

Subject: Re: Offshore Aquaculture.
From: "PFMC Comments" <pfmc.comments@noaa.gov>
Date: Thu, 01 Dec 2005 11:14:59 -0800
To: Jennifer Gilden <Jennifer.Gilden@noaa.gov>
CC: John Coon <John.Coon@noaa.gov>

Jeremy Brown and Jill Likkel wrote:

Council Members,

NMFS has submitted to Congress legislation that would facilitate the development of offshore aquaculture around our coasts. The proposed legislation has many flaws, but of particular concern to you as Councillors, should be the proposed exemption from MSFCMA.

I strongly urge that the Council resist this undermining of its authority and that the Council demand final say over developments that will not only encroach upon Council jurisdiction but seriously affect resources under your jurisdiction which are already stressed to the point of ESA listings.

There has been no instance where aquaculture can be shown as a substitute for sound management to relieve pressure on depleted fisheries. There are many however where serious impacts have resulted.

Sincerely Jeremy Brown.

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3217 Greenwood Av,
Bellingham, Wa 98225.
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A Non-Profit Organization Since 1997

Correction to Comment on SB1549 as
Mandated by Pacific Group's legal team

Senator Gordon Smith
404 Russell SOB
Washington, DC 20510

On October 4, 2005 I sent you a letter which contained mistakes regarding Pacific Seafood and their sending approximately 30 million dollars worth of crab to China for processing. I also gave similar verbal testimony at the September 2005 Pacific Fishery Management Council. It is our new understanding that the amount of crab they sent to China was not in the amount of 30 million dollars, rather they sent an undetermined amount of crab to test the waters of Chinese seafood processing. We are sorry that we got the particular facts wrong, it is obvious that Pacific Seafood did not send such a large amount of crab to China for processing. We sincerely apologize for any confusion this might have caused.

However we feel that the seafood processors are making moves to ship American jobs to China while ignoring the health and safety of the American people. From the boat owners and processing worker perspective, we feel that the Pacific Whiting foundation, of which Pacific Seafood is a member, is a front organization designed to take away American processing jobs.

While I regret my mistake in fact regarding Pacific Seafood's processing of crab in China, I will continue to speak about the industry's plans to send American jobs to China. Not only will this affect the working men and woman of America, but I believe that it will endanger the sea food eating public by lowering the safety and regulation of the seafood sent to China, as well as affecting the freshness of the sea food.

Please find enclosed a corrected paragraph which contained the error, a copy of the original paragraph, a copy of the news source from which the information was misquoted and my apology for any inconvenience that this error may have created. However, I ask you to please follow the recommendation of the Justice Department which stated that processor shares of seafood harvest will only prevent and control processing competition.

Sincerely,

Steve Bodnar

Corrected paragraph

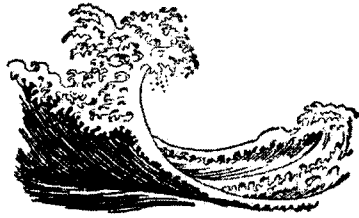
The West Coast Seafood Processors Association's major players, Trident Seafoods and the Pacific Group, are also major founders and contributors of the "Coastal Jobs Coalition," a nonprofit group started to convince the public that processor shares equals coastal jobs. The fact is the current trend in seafood processing is catch it here but process it in China. This year, the Trident Seafoods sent salmon to China for processing that normally cost \$30 million to process here. It cost them \$6 million to get the product cleaned and another \$6 million to transport. Trident Seafoods still saved \$18 million that used to end up supporting our local communities. Trident Seafoods sent 40% of their salmon to China for processing. The Pacific Group has sent crab to China this year on a trial basis. How can they claim that their main interest is economic stability for coastal communities? All indicators say that this trend of processing in China will not only continue, but that it is going to expand. Twice frozen product that sells for less is the end result which means less money for the fishermen and our coastal communities and less quality and nutrition for the consumer.

Original Paragraph

The West Coast Seafood Processors Association's major players, Trident Seafoods and the Pacific Group, are also major founders and contributors of the "Coastal Jobs Coalition," a nonprofit group started to convince the public that processor shares equals coastal jobs. The fact is the current trend in seafood processing is catch it here but process it in China. This year, the Pacific Group sent crab to China for shaking that normally cost **\$30 million** to process here. It cost them **\$6 million** to get the product cleaned and another **\$6 million** to transport. Pacific Group still saved **\$18 million** that used to end up supporting our local communities. Trident Seafoods sent 40% of their Alaskan pollock catch to China for processing. How can they claim that their main interest is economic stability for coastal communities? All indicators say that this trend of processing in China will not only continue, but that it is going to expand. Twice frozen product that sells for less is the end result which means less money for the fishermen and our coastal communities and less quality and nutrition for the consumer.

Open public
Comment

Handed out @
4pm P.C.



GAO says fish councils lack participation framework

Guest Opinion Thursday, Mar 02nd, 2006

KODIAK DAILY MIRROR

By STEPHEN TAUFEN, Groundswell Fisheries Movement

The U.S. Government Accountability Office has issued a report critical to the development of dedicated access privilege (DAP) programs designed to end overfishing and promote conservation. On the gao.gov Web site under recently issued reports, GAO-06-289 is titled "Core Principles and a Strategic Approach Would Enhance Stakeholder Participation in Developing Quota-Based Programs."

Study tables result from interviews of 58 regional council members — not stakeholders.

The GAO found that current council practices do not fully reflect core principles nor are they based on a strategic approach, nor do they include an implementation strategy. Public comment at council meetings is a one-way communication, not an effective way to share information, because it does not lead to a dialogue between stakeholders and decision makers.

Groundswell Fisheries Movement's impression was that lacking an effective participation framework, it makes no sense for crews, skippers and the public to let our council go forward with more DAPs at this time. If DAPs are to fight overfishing, then given our council's proud record of biological management and other tools already available and working, why do we need any more?

The GAO recommended NMFS establish a formal participation policy; adopt core principles; provide training on developing and using a strategic approach; and ensure councils implement a framework for effective stakeholder participation. NOAA agreed to follow the recommendations and form a working group, and to jointly develop core principles.

Core principles include: using an open and clearly defined decision-making process; making key information readily available and understandable; actively conducting outreach and soliciting stakeholder input (and involving them early and throughout); fostering responsiveness and interactive communication; using formal and informal participation methods; and including all stakeholder interests.

Methods suggested to enhance participation were greater outreach; holding meetings using different times, locations and formats; streamlining the DAP program development process; diversifying the interests represented in the council process; and sharing decision-making authority. They also mentioned broadcasting meetings to reach those who cannot attend in person, and using facilitators to run meetings.

Over...

Finally, stakeholders said the councils could share decision-making authority by putting DAP proposals to a vote in a referendum, and participating experts suggested using collaborative or consensus-based decision making that allows stakeholders to fully explore issues together.

The GAO said stakeholders new to the process and not members of an organization do not understand which meetings to attend and the appropriate times to submit information on DAP proposals. Most helpful to all stakeholders would be getting involved early and staying involved throughout the development of a DAP program.

Finally, councils do not always provide explanations of how stakeholder input was used, especially when they vote immediately after public comment and do not explain how those views were considered. Meeting minutes do not always address issues raised by stakeholders or explain how their input was used in making decisions.

Respondents said that the cost of travel and time away from work to attend council meetings, discomfort in speaking out, the belief that one's input will not make a difference, and the complexity of DAP programs most "severely and substantially hinders" the crew and skippers.

The respondents said those who turn to the legislative process to obtain DAPs rather than use the council process do so because "stakeholders wanted to ensure that they got their way."

In a pre-release letter, NOAA said the "membership of advisory committees is determined by the councils to fulfill specific tasks. While representation is important, primary concerns are that "the committees have the necessary expertise to perform their mission and that they are of appropriate size to be productive."

Regarding referendum by stakeholders, NOAA adds, "Congress, NMFS, and the councils will have to weigh the benefits of greater stakeholder involvement through such referenda against the need for procedural efficiencies."

We understand what that means. Meanwhile, plans for DAPs move forward in the most important diverse fishery in the USA – the Gulf of Alaska. And the North Pacific Advisory Panel is so processor-lopsided it makes a laughingstock out of the importance of stakeholder representation.

The GAO staff did well; but a second survey should be conducted by the Department of Justice and choose the crews, skippers and small businesses devastated by crab privatization as respondents. Why not ask more insightful questions, like whether or not DAP programs that include cooperatives or linkages with processors should occur at all?

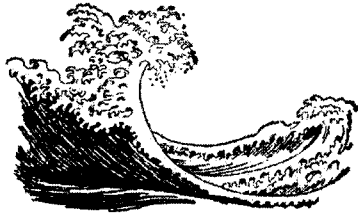
Until then, keep writing your representatives to ask for better.

Stephen Taufen is a former Alaska resident and has worked for processors in financial and operational capacities for more than 22 seasons in Alaska coastal fisheries. He writes for the Fishermen's News and other publications.

Groundswell Fisheries Movement, P.O. Box 19257, Seattle, WA 98109-1257

Email: staufen@seanet.com

See also: Groundswell's page on AlaskaReport.com website



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Management of Salmon Mortality Caused by *Ceratomyxa shasta* in the Klamath River System

Researcher: Jerri Bartholomew

The decline of Pacific salmon has had its full share of controversy and conflict. Certainly one of the most controversial incidents in recent years was the die-off of an estimated 34,000 fish in the Klamath River in September 2002. Although this loss was dramatic because it involved adult fish, the epidemic drew attention to the chronic disease issues that affect the health of migrating juvenile fish. What should be done to improve the health of these fish and insure that such incidents don't recur is a question with consequences for the farmers, fishers, and communities that depend on the river's water in Oregon and California, as well as for the tribes and agencies that manage the river.

Fish disease issues in the Klamath River are complicated. The U.S. Fish and Wildlife Service (USFWS), in its report on the 2002 fish die-off, concluded that a "combination of factors" caused it, specifically, "high density of fish, low [river] discharges, warm water temperatures, and possible extended residence time of salmon [which] created optimal conditions for parasite proliferation." An epidemic outbreak of two pathogens, Ich (*Ichthyophthirius multifiliis*) and columnaris (*Flavobacterium columnare*), was the "proximate cause of death," the agency said. However, fish health-monitoring studies conducted by the USFWS show that mortality in juvenile salmon results primarily from infections caused by myxozoan parasites. As many as 45 percent of juvenile Chinook salmon captured in 2004 in the lower Klamath River were infected with one particularly injurious species, *Ceratomyxa shasta*, which infects the intestine. Prevalence of infection by another myxozoan, *Parvicapsula mimibicornis*, which infects the kidney, can be greater than 90 percent. Infection can reach 100 percent for both parasites in fish migrating during spring.

As agencies and the courts have become involved in attempting to balance the needs of the river's human users, fish, and other wildlife, a key concern is limiting fish disease caused by parasites. Research on these pathogens is a specialty of an Oregon State University (OSU)

scientist, Jerri Bartholomew. Bartholomew, a microbiologist with the OSU Center for Fish Disease Research, has investigated the life cycles of these parasites, their distribution in the Pacific Northwest, and their effects on salmon. Additionally, her laboratory has developed molecular methods to better enable detection of the parasite.

Breakthroughs in Parasite Detection

Until now, researchers had no quick, easy way to test for parasite abundance. The assay developed by Bartholomew and co-worker Sascha Hallett with funding from Oregon Sea Grant uses the organism's own DNA. The method, known as quantitative polymerase chain reaction (QPCR), can detect even 1/1000th of a parasite spore in a water sample.

In the QPCR, a small sample of DNA is copied multiple times so it can be used for analysis, such as is done in genetic fingerprinting and paternity testing. A fluorescent tag is used to track the reaction so that the amount of accumulated PCR product can be measured.

To detect *C. shasta* before this breakthrough, scientists had to maintain fish in cages along areas of the river suspected to be infectious and then return them to the laboratory and wait for months to see if clinical signs appeared. There was no way to quantify the number of infectious spores moving through the water.

Bartholomew and her partners used the QPCR methodology to investigate the distribution of *C. shasta* in the Klamath River (figure 1).

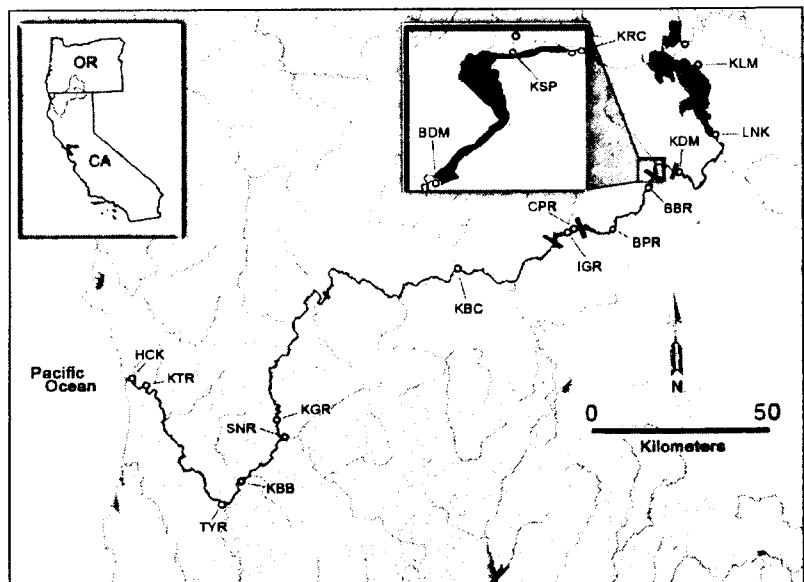


Figure 1. Locations where sentinel fish were exposed in 2003–04 to determine the presence of *C. shasta*.

The parasite was detected throughout the river, and two of five tributaries tested contributed parasites to the main stem. Several sites were found to have parasite abundance in excess of 20 spores per liter.

"This is a huge advance in what we're able to do," said Bartholomew. "We wanted to offer a tool that would be useful if managers were to test management options like altering flows at certain times of year, so that effects could be determined immediately."

Disease Epidemiology

Another significant finding of Bartholomew's Sea Grant-supported work is that there is a distinct difference in the severity of *C. shasta* infection in fish exposed in different portions of the Klamath River. Specifically, in the reaches below Iron Gate Dam, Chinook salmon are exposed to high parasite numbers that are responsible for the high mortality documented in outmigrating juvenile fish. Above the projects, infection patterns are variable, and particularly in reservoirs, exposure is low and not likely to result in mortality. The life cycle of *C. shasta* is established in the main stem of the Klamath, with little contribution from the tributaries.

Parasite Life Cycles

C. shasta was previously discovered to have a two-host life cycle with development in both a fish and a polychaete worm (*Manayunkia speciosa*) (figure 2). One additional result of Bartholomew's Sea Grant project has

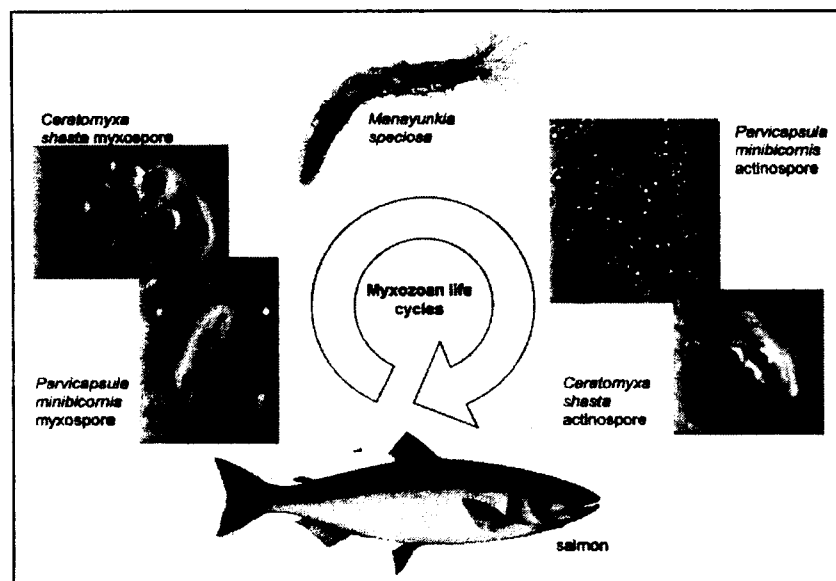


Figure 2. Life cycle of *C. shasta* and *P. minibicornis*, showing release of actinospore stages of both parasites from the polychaete, infection of the salmon, and release of myxospore stages that infect the polychaete.

been the discovery that the life cycle of *P. minibicornis* is very similar, requiring the same worm host (figure 2). This organism was only recently identified in the Klamath system. However, the parasite is considered a contributor to mortality of adult salmon in rivers in British Columbia and has been detected in the Columbia River Basin. The finding that these parasites share the same host will have important implications for management of these diseases.

During the past two years, a graduate student in the Bartholomew lab has conducted an extensive survey for polychaetes throughout the Klamath River. As a result, says Bartholomew, "we are beginning to understand why disease is so severe in certain locations." Polychaete distribution is highly patchy and influenced by in-stream primary productivity, flow, substrate embeddedness, and the presence of compact algal epiphytes such as *Cladophora* species. Infection rates in these polychaete populations also differ, contributing to variations in disease severity in fish.

In a new research project with Oregon Sea Grant, Bartholomew focuses on both *C. shasta* and *P. minibicornis*. The objectives include the development of similar diagnostic methods for *P. minibicornis*, a comparison of the distribution and seasonal occurrence of these parasites in the Klamath River, a determination of the role of various salmonids in supporting the life cycle of these parasites, and a determination of the effects of the parasites on seawater survival of salmonids. "One of our goals is to provide information to those involved in salmon recovery that will enable them to more effectively manage the system to decrease the effects of the disease."

Collaborators with the OSU research team include the California-Nevada Fish Health Center; the U.S. Fish and Wildlife Service, Arcata, California; the Yurok, Hoopa, and Karuk tribes; PacifiCorp; and Humboldt State University.



This research and publication were supported by the National Sea Grant College Program of the U.S. Department of Commerce's National Oceanic and Atmospheric Administration under NOAA Grant # NA16RG1039 (project number R/RCF-15) and by appropriations made by the Oregon State legislature.

Written by Joe Cone and Jerri Bartholomew. Virginia Gewin contributed to this report.

ORESUG-06-004