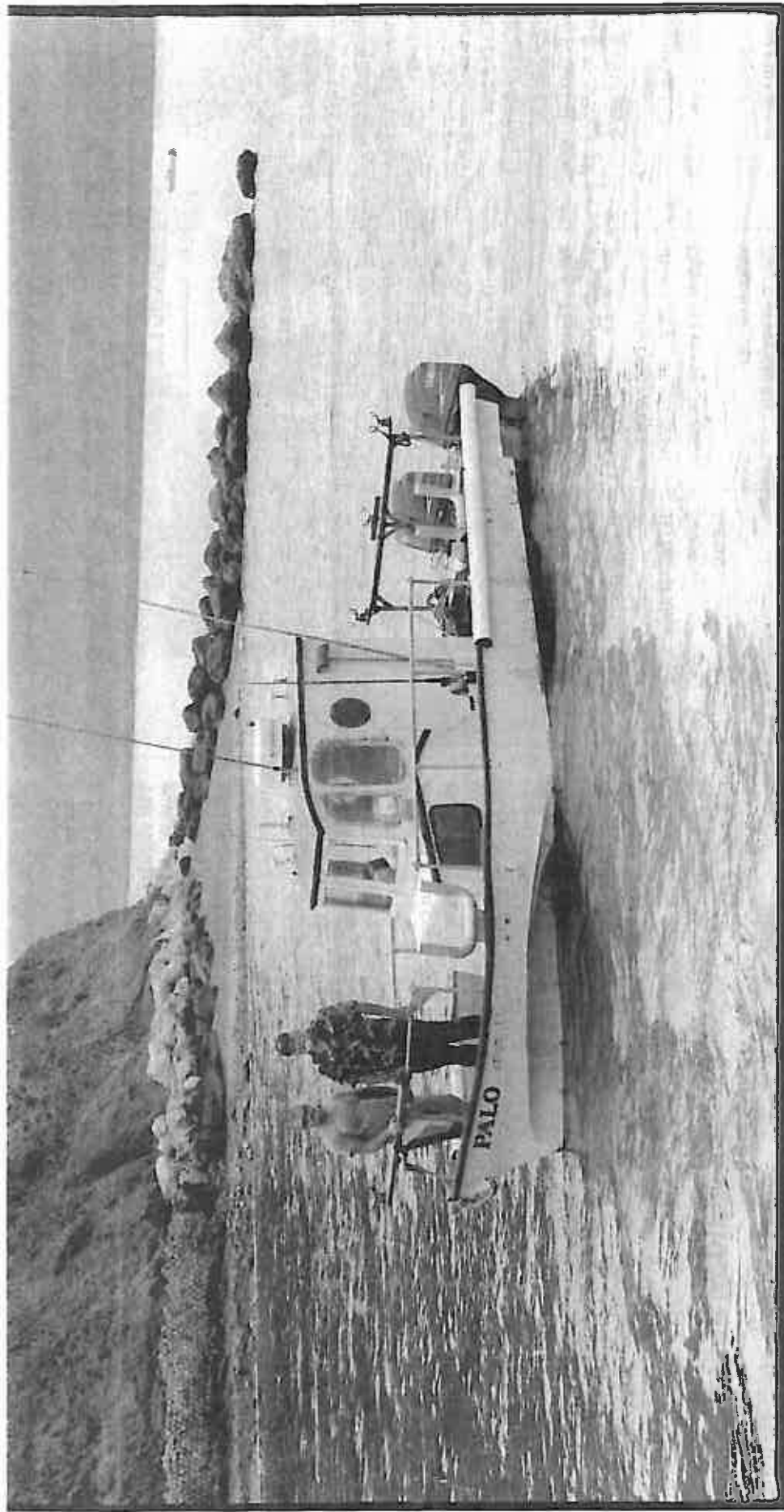
Do I fear the sea? Absolutely. I have come to terms with the wind and the waves, the fog and the whales, the allure and the mystery. It is our government that I fear most on the water, and it is their new presence that may keep me from going out. Do not let your children grow up to be fishers, and do not expect to see any "local" fish in any markets either. The new system needs some fine-tuning.

**Write to the editor**



[editor@ptreyeslight.com](mailto:editor@ptreyeslight.com)





#### THE LAST HOOK-AND-LINE ROCK COD FISHERMEN IN WEST MARIN — COMING INTO MARSHALL BOAT WORKS ON TOMALES BAY

Josh Churchman, pictured on the right, hand built this boat in 1972 in Bolinas and has been fishing out of Bolinas and Bodega Bay for over 30 years. Rob, on the left, has been Josh's fishing partner for over two decades. They fish with fishing poles. Josh's permit allows him to catch up to 2,500 lbs of rock fish every two months throughout the year. The large commercial boats, which use nets, have limits of up to 30,000 pounds for the same two month period. Josh and Rob fish 25 miles off the West Marin coast on the shallow edges of the continental shelf in an area called the Cordell Bank. They consider this area to be one of the best rock cod fishing grounds in the world. It has been difficult for the small fisherman to keep up with the current financial and legal parameters demanded by federal and state agencies. On January 1st of this year, there were five hook and line fishermen working out of West Marin. By February 2008, after the federal government required all fishermen to have Vessel Monitoring Systems (VMS) installed on their boats, only two fishermen remained. By June, because of a VMS violation, another was gone and Josh and Rob were the only ones left. As of last week, because of a the same VMS violation, Josh and Rob may be finished as well. The only area Josh and Rob may now be able to legally fish is in very deep water, at least 1,200 feet deep and beyond 25 miles. This is a difficult endeavor for small boats. Please see the story by Jacoba Charles on page 10.

**FISHING VESSEL OWNERS' ASSOCIATION**

Agenda Item B.1

**INCORPORATED**

Supplemental Open Comment Period 2

September 2008

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**PFMC**

SINCE 1914

August 19, 2008

Mr. Donald Hansen, Chairman  
Pacific Fishery Management Council  
7700 N.E. Ambassador Place, Suite 101  
Portland, OR 97220-1384

Dear Chairman Hansen:

The Fishing Vessel Owners' Association ("FVOA") represents 95 independent fishing families and the vessels they operate. All of our members are fixed-gear harvesters. The members fish approximately 45 fixed-gear limited-entry permits off the lower coast and have about 10 trawl limited-entry permits. Our interest is representing the concerns of our members who have purchased these trawl permits. We support the development of a market-based IFQ format for the future of the West Coast trawl fisheries. We support the current sector splits and other regulatory requirements found in the preliminary preferred action taken by the Pacific Council at its June 2008 meeting.

We oppose the allocation of 20% of the earned Trawl Individual Transferable Quota (TITQ) by a vessel owner to the shorebased processors. The rationale for this allocation was stated in June as to offset alleged new marketing "power" realized by the harvesters once TITQs are issued. However, it has been noted by the Council that, currently, under the status quo management, the marketing power favors the shorebased processors. We believe the 20% proposed allocation is solely an economic allocation and is, therefore, prohibited by National Standard 5. We also believe that, because it is the fishermen's earned fishing history that serves as the basis for quotas, and the proposed 20 % allocation to processors would arbitrarily transfer quota earned by fishermen and not by processors, the allocation is prohibited by National Standard 4. The impact on communities, described below, runs afoul of National Standard 8.

National Standard 4 states: "...If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (a) fair and equitable to all such fishermen; (b) reasonably calculated to promote

conservation; and (c) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges."

National Standard 5 states: "Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose."

The current status of the trawl fishery is the result of several major decisions of the Council taken over three decades. There was an overarching goal by the Council to have a fishery that supplies markets year-round. This goal has failed because the Council has never been able to match the goal of 12-months' availability of fish with harvesting capacity and the ever-changing catch limits (TACs). The Council is now ready to adopt a market-based program that will allow the fleet to match harvest capacity with the availability of resources and market demand for these resources.

For the first time in three decades, this will allow harvesters to enjoy an "open market," a market where the "goods" (fish) produced are not encumbered by bi-monthly trip limits which, relative to market demand, funnel too much fish in too short a period of time to a few processors. The current bi-monthly trip limit structure for harvesting and landing fish results in a form of a "closed market" to harvesters. The time to set up fish deliveries based on negotiated prices, and the ability to hold product until the market becomes more competitive, is the new power we believe the Council identified in June but did not articulate fully.

The bi-monthly deliveries, because of the collapse of the TACs and still too many vessels, has resulted in the fleet fishing the last days of one bi-monthly timeframe and harvesting the next bi-monthly trip limit in the beginning of that time-frame. This structure causes most of the available fish for a four-month period to be delivered in 2-to-3 weeks. The harvesters have been forced to adopt this harvesting strategy in order to catch enough volume to operate economically. To harvest the bi-monthly limits in some other timeframe would result in an insufficient income to operate and attract a crew.

The status quo has created a bi-monthly pulse fishery forcing the harvesters into the position of flooding the market three times a year. Phil Anderson mentioned the current situation puts the processors in a position of power over the harvesters. We agree. None of the above operational actions by the harvesters would be logical, if the harvester operated in an "open market," where one could reasonably negotiate each delivery such as is done through the Homer Auction, FVOA's Seattle Fish Exchange, Holland's reverse auction, and the Japanese Segui Market Auction System. When using these forms of competitive bidding, the harvesters have never before been required to allocate 20% of their fish to the buyers as a prepayment for competing in an open market. It is instructive that never before has there been any justification identified that supported implementation of such an allocation.

The Council's 8-to-4 vote would imply most Council members believe there truly is a new economic power provided to the harvester with the TITQ program. We maintain that the so-called new power of harvesters is nothing more than a restoration of the open market position they enjoyed, before the resources declined and fleet capacity became too large relative to the available harvests. That power is simply the ability to ask two or more buyers to provide competitive bids for the goods produced by the harvester. The processors have received the fish under a closed market situation from the harvesters, as noted by Phil Anderson, and in turn, have sold their finished product to various North American, Asian, and European markets (i.e., open markets).

The ability to enjoy an open market where there are two or more suppliers and two or more buyers is fundamental to the optimal operation of Capitalism. Without the ability to negotiate freely, market distortions are unavoidable. The so-called new power provided to the harvester is a marketing opportunity harvesters should enjoy in accordance with the principles of our economic system. The power of the open market to the harvesters under a TITQ program is matched by power that the processors have always exercised, the ability to negotiate with their buyers at the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> wholesale levels. Seafood Business shows the following for gross sales by processors:

#### North America's Top Seafood Markets

#2 Trident Seafoods	\$1,000 Million
#3 Pacific Seafoods	\$875 Million
#6 Unisea	\$750 Million
#7 American Seafoods	\$550 Million
#12 Ocean Beauty	\$420 Million
#11 Aqua Star	\$430 Million
#14 Icicle Seafoods	\$350 Million
#22 Peter Pan Seafoods	\$240 Million
#22 Golden Alaska Seafoods	\$240 Million

....Seafood Business, May 2008

With TITQs, the harvesters will no longer be held hostage to a market distorted by bi-monthly delivery requirements.

The open market that the processors have enjoyed over the last three decades has benefited them greatly. However, the Pacific coastal harvesting vessels, that do not have some Alaskan opportunities, are currently near bankruptcy, are poorly maintained, often do not have insurance, are frequently tied up, and generally produce poverty-level wages. This contrasts with the tremendous wealth reflected in gross sales of the processors, as reported by NMFS. The Council's proposal to have fishermen pay a 20% premium to the processors for being granted an open market is entirely unfair and arbitrary.

There is no economic theory that justifies the kind of transfer proposed by the Council which is placed on the back of harvester labor and small family vessels owners. Not surprisingly, there is no justification provided in the EIS. The proposal is for nothing more or less than solely an economic allocation proscribed by Magnuson-Stevens Act National Standard 5.

The Pacific Council must recognize that processor leverage and marketing power are not just limited regionally to the area of responsibility to the Pacific Council. The processor assets through the American Fisheries Act ("AFA") legislation and Bering Sea/Aleutian Islands crab rationalization program in Alaska provide marketing leverages on the Pacific Council area. The Japanese fish company of Maruha and Nichiro recently merged, making Maruha now a \$9 billion in sales company. The merged operation has many marketing agreements with the at-sea processors, motherships, and shorebased operators in the Pacific Council area of authority, as well as in Alaska. Through these marketing agreements control over IFQs and processor shares is being exerted both in Alaska and off the lower Pacific Coast.

The Washington State's and Alaska's Attorney General's offices have been looking into these market relations recently due to the merger of Nichiro and Maruha, each was a global seafood buyer. Together they are now the largest seafood buyer in the world. The U.S. Government allocated crab processor quota share privileges to the Bering Sea processors. These processor quotas guarantee each processor their historical share of processed Bering Sea crab. The shares are published by National Marine Fisheries Service (NMFS) and are as follows:

Trident Seafoods Corporation	26%
Unisea, Inc. & Royal Aleutian	21%
Peter Pan Seafoods, Inc.	15%
Westward Seafoods, Inc.	13%
Icicle Seafoods, Inc.	10%
Alyeska Seafoods, Inc.	5%
Snopac Products, Inc.	4%
Yardarm Knot, Inc.	4%
Others	2%

Unisea, Inc., Peter Pan Seafoods, and Westward Seafoods are each 100% owned by Japanese interests. Alyeska Seafoods is owned with about 50% Japanese interests. The total processing shares controlled by Japanese investors of U.S. crab processing rights is over 50%. In addition to this, Maruha now owns 100% of Peter Pan Seafoods, 100% of Westward Seafoods and 50% of Alyeska Seafoods with the recent merger in Japan. Maruha alone controls nearly 38% of all processed U.S. crab. Prices to fishermen are now controlled through government imposed arbitrations to help make sure the harvesters get a fair price. Japanese-controlled companies control over 50% of the wholesale markets for Bering Sea crab. This

marketing power has an impact on the lower coast Dungeness processing and their competitive position as processors.

Trident Seafood representatives have testified before the NPFMC stating the overall crab asset rights maybe worth \$1.1 to \$1.2 billion and crab processors shares worth \$89,684,941. Pollock, if valued at \$2500 to \$3000/ton, has an asset value of \$2.5 to \$3 billion, and non-pollock species in the Bering Sea has an asset value of \$1.0 billion.

In the AFA, pollock was similarly allocated to certain groups. The Act allocated pollock 50% to catcher vessels harvesting pollock for processing by the inshore component, 40% to catcher/processors and catcher vessels that catch and deliver to a catcher processor and 10% to catcher vessels delivering to mother ships.

The percent of processor control of the shore based allocations by the Japanese investors for pollock is: Peter Pan Seafoods ( Maruha) – 2.876%; Unalaska Co-op (Alyeska) (50% owned by Maruha) – 12.181%; Unisea Fleet Cooperative – 25.324% and Westward Seafoods – 18.906% (Maruha). The Japanese investors control 53% of the shorebased processing of pollock, with Maruha controlling 27.7%.

Trident Seafoods, through Akutan Catcher Vessel Association, controls 31.145% of the shorebased pollock plus pollock harvested by their catcher processor fleet such as the *America Enterprise*, *Kodiak Enterprise*, and *Seattle Enterprise*. Trident, at a minimum, controls 25% of all crab processing rights in addition to significant Pollock co-op rights and at-sea processor pollock rights. Seafood.com recently reported the pollock company of Alaska Ocean, Inc., sold to Glacier Fish for \$185 million. It was reported they controlled 40,000 tons of pollock. Trident's control of pollock is more than this and that asset value enables them to be very competitive off the lower Pacific Coast, relative to any new competitive power that might be provided to the harvesters or new processors. The request by the processors for 20% of the fishermen's TITQs is a grab-for-asset value. It utterly fails to address the Pacific Council's problem statement of bycatch and race for fish.

The Pacific Council needs to recognize the tremendous asset value many of the processors off the Pacific Coast have already received through their Alaskan operations and marketing arrangements. The Pacific Council must recognize that allocating 20% of the harvesters TITQs to the processors will put the harvesters in a dramatically and unfairly weaker condition to negotiate than Phil Anderson described. The EIS suggests the harvesters will need to consolidate by 40%. This will require harvesters to buy each other out. If the processors have 20% of the quota, consolidation will likely be more like 60%, putting an even greater economic burden on the harvesters. Allocating 20% of the fishermen's quota will only exacerbate this economic power the processors already have over the harvesters. Unfortunately the Council has not put any design features into the TITQ program with respect to the shorebased sector that would differentiate between harvester quota and processor owned TITQs. Based on the current design, the fishery will

likely be vertically integrated in a short period of time with the harvester in an increasingly weakened negotiating position.

The Council heard from a number of economists from the "Panel of Experts" that the Council put together. The resulting input, including that below, shows that the proposed allocation to processors runs afoul of National Standard 8, which provides: "Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities."

The Council was informed, as follows:

To meet the second objective of preventing the location of landings from shifting radically from the current communities, an analysis would have to demonstrate why the processing sector would be any less likely to shift locations than fishing vessels, once issued IFQs.

Currently, siting of processing plants responds at least partly to the location of fishing fleets. With control of IFQs, processors could exploit economies of scale in processing by consolidating into fewer plants and requiring that the fishing vessels who lease their IFQs land at those sites. Thus, there are potential community instabilities exacerbated under the processors quota options. These are issued requiring analytical attention.

Issuing IFQs to processors introduces some additional possible complications that are not discussed in the presentation of alternatives. Suppose that one or a few processors have a dominant position in the processing industry and that they also deliver a large enough fraction of the fresh groundfish in local markets to affect price. Does the Processor Quota alternative then give them additional market power (monopoly power to restrict supply to achieve a higher market price for groundfish in product markets, or monopsony power to restrict purchases of fish from the fishing fleet to reduce price of landed fish)?

The members of FVOA believe that the 20% allocation of fishing history is economic corporate welfare and tribute to the processors in order to enjoy an open market by the harvesters. We believe this allocation fails under National Standards 4, 5, and 8. Phil Anderson, at the June Council meeting, mentioned the current regulations give processors the superior negotiating position, and we agree. The processors have far more than adequate marketing power with their leverage in Alaska and the lower coast without further strengthening their position by taking 20% of the quota and income base away from the harvesters, harming those who



earned the quotas and adversely affecting fishery dependent communities. We urge rejection of the 20% allocation of TITQs to the processors.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Alverson', with a long horizontal line extending to the right.

Robert D. Alverson  
Manager

RDA:cmb



September 2, 2008

BY FAX, EMAIL and U.S. MAIL

Mr. Donald Hansen and Members of the Pacific Fisheries Management Council  
Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, OR 97220-1384

Re: Public Comment on Proposed Amendment 21 to the FMP: Intersector Allocation

Dear Mr. Hansen and Members of the Pacific Fishery Management Council:

The organizations of the Natural Resources Defense Council ("NRDC") and Pacific Marine Conservation Council ("PMCC") submit the following comments concerning proposed Amendment 21 to the Fishery Management Plan ("FMP") on groundfish intersector allocation.

As we have testified previously, we believe that the Intersector Allocation amendment is likely to have significant conservation and socioeconomic impacts on the groundfish fishery. Allocation of fish to the sectors will play a large role in determining the future footprint of each of the different limited-entry gears. As stewards of the resource, it is your obligation to choose an allocation that best serves the overall health of the oceans and which is consistent with the best direction for the fishery to evolve.

As many studies have demonstrated, fixed gear offers significant conservation benefits compared to trawl. The bycatch from the fixed gear sablefish fishery is orders of magnitude less than that of the sablefish trawl fishery (see Lekelia Jenkins, Gear Conversion as a Means to Reduce Bycatch and Habitat Impacts in the U.S. West Coast Sablefish Fishery (2008)) and the impact fixed gears have on bottom habitat are far less destructive than trawl (see National Research Council, Effects of Trawling & Dredging on Seafloor Habitat (2002)). Accordingly, we believe that the Council should give full consideration to a more forward-looking alternative, one which doesn't simply rely solely on recent history but instead provides an increase of 25-30% to the more conservation-oriented gears of long-lines and pots for those fisheries that are amenable to fixed gears.

To help develop this more forward-looking alternative, we conducted a survey of fixed gear fishermen to better determine where emerging fisheries exist and the extent of the species they could fish productively with a higher allocation. The results are attached and demonstrate that the fixed gear sector has the capacity and the desire to catch significantly greater amounts of the major target groundfish species.

Thank you for your consideration of this study. We appreciate the opportunity to tell you about our concerns and vision for the groundfish fishery and we look forward to working with you productively through the Amendment 21 process.

Sincerely,

Laura Pagano, Attorney  
Karen Garrison, Oceans Program Co-Director  
Natural Resources Defense Council  
111 Sutter St., 20<sup>th</sup> Floor  
San Francisco, CA 94104  
(415) 875-6100

Peter Huhtala  
Pacific Marine Conservation Council  
Director of Government Affairs  
399 31<sup>st</sup> Street  
Astoria, OR 97103  
(503) 325-8188

cc: Frank Lockhart

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# **Fixed Gear Survey for West Coast Groundfish Inter-sector Allocation**

**Prepared for submission to the  
Pacific Fishery Management Council**

Nick Lowry, Ph.D.  
Peter Huhtala  
Laura Pagano  
Sarah Kruse, Ph.D.

September 2008

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## **I. Background / Overview**

The Pacific Fishery Management Council (“Council”) and the National Marine Fisheries Service (NMFS) are planning to allocate a number of fish species to different gear sectors through Amendment 21 to the Groundfish Fishery Management Plan. This action is being taken primarily to facilitate an individual fishing quota system for the trawl fleet, although inter-sector allocation also can serve other management possibilities, such as setting hard total fishing-related mortality caps by sector. NMFS is supporting this effort with analysis, including preparation of an environmental impact statement (EIS).

The Council and NMFS are currently considering long-term allocations to the trawl, fixed gear, open access and recreational fisheries for as many as 18 groundfish species and three complexes. Preliminary alternatives being considered for the Amendment have largely focused allocation percentages based on recent years’ (i.e. 2003 - 2005 and 1995-2005) catch history.

Because this Amendment would result in a long-term gear sector allocation, Natural Resources Defense Council (NRDC) and Pacific Marine Conservation Council (PMCC) believe that good stewardship of the resource requires full consideration of an option that is not simply based on the recent past but is more forward looking. The allocation to gear sectors is a strong determinant of the extent that different gear types will fish. Since allocation will largely determine the trawl and fixed gear footprints, NRDC and PMCC believe that the Council and NMFS should choose allocation levels that are optimal for the health of the resource.

Fixed gear fishing offers significant environmental benefits over trawling, including lower bycatch rates and less bottom habitat impact (Johnson 2002; Morgan and Chuenpagdee 2003; Barnes and Thomas 2005; Jenkins 2008). Therefore, PMCC and NRDC believe a more forward-looking alternative should allocate a higher percentage of groundfish allocation to fixed gear fishermen than has occurred in recent history.

To help inform development of a forward looking alternative, NRDC and PMCC (on their own initiative) conducted a survey of active limited entry fixed gear groundfish fishermen to help determine the extent of the specific species they would be willing and able to utilize with a higher allocation. This summary of the survey results is being provided to the Council and NMFS for consideration in Amendment 21 and the accompanying EIS. Such an alternative could be analyzed for equity among a diverse fleet as well as for conservation benefits.

In addition to this survey, NRDC and PMCC expect and hope that scientific analysis, other written comments, and public testimony will be considered in deciding gear sector allocation as part of a robust and transparent public process.

The survey and results presented in the remainder of this paper suggest that the fixed gear fleet has both the capacity and desire to make productive use of an increased allocation of certain groundfish species.

## **II. Distribution and Response Rate**

The two page survey (see appendix A) was sent with an accompanying letter (see Appendix B) to 113 active limited entry fixed gear fishermen in early July 2008. Additional responses were sought through telephone calls to 39 recipients who did not initially respond to the printed survey (calls were made to those fishermen for whom telephone numbers could be found via on-line telephone directories).

A total of 23 surveys were at least partially completed and returned to PMCC, resulting in a response rate of 20.4%. Of these, six were from California based fishermen, 11 from Oregon and six from Washington. Results in this report are based on those surveys, with some additional comments taken during telephone conversations. Five respondents only partially completed the surveys, and did not include full details of catch history and expected future catches. The data from these surveys were included in the results and comments, but did not contribute to the information about current and expected catches.

## **III. Survey Results**

The 23 respondents included owners or operators of 28 vessels, utilizing 18 different ports from Bellingham, WA to San Pedro CA. Eleven respondents stated their primary port(s) was in Oregon, while 6 and 5 listed California and Washington, respectively. One individual listed two primary ports in different states—one in Washington and one in Oregon. Experience of participants ranges from 2 to 50 years, averaging 26 years. Vessels range in size from 25-85 feet (ft.), averaging 47 ft.

### **▪ Major fisheries**

The major species caught by the respondents (by number of participants) were sablefish, lingcod, minor slope rockfish complex, and shortspine thornyheads. Of these, sablefish were overwhelmingly the main target species (see Table 1). In all cases, however, they stated that their catches would be substantially greater if they were allowed greater access to these species.

Survey participants, prior to answering the question on how much more they could realistically catch and sell if the present allocation were increased, were reminded to take into consideration time, gear, expertise and market changes. These considerations were included in an effort to encourage thoughtful and realistic responses from participants given their individual situation and discourage 'infinite' demands for more allocation for the fixed gear fleet in general.

**Table 1.** Overall response by species<sup>1</sup>.

Species	# of responses	2007 catch	Expected harvest (with increased allocation)	Ratio expected (2007)
<b>Lingcod N of 42</b>	<b>9</b>	10,698	84,600	7.9
<b>Lingcod S of 42</b>	<b>5</b>	2,600	24,500	9.4
<b>Pacific cod</b>	<b>0</b>	0	0	-
<b>Sablefish N of 36</b>	<b>13</b>	500,311	1,945,000	3.9
<b>Sablefish S of 36</b>	<b>3</b>	183,000	660,000	3.6
<b>Shortbelly Rockfish</b>	<b>1</b>	0	7,000	∞
<b>Chillipepper Rockfish</b>	<b>2</b>	0	17,000	∞
<b>Splitnose rockfish</b>	<b>1</b>	0	4,000	∞
<b>Yellowtail rockfish</b>	<b>3</b>	2,500	20,000	8.0
<b>Shortspine thornyhead N of 34</b>	<b>8</b>	7,968	82,000	10.3
<b>Shortspine thornyhead S of 34</b>	<b>1</b>	2,000	50,000	25.0
<b>Longspine thornyhead N of 34</b>	<b>4</b>	1,500	25,000	16.7
<b>Longspine thornyhead S of 34</b>	<b>1</b>	4,000	4,000	1.0
<b>Minor slope rockfish North</b>	<b>8</b>	33,577	233,000	6.9
<b>Minor slope rockfish South</b>	<b>6</b>	21,500	346,000	16.1
<b>Dover sole</b>	<b>3</b>	1,250	16,000	12.8
<b>English sole</b>	<b>1</b>	10	5,000	500.0
<b>Petrable sole</b>	<b>5</b>	1,150	21,300	18.5
<b>Arrowtooth flounder</b>	<b>3</b>	2,100	7,000	3.3
<b>Starry flounder</b>	<b>1</b>	20	5,000	250.0
<b>Other flatfish</b>	<b>5</b>	0	65,000	∞
<b>Spiny dogfish</b>	<b>1</b>	300,000	300,000	1.0

#### ▪ **Lingcod**

Eighteen of the 23 respondents stated that they fished for lingcod, and 14 provided information about recent and potential catches. All stated that with increased allocation they would expect to catch more. The ratio between recent and potential catches was slightly higher for lingcod south of 42° (2,600 in 2007, 24,500 potential, ratio 9.4) than north of 42° (10,698 in 2007, 84,600 potential, 7.9 ratio)

#### ▪ **Sablefish**

All but one of the respondents indicated that they either had limited entry permits for sablefish, or fished for sablefish under the open access portion of the quota. Sixteen respondents provided information about recent catch and potential catch. Recent catches ranged from 500 to 145,500 pounds. All indicated that they would catch more sablefish if a higher allocation were available, ranging from 10,000 to 500,000 pounds. Total catch by these 16 respondents was 683,311 pounds, and potential catch was 2,605,000 pounds. The average factor by which potential catches exceeded current catches was 3.8. Two others provided information about 2007 catch and stated that they could catch an “unlimited” amount of sablefish.

<sup>1</sup> The “# of responses” is total number of respondents who stated that they would expect to catch that species, even if they recorded no catch of the species in 2007.



Two respondents directly commented that sablefish are easier to catch now than at any time in the past that they can remember. One also noted that conservation areas that exclude trawlers have a positive effect on sablefish.

#### ▪ **Minor slope rockfish**

Fifteen respondents stated that they fished for species in the minor slope rockfish complex, and there was a high level of interest in increasing catch for these species. For north of 40°10'N latitude, this includes aurora (*S. aurora*), bank (*S. rufus*), blackgill (*S. melanostomus*), darkblotched (*S. crameri*), redbanded (*S. babcocki*), rougheye (*S. aleutianus*), sharpchin (*S. zacentrus*), shortraker (*S. borealis*), splitnose (*S. diploproa*), yellowmouth (*S. reedi*). Eight respondents caught 33,577 pounds in 2007, and estimated future potential catch of 233,000, for a ratio of 6.9.

One commented that the use of floating groundlines for slope rockfish was effective; catching mostly shortraker and rougheye rockfish with only about 1% incidental catch of POP and darkblotched rockfish. Marketing these fish via air freight to Japan for high quality product gave a much better price.

South of 40°10'N latitude the complex includes aurora (*S. aurora*), bank (*S. rufus*), blackgill (*S. melanostomus*), darkblotched (*S. crameri*), Pacific ocean perch (*S. alutus*), redbanded (*S. babcocki*), rougheye (*S. aleutianus*), sharpchin (*S. zacentrus*), shortraker (*S. borealis*), yellowmouth (*S. reedi*). Six respondents (one of whom also fished for minor slope rockfish north) caught 21,500 pounds in 2007, and estimated potential catches of 346,000 pounds, for a ratio of 16.1

#### ▪ **Shortspine thornyheads**

Nine respondents indicated that they would catch more shortspine thornyheads if given greater access. Eight of these were north of Pt. Conception (34°N). Their total 2007 catch was 7968 pounds, and estimated potential catch was 82,000 pounds, for a ratio of 10.3.

Two respondents commented that trawling had damaged markets for thornyheads, and that they had trouble selling their catch.

#### ▪ **Other species**

The other species listed in the survey were Pacific cod, shortbelly, chillipepper, splitnose and yellowtail rockfish, longspine thornyheads, Dover, English and petrale sole, arrowtooth and starry flounder, other flatfish and spiny dogfish. These species appear to be minor target species or incidental catch, although in some cases greater allocations may allow the development or expansion of fixed gear fisheries.

No Pacific cod were expected to be caught by survey respondents. One respondent noted that this was a result of depth restrictions currently in force.

Only small amounts of shortbelly, chillipepper and splitnose rockfish were recorded as caught in 2007, and the fishers with these landings did not include information about

expected landings. Two respondents stated that they could target these species and catch significant quantities, even though they recorded no landings for them in 2007. Landings of yellowtail rockfish were larger and three respondents would expect to catch larger quantities if given larger allocations.

Longspine thornyheads were landed by five respondents. Two noted that markets were poor or non-existent for this species and one that they were difficult to catch consistently. Nevertheless, expected catches were up to 10,000 pounds, indicating that some thought that targeting longspine thornyheads was feasible.

Landings of flatfish by survey respondents were fairly small. However, there was some interest in increasing catches, especially for petrale sole. Some respondents included halibut in the “other flatfish” category, which explains part of the large number in that category, but others noted that they would catch skates and sand dabs. Other comments included raising the possibility of targeting Dover, English and petrale sole with traps, and that this could be done with minimal rockfish bycatch.

Only one respondent targeted spiny dogfish. Three others noted that they caught them but had no market available.

#### ▪ **Use of incidental catch**

Question 6 in the survey asked:

“If you had access to additional incidental catch of the following species, would it allow you to more fully prosecute other associated **Limited Entry Fixed Gear** fisheries in which you are interested? If YES, how much more could you realistically use? “

Most of those who answered this question said that they would be able to use more of these species. Answers are summarized in Table 2.

**Table 2:** Summary of responses to Q6.

Species	No	Yes	Max.	Min.	Average	Total
Pacific Ocean Perch	3	7	20000	1000	10143	71000
Widow Rockfish	4	8	20000	1000	10125	81000
Darkblotched Rockfish	3	10	25000	500	11550	115500

#### ▪ **Comments**

The survey included a space for respondents to add their comments. These fell into three general categories of comments: (1) fixed gear gives better product and commands a higher price (6 comments); (2) allocation process has been unfavorable to fixed gear (4 comments); and (3) current regulations are a burden on fixed gear fishers and need to be relaxed (6 comments). Many comments in the latter category specifically mentioned the rockfish conservation areas (RCA) and that these regulations are a hindrance to small boat fisheries. Others noted that they would like to be able to switch between fishing traps and hooks under longline permits in order to develop trap fisheries with lower bycatch rates.

Telephone follow-up work resulted in similar comments being shared. A number of the individuals contacted through the follow-up phone calls said that they were not interested in participating in the survey because they believed that the system favors the trawl fleet and would not change.

#### **IV. Conclusions**

The results of this survey demonstrate that the fixed gear sector is capable of catching a greater amount of many of the major target groundfish species. The primary species were sablefish, lingcod, minor slope rockfish complex and shortspine thornyheads. The results suggest that if fixed gear fleet allocation was increased, fixed gear fishermen have the desire and capacity to potentially catch almost four times as much sablefish, eight times as much lingcod, ten times as much of the minor slope rockfish complex, and 13 times as many shortspine thornyheads. Some respondents also expressed interest in other minor species such as petrale and Dover sole, longspine thornyheads, yellowtail and chillipepper rockfish. Respondents noted that trap fisheries for some of these species could be developed with low bycatch rates.

#### **V. References**

- Barnes, P. W. and J. P. Thomas, Eds. (2005). Benthic Habitats and the Effects of Fishing. Bethesda, MD, American Fisheries Society.
- Jenkins, L. D. (2008). Gear Conversion as a Means to Reduce Bycatch and Habitat Impacts in the U.S. West Coast Sablefish Fishery: 50 pp.
- Johnson, K. A. (2002). A Review of National and International Literature on the Effects of fishing on Benthic Habitats. NOAA Technical memorandum NMFS-F/SPO-57 U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service.
- Morgan, L. and R. Chuenpagdee (2003). Shifting Gears: Addressing the Collateral Impacts of Fishing Methods in U.S. Waters. The Pew Charitable Trusts, Washington, D.C.

## **Appendix A**

### **Survey**

## SURVEY FOR FEDERAL GROUNDFISH ALLOCATION – DON'T LET FIXED GEAR BE LEFT OUT

The Pacific Fishery Management Council (PFMC) is analyzing a Fishery Management Plan Amendment which will assign long-term percentages of groundfish species to different gear types. Currently, the only alternatives being considered allocate fish on the basis of historical catch—under which the trawl gear fleet gets the vast majority of the commercial groundfish. Through the advocacy efforts of a number of non-profit organizations, including Pacific Marine Conservation Council and Natural Resources Defense Council, the PFMC has agreed to consider one additional, “more forward-looking” alternative, under which fixed gear (as a more conservation-oriented gear than trawl) could potentially receive a higher groundfish allocation.

In order to develop this alternative for PFMC consideration, we need your help. The information you supply in this short survey about the species you fish and where you land them will help us show that there are existing and emerging fixed gear fisheries that should be considered for allocation. Your participation and answers are extremely important. All responses will remain confidential, and they will never be associated with your name in any way. If possible, please return the survey in the accompanying pre-addressed stamped envelope by **July 18, 2008**.

For more information on this survey or the potential PFMC Fisheries Management Plan Amendment, please contact Peter Huhtala at [peter@pmcc.org](mailto:peter@pmcc.org) or (503) 325.8188.

**Please read the waiver carefully:** I understand and acknowledge by completing this survey, I am stating that I voluntarily agree to participate.

1. In what port(s) do you primarily land your groundfish catch: \_\_\_\_\_
2. How many years have you been fishing West Coast groundfish: \_\_\_\_\_
3. What type(s) of state and federal endorsement(s) do you currently have: \_\_\_\_\_
4. What length (in feet) is the vessel you currently own/operate: \_\_\_\_\_
5. The table on the other side includes a list of groundfish species and asks you to answer questions about your current groundfish harvests and what your harvests might look like if groundfish allocation to the fixed gear fleet was not limited. **Please turn to the other side of the page now and then answer the remaining questions after filling out the table on the other side.**

6. If you had access to additional incidental catch of the following species, would it allow you to more fully prosecute other associated **Limited Entry Fixed Gear** fisheries in which you are interested? If YES, how much more could you realistically use?

- |   |                             |  |
|---|-----------------------------|--|
| <input type="checkbox"/> Pacific Ocean Perch: | <input type="checkbox"/> NO | <input type="checkbox"/> YES, please state in pounds per year how much more you could realistically use: _____ |
| <input type="checkbox"/> Widow Rockfish:      | <input type="checkbox"/> NO | <input type="checkbox"/> YES, please state in pounds per year how much more you could realistically use: _____ |
| <input type="checkbox"/> Darkblotched:        | <input type="checkbox"/> NO | <input type="checkbox"/> YES, please state in pounds per year how much more you could realistically use: _____ |

7. Other comments: \_\_\_\_\_

8. Another part of our survey may involve talking directly with commercial groundfish fishermen to learn more about their thoughts on emerging fixed gear fisheries. If you would be willing to share your knowledge and experiences with us, please include your name and contact information below.

PLEASE RETURN THE SURVEY IN THE ACCOMPANYING PRE-ADDRESSED STAMPED ENVELOPE. THANK YOU FOR YOUR PARTICIPATION!

## SURVEY FOR FEDERAL GROUND FISH ALLOCATION – DON'T LET FIXED GEAR BE LEFT OUT

How many pounds of each species did you harvest in 2007 under your **Limited Entry Fixed Gear Permit** (please leave blank if you do not fish that species):

A. Which species listed below could you realistically catch and sell more of if the present allocation of that species to **fixed gear** was retained or increased. In your answers, please focus on future possibilities given time, gear, expertise and market changes. **(please include a pound amount for each species you would catch more of and please leave blank if you would not fish or increase your catch of that species):**

B. In what general area would you fish each species listed in Column B (for each, please circle one of the following general areas):

NB – North of Cape Blanco to the Canadian Border

BM – Cape Blanco to Cape Mendocino

MC – Cape Mendocino to Point Conception

SC – South of Point Conception to the Mexican Border

C. In what months would you anticipate fishing each species (e.g. May–September):

SPECIES	CURRENT PRACTICES		THINKING FORWARD		
	A. 2007 harvest by species (in pounds)	B. Expected harvest if access wasn't limited (in pounds)	C. General area you WOULD fish by species	D. Months you WOULD fish by species	
Lingcod	—	—	—	—	
N. of 42° (OR & WA)			NB BM MC SC		
S. of 42° (CA)			NB BM MC SC		
Pacific Cod			NB BM MC SC		
Sablefish	—	—	—	—	
N. of 36° (Monterey north)			NB BM MC SC		
S. of 36° (Conception area)			NB BM MC SC		
Shortbelly Rockfish			NB BM MC SC		
Chilipepper Rockfish			NB BM MC SC		
Splitnose Rockfish			NB BM MC SC		
Yellowtail Rockfish			NB BM MC SC		
Shortspine Thornyhead	—	—	—	—	
N. of 34° 27'			NB BM MC SC		
S. of 35° 27'			NB BM MC SC		
Longspine Thornyhead	—	—	—	—	
N. of 34° 27'			NB BM MC SC		
S. of 35° 27'			NB BM MC SC		
Minor Slope Rockfish North			NB BM MC SC		
Minor Slope Rockfish South			NB BM MC SC		
Dover Sole			NB BM MC SC		
English Sole			NB BM MC SC		
Petrale Sole			NB BM MC SC		
Arrowtooth Flounder			NB BM MC SC		
Starry Flounder			NB BM MC SC		
Other Flatfish			NB BM MC SC		
Spiny Dogfish			NB BM MC SC		

PLEASE RETURN TO THE OTHER SIDE TO FINISH THE SURVEY.

**Appendix B**  
**Survey Cover Letter**



Dear XXXX:

We are sending you this letter because (as you might already know) there is a political process underway at the Pacific Fishery Management Council ("Council") to set hard, long term allocations to the trawl, fixed gear, open access and recreational fisheries for 18 groundfish species and 3 complexes. This action is being taken to support an individual fishing quota system for the trawl fleet and a number of species fished by fixed gear fishermen will be allocated as part of this process.

The Council has been primarily focused on allocating these groundfish species based on historical use, which results in the vast majority of the groundfish being given to the trawl gear. Under this framework, the groundfish trip limits that are currently approved for fixed gear permits could be further restricted. A hard allocation that either reduces current opportunities or fails to allow for developmental fisheries greatly reduces any future opportunity to benefit from harvesting many groundfish species. At the April Council meeting, however, Pacific Marine Conservation Council (PMCC), Natural Resources Defense Council and others successfully argued that the National Marine Fisheries Service (NMFS) should prepare an environmental impact statement that considers a reasonable range of allocation options. Rather than simply looking at recent catch history while crafting allocations, we believe that consideration should be given to the future needs, emerging fisheries, and potential innovations of the fixed gear fleet.

To credibly provide the Council with an alternative that takes account of what groundfish species the fixed gear fishery might need or use in the future, however, we need your help. We need to know about your operation and what groundfish species you can anticipate using in the future by having you fill out the short survey we included. We are also interested in interviewing people so please feel free to volunteer for that too. The survey results (which will be completely confidential) will be compiled by PMCC along with information from personal interviews. We will then prepare a summary document to present to NMFS.

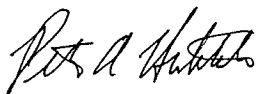
We hope that you will participate in the survey. If you would prefer to go over the questions on the phone, please call Peter Huhtala at (503) 325-8188, or email him at [peter@pmcc.org](mailto:peter@pmcc.org).

We also encourage you to directly participate in the allocation process. You can write to the Council anytime, referencing Amendment 21 of the Groundfish Fishery Management Plan. Their email address is [pfmc.comments@noaa.gov](mailto:pfmc.comments@noaa.gov). You'll find additional contact information at [www.pcouncil.org](http://www.pcouncil.org).

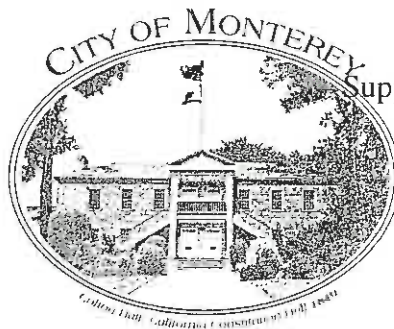
The Council will most likely discuss this allocation at their November 2008 meeting (which is being held the week of November 2-7 in San Diego). We expect the Groundfish Allocation Committee will work up recommendations for preferred alternatives in January 2009. Final adoption could be complete during the spring of 2009.

Thank you for your time. If you have any questions please don't hesitate to call or email.

Best Regards,



Peter Huhtala  
Director of Government Affairs



Agenda Item B.1  
Supplemental Open Comment Period 4  
September 2008

RECEIVED

AUG 27 2008

PFMC

August 22, 2008

HARBOR/MARINA DIVISION

Paul Michel, Superintendent  
Monterey Bay National Marine Sanctuary  
299 Foam Street  
Monterey, CA 93940

Dear Paul:

A point of confusion still exists over what is meant by the statement, *"The Office of National Marine Sanctuaries has decided to move forward with a process to propose MPAs in the Sanctuary."* My question, which I raised in part at the August 15<sup>th</sup> Sanctuary Advisory Council (SAC) meeting, is based on my hearing your interpretation of this statement at the Pacific Fishery Council meetings, the Sanctuary Advisory Council meetings, and the Monterey City Council meeting. Your statements, however, seem to differ from the February and April Sanctuary letters, and from what I heard from Sanctuary Staffperson Mike Eng at the August 15<sup>th</sup> SAC meeting. There is enough of a question that I am putting this in writing, and hope you'll provide a written response.

At the August 15<sup>th</sup> SAC Meeting, I asked if the need-for-additional-MPAs question was still an open question, i.e., the need for MPAs had not been established. You responded that it was a settled question, but then went on to explain that that statement did not mean that any additional, or even reconfigured, MPAs were required. This is generally consistent with what you have said to the Monterey City Council and to the Pacific Fishery Management Council. The understanding of the Pacific Council, based on your testimony, is reflected in the statement to you in its letter of July 29, 2008, wherein PFMC Executive Director Don McIsaac states:

*"However, the Council was encouraged by your verbal testimony at the April Council Meeting during which you characterized the Sanctuary determination as a general decision to consider MPAs as a management tool, and with regard to specific MPA proposals, to evaluate the existing and proposed management measures and MPAs within the Sanctuary in coordination with the Council to ascertain if any modifications are necessary to meet the Sanctuary's goals and objectives... The Council is supportive of a collaborative review of the need for additional MPAs within the Sanctuary... Any determination of the need for additional MPAs should only be made following a comprehensive analysis of a sufficiently wide range of alternatives"*  
(underlining is mine)

It seems that the PFMC believes that the "need" question is still open.

When I hear your statements, and then also review the concurrence of those statements by the Pacific Council, I am encouraged that the MPA review process might be a general review of MPAs as one of many management tools available to the Sanctuary to meet its goals, and that the MPA process will

consist of an evaluative process of measuring the effectiveness of all existing management measures, identifying needs, and choosing the right tool to address those needs. Alternatively, I suppose that the MBNMS could decide that even if there are some needs identified during this process, the Sanctuary might not need to act on those.

However, at the August 15, 2008 SAC meeting, Sanctuary Resource Protection Specialist Mike Eng made a clear statement that the Sanctuary Program had determined that *"there is an unmet need for MPAs within the Sanctuary."* This statement, I believe, is consistent with both the February 15<sup>th</sup> and April 15<sup>th</sup> letters from you and the Office of National Marine Sanctuaries. When I read those two letters, my overwhelming impression is that the Sanctuary has determined that it needs additional MPAs or MPAs with different rules, beyond what are already in place under the authority of other state and federal agencies. Why else would your letter say that the Sanctuary *"has decided to propose MPAs in the Sanctuary"*? When discussing existing spatial management, your letter also states *"However, while the existing spatial management measures in state and federal waters of the Sanctuary provide valuable protections from fishing impacts in certain habitats. (sic) Those habitats further offshore are either not adequately represented in existing MPAs, or not fully protected by the gear based restrictions associated with EFH or the temporary RCAs."* The MPA workgroup process, in this scenario wherein the MBNMS asserts that what exists is not adequate, would be one of starting from a conclusion that there will be more or different MPAs, and the Work Group would only provide input as to the locations of new or reconfigured MPAs, and input about the rules associated with MPAs.

For the stakeholders and the science team to understand their tasks, four questions need to be clearly resolved. Is the MBNMS/ONMS asserting that:

1. there is a need for areas where the natural ecosystem components are maintained and/or restored that is not met by the variety of current management measures that exist?
2. there is a need for research areas to differentiate between natural variation versus human impacts to ecological processes and components that is not met by the variety of current management measures that exist?
3. there is a need to preserve some unique and rare areas in their natural state for the benefit of future generations that is not met by the variety of current management measures that exist?
4. MPAs are the only tool being considered to meet these needs that are not met by the variety of current management measures that exist?

I think you can appreciate that these questions need to be fully resolved or the MPA workgroup and process will be confounded at every step.

Thank you in advance for addressing this critical question.

Sincerely,



Stephen B. Scheiblauber  
Harbormaster

C: City Manager  
Public Facilities Director  
Sanctuary Advisory Council  
Don McIsaac, PFMC



## Port Orford Ocean Resource Team

P.O. Box 679  
351 6<sup>th</sup> Street  
Port Orford, OR 97465  
P: 541.332.0627  
F: 541.332.1170  
[poort@carrollweb.com](mailto:poort@carrollweb.com)  
<http://oceanresourceteam.org>

Dear Council Members;

We are limited entry fixed gear sablefish fishermen from Port Orford, Oregon.

Here in Port Orford there are approximately thirty small family businesses that participate in the sablefish fishery. Often in the months of July, August, and September, sablefish concentrate in the shallows. The current fixed gear RCA allows us to access this economically vital resource.

Nobody we have spoken to: captains, crew, or three federal observers have ever witnessed yellow eye rockfish bycatch in the sablefish fishery with the current RCA lines in place.

Therefore, to be excluded from these productive fishing grounds by the expansion of the RCA seaward from 100fm to 125fm could only result in an unacceptable economic hardship for our fishermen, their families, and the greater Port Orford community. Federal observer data along with experiential observation substantiate no yelloweye rockfish bycatch.

Due to this, no conservation objective can result from this proposed expansion of the fixed gear RCA seaward. We understand Cape Blanco North is the preferred zoning. We request the line be placed at Cape Arago. Only economical hardship at a time when salmon closures and a down cycle in crab landing has us barely hanging on will be the harsh consequence if Cape Blanco is used as the southern boundary for this regulatory change.

Respectfully,

BRETT WEBB F/V MOXIE   
Orion Ashdown F/V Angie F/V Paivte 



# Port Orford Ocean Resource Team

**RECEIVED**

**SEP 02 2008**

**PFMC**

P.O. Box 679  
351 6<sup>th</sup> Street  
Port Orford, OR 97465  
P: 541.332.0627  
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[poort@carrollisweb.com](mailto:poort@carrollisweb.com)  
<http://oceanresourceteam.org>

Dear Council Members;

We are limited entry fixed gear sablefish fishermen from Port Orford, Oregon.

Here in Port Orford there are approximately thirty small family businesses that participate in the sablefish fishery. Often in the months of July, August, and September, sablefish concentrate in the shallows. The current fixed gear RCA allows us to access this economically vital resource.

Nobody we have spoken to: captains, crew, or three federal observers have ever witnessed yellow eye rockfish bycatch in the sablefish fishery with the current RCA lines in place.

Therefore, to be excluded from these productive fishing grounds by the expansion of the RCA seaward from 100fm to 125fm could only result in a unacceptable economic hardship for our fishermen, their families, and the greater Port Orford community. Federal observer data along with experiential observation substantiate no yelloweye rockfish bycatch.

Due to this, no conservation objective can result from this proposed expansion of the fixed gear RCA seaward. We understand Cape Blanco North is the preferred zoning. We request the line be placed at Cape Arago. Only economical hardship at a time when salmon closures and a down cycle in crab landing has us barely hanging on will be the harsh consequence if Cape Blanco is used as the southern boundary for this regulatory change.

Respectfully,

*Chris DeB...*

*F/V JAC*

*T...*

*F/V Tara Maru Darcitea*

*Darryl R...*

*FV DOMINION FO MY GIRL*

*Jeff P. ...*

*F/V TOP GUN*

*F/V GOLDENEYE*

*S. ...*

*F/V Providence B. Providence II*

*Mark McMillan*

*F/V Miss Emily / Crystal / Sea's*

*...*

*F/V Fantasy & Bottom Dollar*

*...*

*FORMER OBSERVER*

*F/V Desert Storm*

Port Orford Ocean Resource Team

*...*

*F/V Tiburon / Playboy*

RECEIVED

AUG 29 2008

PFMC



800 Exchange St., Suite 310  
Astoria, Oregon 97103

August 28, 2008

Pacific Fishery Management Council  
7700 NE Ambassador Place, Suite 101  
Portland, OR 97220-1384

RE: Development of an individual fishing quota system for the West Coast Trawl  
Groundfish Fishery

At their August 27, 2008 meeting, the Clatsop County Board of Commissioners  
unanimously approved a resolution and order supporting the Pacific Fisheries  
Management Council's development of an individual fishing quota system for the  
West Coast Trawl Groundfish Fishery and opposing allocation of harvesting  
shares to fish processing companies.

County Manager's Office

Phone (503) 325-1000  
Fax (503) 325-8325

A copy of the resolution and order is attached.

Sincerely,

Valerie Crafard  
Staff Specialist – Clerk to the Board

Enc.

RECORDED

AUG 28 2008

IN THE BOARD OF COUNTY COMMISSIONERS  
FOR CLATSOP COUNTY, OREGON

Doc #2608080245

RESOLUTION SUPPORTING THE )  
PACIFIC FISHERIES MANAGEMENT )  
COUNCIL'S DEVELOPMENT OF AN )  
INDIVIDUAL FISHING QUOTA )  
SYSTEM FOR THE WEST COAST )  
TRAWL GROUND FISH FISHERY )  
AND OPPOSING ALLOCATION OF )  
HARVESTING SHARES TO FISH )  
PROCESSING COMPANIES )

RESOLUTION AND  
ORDER

**Whereas:** The West Coast Trawl Fishery adds an important component to the State of Oregon's coastal economy, producing more than 4,000 jobs, and creating \$120 million in economic impacts, and;

**Whereas:** The West Coast Trawl Fishery adds an important component to the local economy of Clatsop County producing more than 800 jobs and creating more \$30 million in economic impacts, and;

**Whereas:** The West Coast Groundfish Fishery is the largest component of the West Coast Trawl Fishery, and the Columbia River is the home port of the largest number of trawl vessels of any area in Oregon, and;

**Whereas:** The Pacific Fishery Management Council is developing an Individual Quota Program to strengthen the West Coast Groundfish Trawl Fishery and increase the economic benefit to coastal economies by increasing the incentives to conserve the fishery resource and by increasing the amount of harvest of species of fish from healthy stocks while avoiding the capture of species of fish from unhealthy stocks, and;

**Whereas:** The number of fish processing companies along the West Coast has decreased to a level where a very few companies process the groundfish landed by the West Coast Groundfish Trawl Fishery, and;

**Whereas:** The only rational to issue fish harvesting shares to processors that has been presented to the Pacific Fishery Management Council is to use these shares in an anti-competitive manner to prevent new processing companies from processing groundfish, and;

**Whereas:** No conservation benefit to the resource has been demonstrated by the allocation of harvesting shares to fish processing companies, and;



**Whereas:** A strong, healthy and stable fishing fleet is necessary to support healthy processing industries and realize the economic potential of the groundfish fishery, and;

**Whereas:** Allocating groundfish harvesting shares to processors weakens the fishing fleet and jeopardizes the ability of the West Coast Trawl Fishery to realize the maximum economic benefit possible, and;

**Whereas:** The motivation to conserve the fishery resources is weakened by allocating harvesting shares to processors and jeopardizes the conservation of the groundfish resource,

**Therefore, be it resolved:** Clatsop County supports the efforts of the Pacific Fishery Management Council to develop and implement an Individual Fishermen's Quota program for the West Coast Groundfish Trawl Fishery and opposes issuing harvesting shares to fish processing companies.

Dated this 27<sup>th</sup> day of August, 2008

BOARD OF COUNTY COMMISSIONERS  
FOR CLATSOP COUNTY, OREGON

  
Patricia J. Roberts, Chairperson

# **WEST COAST GOVERNORS'** **AGREEMENT** on **OCEAN HEALTH** CALIFORNIA OREGON WASHINGTON

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Agenda Item B.1  
Supplemental Open Comment Period 7  
September 2008

## **Accomplishing the Action Plan of the West Coast Governors' Agreement on Ocean Health**

**Usha Varanasi**

**Presentation to the  
Pacific Fishery Management Council  
September 8, 2008**



# WEST COAST GOVERNORS' AGREEMENT on OCEAN HEALTH

CALIFORNIA OREGON WASHINGTON

---

## WCGA Executive Committee

### State Co-leads

- Kathleen Drew, Washington
- Jessica Hamilton, Oregon
- Brian Baird, California

### Federal Co-leads

- Usha Varanasi, DOC/NOAA
- Alexis Strauss, EPA Region IX
- Fred Piltz, DOI/MMS

### WCGA staff

- Jennifer Hennessey, WA
- Amy Boone, CA
- Valerie Termini, CA
- Ephraim Leon–Guerrero, EPA
- Becky Smyth, DOC/NOAA
- Becky Pollock, DOC/NOAA
- Tom Hom, DOC/NOAA



## Background

- Three West Coast Governors signed an agreement on ocean health in September 2006
- The Agreement identified **7 priority areas** for the states to work together
- The Agreement specified **4 actions** for immediate implementation
- The Agreement asked for an Action Plan

## Seven Priority Areas

1. Ensuring clean coastal waters and beaches
2. Protecting and restoring healthy ocean and coastal habitats
3. Promoting the effective implementation of ecosystem-based management of our ocean and coastal resources
4. Reducing adverse impacts of offshore development
5. Increasing ocean awareness and literacy among our citizens
6. Expanding ocean and coastal scientific information, research, and monitoring
7. Fostering sustainable economic development throughout our diverse coastal communities

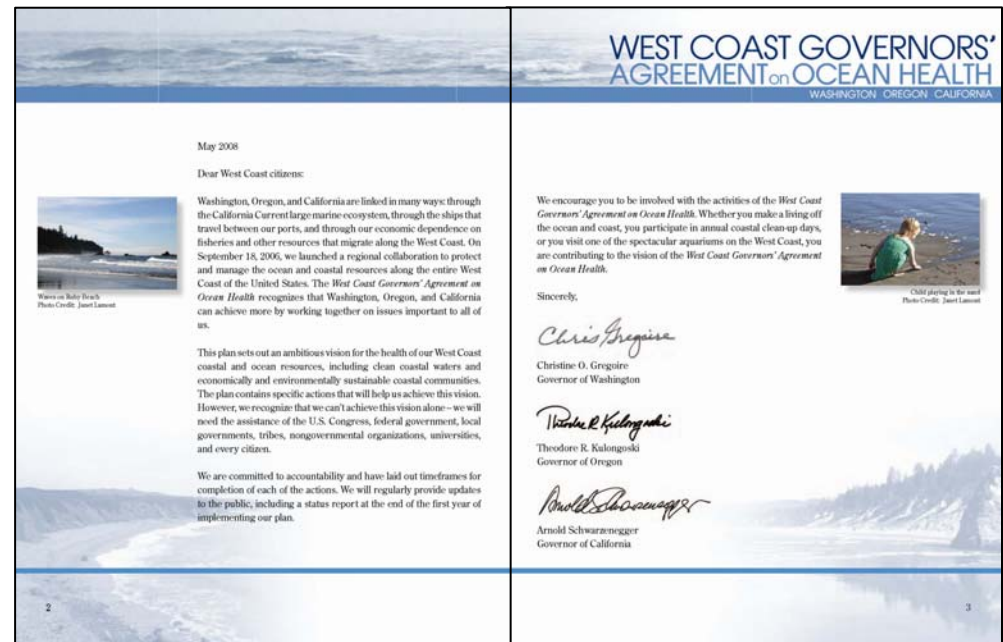
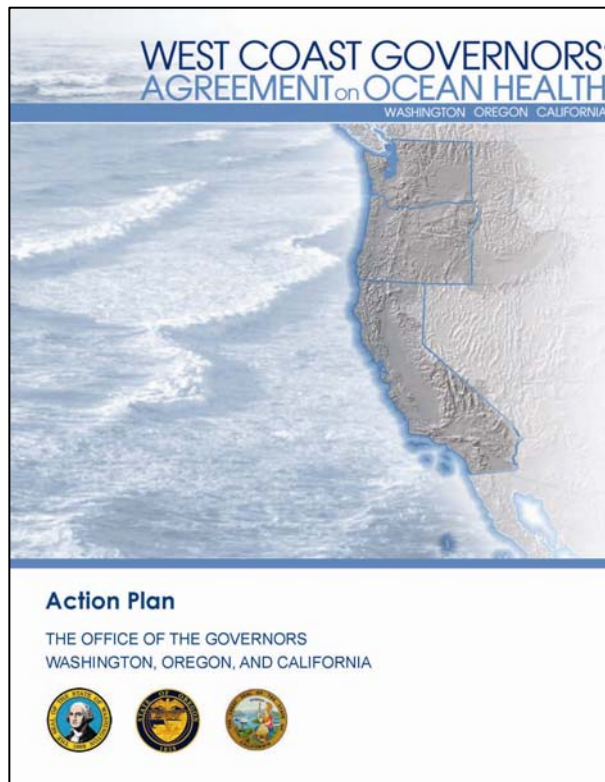


# WEST COAST GOVERNORS' AGREEMENT on OCEAN HEALTH

CALIFORNIA OREGON WASHINGTON

## Action Plan

- Draft Action Plan released in October 2007
- Open for public comment until December 2007
- Final Plan released in July 2008



## Action Directly involving the PFMC

- **Action 3.3 Ecosystem-based Management:**  
Strengthen coordination among the three states and their representatives on the Pacific Fishery Management Council (PFMC).

## Actions of potential interest to the Council:

- **Action 1.3** Develop predictive capabilities of harmful algal blooms and support the expansion of ocean observing system monitoring efforts.
- **Action 1.4** Support marine debris reduction goals, including derelict fishing gear.
- **Action 2.1** Map marine and estuarine ecological communities, characterize human uses of those areas, ensure effective habitat protection.
- **Action 2.2** Restore estuarine habitats to achieve a 10% net increase in habitat and function over next 10 years.



## Actions of potential interest to the Council:

- **Action 3.2** Establish standards and indicators for ocean health.
- **Action 6.1** Develop a regional research agenda with Sea Grant and seek federal support.
- **Action 6.3** Complete sea floor mapping of Pacific Coast waters.
- **Action 7.1** Promote sustainable fisheries and coastal-dependent businesses.
- **Action 7.2** Support revitalization efforts for struggling ports.

## Achieving the Goals: Action Coordination Teams

1. Climate change
2. Polluted runoff
3. Marine debris
4. Spartina eradication
5. Integrated ecosystem assessments (IEAs)
6. Renewable ocean energy
7. Ocean education
8. Sustainable communities

Additional, existing work groups include:

- + Regional research\*
- + Seafloor mapping\*
- + Ballast Water
- + Oil Spills
- + Community-based EBM

\* These groups formed around the WCGA as it was being developed.

# WEST COAST GOVERNORS' AGREEMENT on OCEAN HEALTH

CALIFORNIA OREGON WASHINGTON

## Achieving the Goals: Leveraging other programs

Priority Area 3: Promote the effective implementation of ecosystem-based management

- **Action 3.2** Establish standards and indicators for ocean health.
- **Action 3.3** Strengthen coordination and cooperation with PFMC.

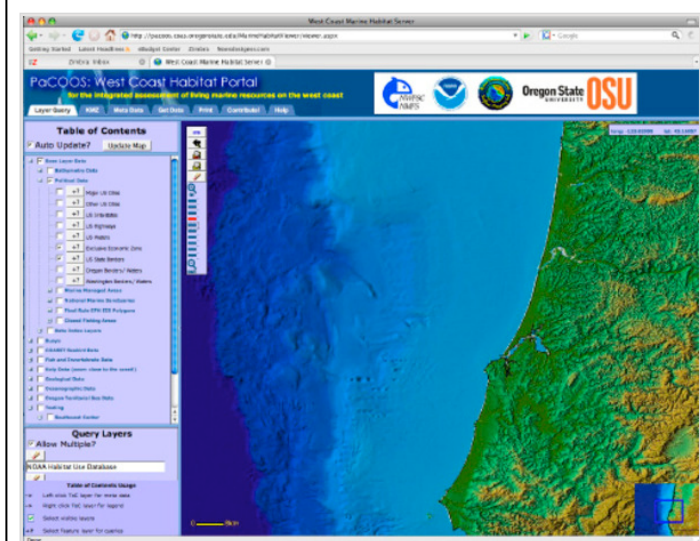
Priority Area 6: Expand ocean and coastal scientific information, research, and monitoring

- **Action 6.2** Support ocean observing systems and monitoring capabilities for the long-term.
- **Action 6.3** Complete sea floor mapping.

### Web map gives close-up view of ocean floor

BY WINSTON ROSS  
*The Register-Guard*

Published: September 2, 2008 12:00AM



A new interactive map displays the coast near Coos Bay. It lets people find out exactly what the ocean floor looks like and what lives in it. To view the map, go to <http://pacoos.coas.oregonstate.edu/> then click "launch" under "map viewer."

FLORENCE — At first click, it's just a map, if a sublime one. There's the big blue ocean off to the left, and the green and tan and dusts of white of the Pacific Northwest on the inland portion.

But this is no ordinary map, says Oregon State University's Chris Goldfinger, an associate professor in the school's College of Oceanic and Atmospheric Sciences. It's the first and best-detailed look at Oregon's territorial sea, right down to the shape of the rock and sand at the ocean floor and the types of fish in whatever area you choose to more closely scrutinize. It's useful for a range of things, from picking out choice spots for marine reserves to wave

#### STORY TOOLS

E-MAIL STORY

PRINTABLE VERSION

INFO

FONT SIZE:



## **Achieving the Goals:**

### **West Coast Governors Ocean Action Team Meeting**

- October 27-28, 2008 in Seattle
- Targeted, working meeting to kick-off the efforts of the Action Teams
  - Face-to-face breakout sessions on work plans and timelines
- Teams progress will be tracked by the Executive Committee

## Transparency and Accountability

- WCGA Executive Committee will provide regular updates on progress of the various actions
- Progress report will be produced at the end of Year 2
- Public input to the individual actions as well as the overall effort will continue
- WCGA website and email lists will be primary way to communicate to partners and public


# WEST COAST GOVERNORS' AGREEMENT on OCEAN HEALTH

CALIFORNIA OREGON WASHINGTON

## Questions?




## Thank you!

WEST COAST GOVERNORS'  
AGREEMENT on OCEAN HEALTH  
WASHINGTON OREGON CALIFORNIA



**Action Plan**


THE OFFICE OF THE GOVERNORS  
WASHINGTON, OREGON, AND CALIFORNIA



WEST COAST GOVERNORS'  
AGREEMENT on OCEAN HEALTH  
WASHINGTON OREGON CALIFORNIA

May 2008

Dear West Coast citizens:



Waves on Baby Beach  
Photo Credit: Janet Lambert

Washington, Oregon, and California are linked in many ways: through the California Current large marine ecosystem, through the ships that travel between our ports, and through our economic dependence on fisheries and other resources that migrate along the West Coast. On September 18, 2006, we launched a regional collaboration to protect and manage the ocean and coastal resources along the entire West Coast of the United States. The *West Coast Governors' Agreement on Ocean Health* recognizes that Washington, Oregon, and California can achieve more by working together on issues important to all of us.

This plan sets out an ambitious vision for the health of our West Coast coastal and ocean resources, including clean coastal waters and economically and environmentally sustainable coastal communities. The plan contains specific actions that will help us achieve this vision. However, we recognize that we can't achieve this vision alone - we will need the assistance of the U.S. Congress, federal government, local governments, tribes, nongovernmental organizations, universities, and every citizen.

We are committed to accountability and have laid out timeframes for completion of each of the actions. We will regularly provide updates to the public, including a status report at the end of the first year of implementing our plan.


We encourage you to be involved with the activities of the *West Coast Governors' Agreement on Ocean Health*. Whether you make a living off the ocean and coast, you participate in annual coastal clean-up days, or you visit one of the spectacular aquariums on the West Coast, you are contributing to the vision of the *West Coast Governors' Agreement on Ocean Health*.

Sincerely,

*Christine O. Gregoire*  
Christine O. Gregoire  
Governor of Washington

*Theodore R. Kalongoski*  
Theodore R. Kalongoski  
Governor of Oregon

*Arnold Schwarzenegger*  
Arnold Schwarzenegger  
Governor of California



Child playing in the sand  
Photo Credit: Janet Lambert

2

3

Website: [www.westcoastoceans.gov](http://www.westcoastoceans.gov)



# **NW SARDINE SURVEY**



2008

# Introduction

- **The present assessment model being used to predict the coast wide abundance of Sardines does not reflect reality.**
- **The 2008 model predicted 830,000 metric tons for the entire West Coast Sardine population. Aerial surveys by commercial spotter pilots have witnessed over several million metric tons on numerous occasions off the mouth of the Columbia River. Reports from fishermen and pilots also indicate a million tons of fish in Monterey Bay this summer. Large quantities were observed and photographed on the north end of Vancouver Island during August. These are huge and troubling discrepancies.**
- **The current assessment model (SS-2) is lacking data inputs from the Pacific Northwest. It is believed that with additional survey information from the Northwest a more accurate assessment can be achieved.**
- **Accurate stock assessments are critical to the successful prosecution of fisheries and the welfare of the costal communities that depend on them.**



# Plan

- To document that in front of the Columbia River (approximately 70 miles north, 70 miles south and 20 miles offshore), there is a population of Sardines that is several multiples of the Sardine population predicted by the SS-2 model which includes Mexico, the U.S. West Coast, Canada and Alaska.
- To collect data during the 2008 fishing season from July 1 to October that can be accepted as statistically valid by the SSC and be utilized and included in the existing SS2 model to better reflect actual conditions.

# Industry Sponsored

## Fishermen

Collecting Data

Point Set Capture

Depth Soundings

## Spotter Planes

Aerial Surveys

Camera Operation and Photography

Point Set Coordination

## Processors

Funding

Project Administration

# Scientific Support

- Vidar Wespestad      Project Designer  
Pacific Fishery Management  
Council SSC Member
- Tom Jagielo              Stock Assessment Biologist  
WDFW Retired
- Ryan Howe                Field Technician  
Michigan State University

# Project Specifics Phase One

- Take aerial pictures of sardine schools being captured by fishing vessels (point sets)
- Measure surface area of fish in point sets
- Measure depth of point set schools
- Weigh fish from point sets at fish plants

# Project Specifics Phase Two

- Aerial Sardine Survey #1

The survey area covers 90 miles of coastline from Cape Falcon to Cape Elizabeth. Ten 35 mile long transects running East-West are spaced 10 miles apart. Transects start approximately 1 mile offshore.

- Aerial Survey #2

Survey specific areas with the intent to photograph an absolute abundance of sardines during a specific time.

# Project Specifics Phase 3

- Read and organize collected data, measure surface area of sardine schools in photographs
- Analyze information produced by survey
- Calculate tons of fish in survey area
- Basic formula → Sardine abundance = surface area (sq ft) of sardine schools multiplied by the measured volume of fish determined from point sets

# Airplane Spotter

## Piper Supercub

Cruise speed: 100 kts (120 mph, 180 km/h)

Range: 400 nmi (460 mi, 740 km)

Service ceiling 19,000 ft  
(5,800 m)

Rate of climb: 960 ft/min ( )

**Pilot** - Frank Foode



# Camera

## Image Company

Aerial Imaging Solutions

Don LeRoi

## Canon EOS 1D Mark III

Digital AF/AE SLR

10.7 mega pixels

Lens 50 mm , 28mm, 24mm

## Dell Latitude

D630





# Camera Port

Window in Belly of Plane  
FAA Approved

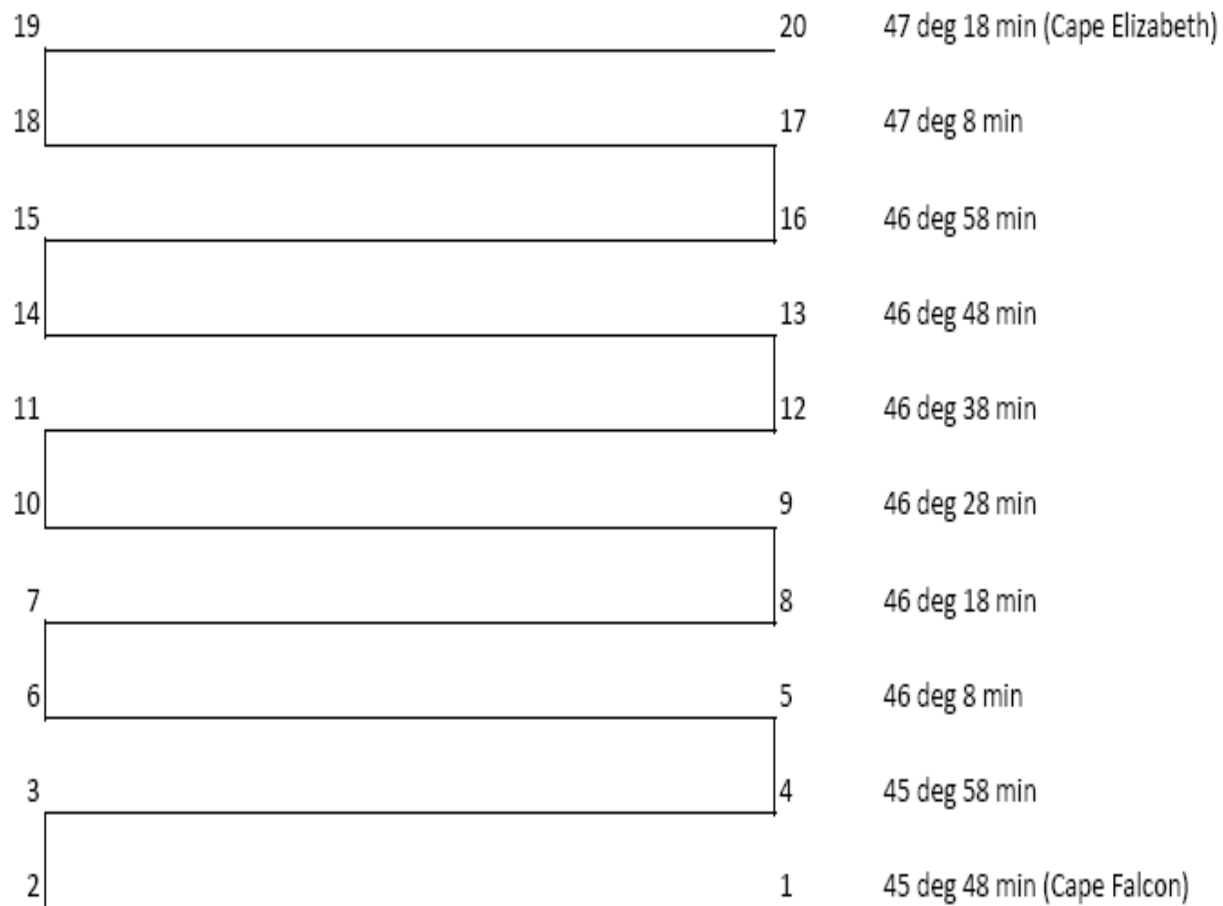


# Coast Survey



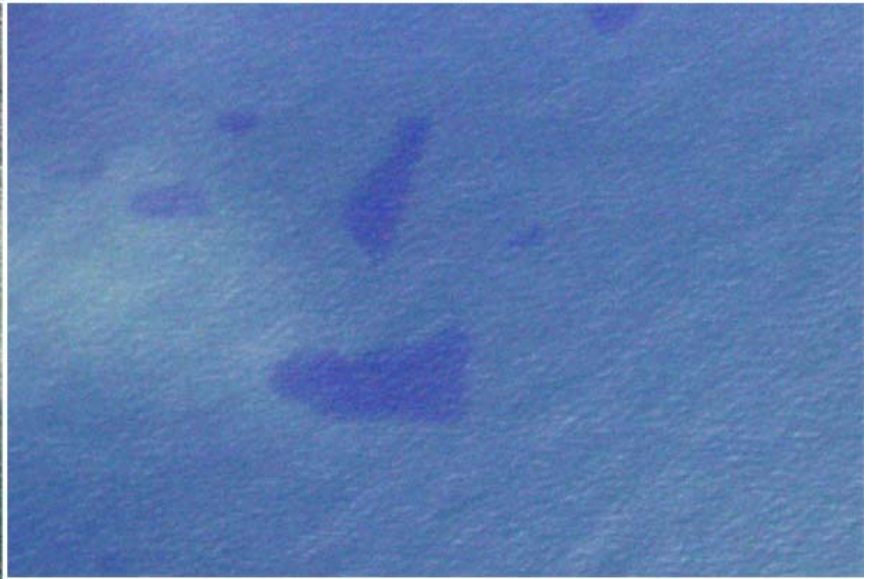
# Survey Grid

Schematic 1. Aerial Survey 1-C





# Sardine Schools









# Filter Differences

**Native Photo**

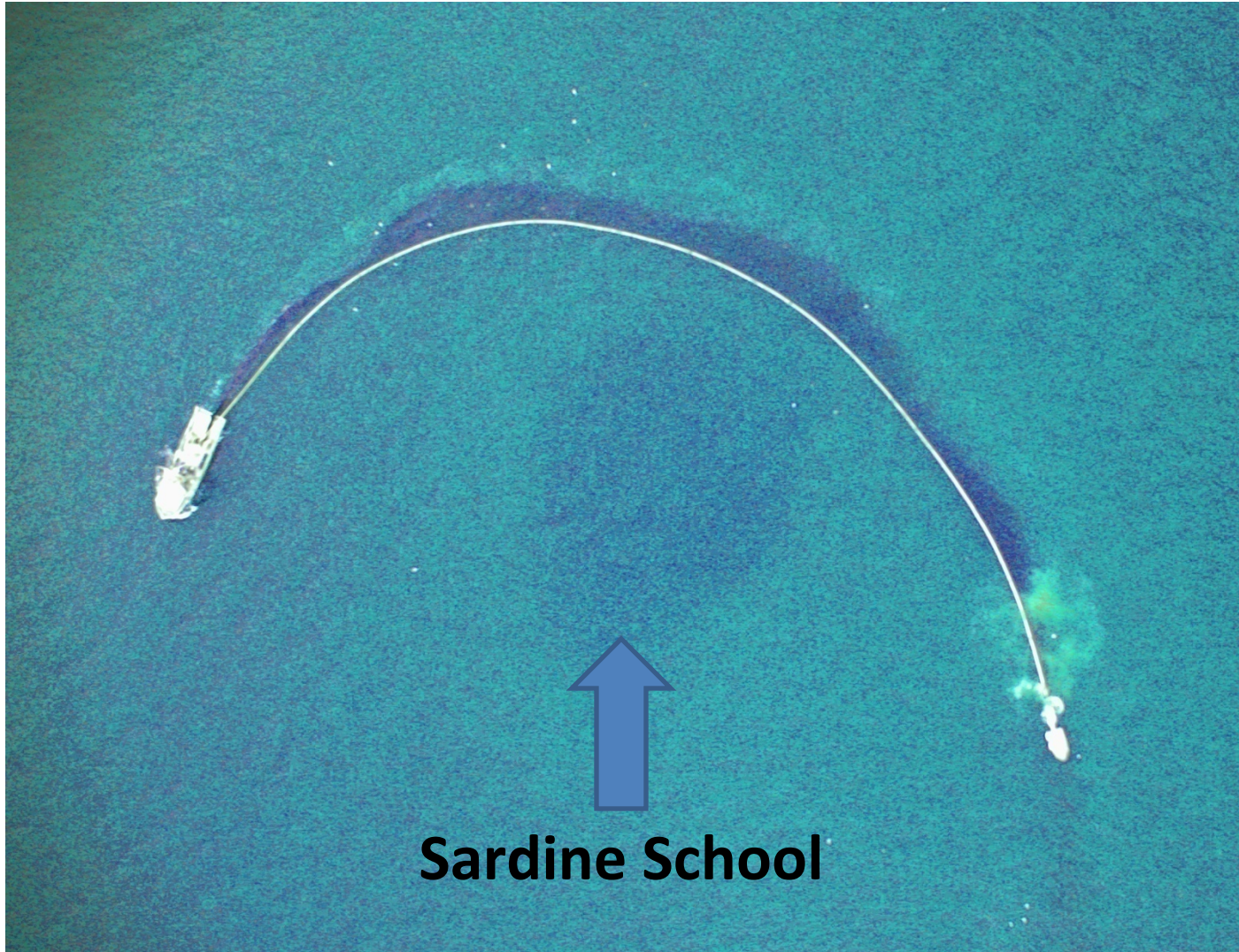


**Altered w/ shadows highlighted**



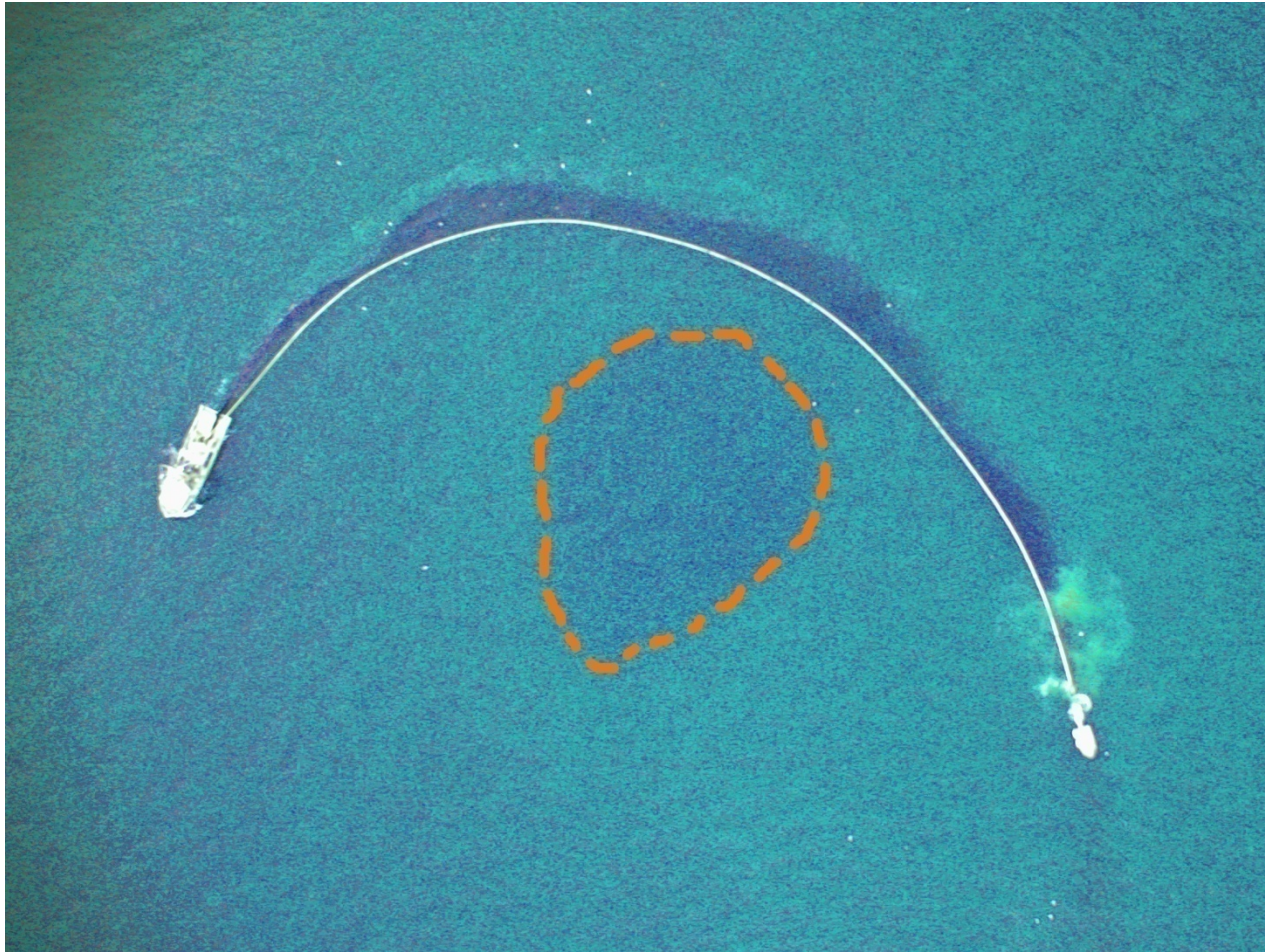


# Point Set Picture





# Point Set Measurement





# Fish Ticket

Support Data for Verification  
For Point Sets

BOAT NAME & BOAT NUMBER ANTHONY G 31260 605599						DATE OF LANDING 8-28 4587090		
FISHER'S NAME Richard George						DEALER NO. 0646		
						PORT OF FIRST LANDING PORT CODE 02 PORT NAME Astoria (SEE COVER INSTRUCTION 3g)		
						DEALER NAME Bornstein Seafood		
AREA 10	AREA 20	AREA 30	AREA 40	AREA 50	AREA 60			
GRAB CIRCLER ONE	GRAB POT 0	GRAB RING 1	SHOVEL OR RAKE 2	BAIT SHRIMP PUMP 4	NET OR SEINE 5	OTHER HAND DEVICE 7	CRAYFISH TRAP 8	OTHER (SPECIFY)
Ocean Crab (Dungeness)						824	00	
Bay Crab (Dungeness)						825	00	
Razor Clam						910	00	
Clam - Softshell						909	00	
- Butter						904	00	
- Littleneck						908	00	
- Gaper						905	00	
- Cockle						902	00	
Mussel						931	00	
Red Sea Urchin						971	00	
Ghost Shrimp (Sand)						805	00	
Mud Shrimp						806	00	
Sardine						056	00	92 505
Sardine w/back						056	00	2142
MACKEREL								149
HAD								1
Crayfish						855	00	
TAKE-HOME SHELLFISH (SEE INSTRUCTION #4 ON COVER)								
I CERTIFY THAT THE ABOVE IS TRUE AND CORRECT (SIGNATURES REQUIRED)								
OREGON FISH & WILDLIFE			DEALER'S SIGNATURE Dawson W. 308-024			FISHER'S SIGNATURE K. [Signature]		
SHELLFISH & BAIT						FISHER COPY		

# 2008 NW Sardine Survey

## Fishermen Form



	Month	Day	Year		Length	Depth	mesh size
Vessel				Manufacture	Model	Frequency	
Captain				Sounder			
Pilot				Sonar			
Plant							

Set #	Time	Position (degrees, min., se		Photo	School and Ocean Data			
	hh:mm	Latitude	Longitude	Y/N	School Ht Fa	Bottom Dept	Temp C/F?	Weather
1								
2								
3								

SET #	Biomass of set (mt)		% of school captured		FISH	Delivered	Fish Samples	
	PILOT	FISHER	PILOT	Fishermen	TICKET	M/T	Bag Number	
1								
2								
3								

BIN	Fish Hole and Tons		Additional Vessels utilized for transport of a set	
			Vessel name	Tons
1				
2				
3				
4				

Weather codes 1: Calm and clear; 2: Light wind and good visibility

3: moderate wind fair visibility; 4: poor fishing conditions

COMMENTS:

# Sample Point Set Calculation Sheet

Time	Latitude	Longitude
14:43:31	N46°31.806'	W124°23.474'
RadAlt	Alt	Speed
3997	1400	91
Lens	OL	Mode
30	2	1
Interval	Photo #	GCS
4.36	510	1680
GCF	GPSAlt	
1120	1391	

Variables	Factor	
Image Width (camera)	36	1.2
Image Height (camera)	24	0.8
Focal Length(mm)	30	
GPS Altitude(ft)	1391	
GCS	1669.2	
GCF	1112.8	
Pixel Width	5616	
Pixel Height	3744	
Photoshop Estimated Area (sq ft)	40515	

Measurement 1	Date and Time Measured	Vessel
Photo #0510 on 7/27/2008	2008-08-04T15:48:20-07:00	Lauren L. Kapp

Scale	Scale Units	Area (sq.ft.)
Custom (5616 pixels = 1669.2000 feet)	feet	40514.79539

Perimeter	Circularity	Scale Factor
820.770213	0.755754	3.364486

# Scientific Sounder

**Purpose:** To measure the actual thickness, in fathoms, of fish schools

**Onboard** two fishing vessels

**Simrad** ES-60 Recorder

## **Range**

Minimum: 5 meters

Maximum: 15.000 meters

## **Sound velocity**

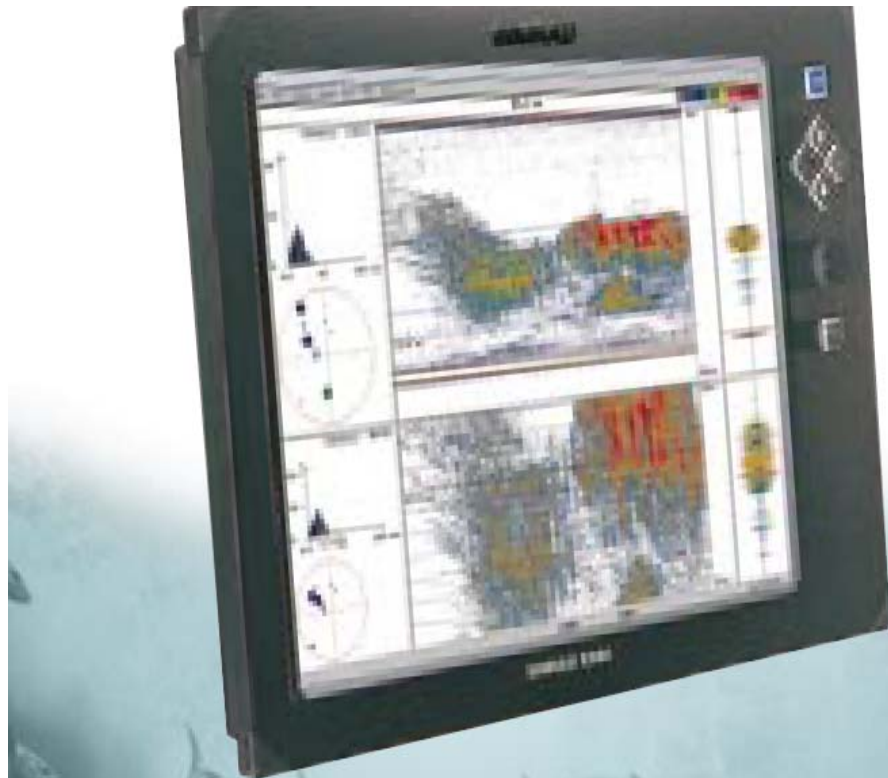
Variable, 1400 to 1700 meters/second

## **Operating frequencies**

Number of frequencies: 1 or 2

Split beam frequencies: 18, 38, 70, 120 or 200 kHz

Single beam frequencies: 12, 18, 27, 38, 50, 70, 120 or 200 kHz



# Purse Seine Fishing

**18 Fishing Vessels**

**Size 58' to 90'**

**Capacity 35 to  
120 tons**































# Sampling

**Fish samples from 70 fish landings and 10 point sets worked up by Ryan Howe**

**From these samples, data is collected concerning weight, length and maturity**

**Otoliths have been taken from a percentage of fish for age information**

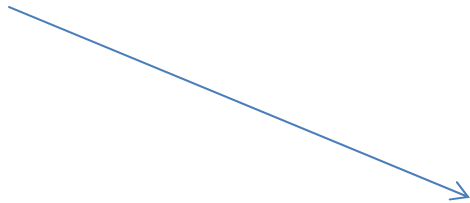


# Sampling

Length



Maturity



# Progress

**We have taken pictures of sardine schools in Washington, Oregon and Canada. Point sets will continue in September when the third quota allocation is released.**

**The biological samples are being analyzed. The data contains information concerning fish weight, length and maturity. Further age data will be added when the fish are aged.**

**Depth soundings of sardine schools (thickness) have been recorded with scientific recording devices and fishermen logs. These fish recordings will continue during the closed period to provide additional information.**

**Conclusive results from the 2008 NW Sardine Survey are not yet available, but the project is well underway and useful information will continue to be collected that will provide data for a more accurate stock assessment.**

# Next Steps

**Continue to survey with airplanes and fishing vessels during the closed period. It would be extremely helpful to have a research quota to continue research during closures.**

**Present data and additional survey results to the Pacific Fisheries Management Council and advisory bodies when finalized.**

**Consider avenues to conduct and fund further surveys in the Northwest, California and Canada**

**Seek continued formal support from the Pacific Fisheries Management Council.**



# Coastal Communities

**Jobs** – Important to have work in the communities that are dependent on the fishing industry. Without these jobs these towns will suffer extreme hardships.

**Exports** – Our country needs to sell our products to foreign countries. The balance of trade helps our strengthen the economy for the benefit of all citizens.

