

Project Number: 040725
Project Title: Impacts of Seafood Waste Discharge in Orca Inlet, PWS
PI's: Drs. Richard E. Thorne and Mary Anne Bishop
Time Period: Aug 16, 2004 to 15 August 2005
Date: August 24, 2005

Work Performed:

The purpose of this project is to examine impacts of seafood waste discharge into Orca Inlet, including evaluation of alternative discharge and disposal methods that could be beneficial to fishermen, the processors and the community. A work plan was developed during the first year, 2004, through workshops and other collaborations. The first of two planned field experiments was initiated in June 2005 after completion of an environmental impact assessment in mid-May. This report details progress from August 16, 2004 to August 15, 2005. The major elements during this time period are (1) an October 2004 workshop, (2) development of a seafood waste dispersion model, (3) completion of the 2005 work plan, (4) completion of the NEPA Environmental Assessment for the research, and (5) initial 2005 field work.

October 2004 Workshop

The October 2004 workshop was an essential part of the planning process. The workshop in Cordova was attended by 32 persons representing 18 different agencies and public/private entities. Table 1 lists the attendees. The Workshop included discussions on the history and current situation of seafood waste disposal, the options for an alternative waste disposal experiment, and the desired future conditions.

Seafood Waste Dispersion Model

A seafood waste dispersion model was one product of the workshop, primarily the effort of Dr. Gary Thomas of the Rosenstiel School of Marine and Atmospheric Sciences, University of Miami. Dr. Thomas, former President of PWSSC, was in Cordova on other business and contributed his considerable expertise to the effort. The model was reported in both the 2005 Statement of Work and the NEPA Environmental Assessment Documents.

2005 Statement of Work

The final output of the 2004 effort was the experimental plan. The plan was formalized as a Statement of Work, and submitted to Peter Hagen, NOAA, NMFS, Exxon Valdez Oil Spill Office on March 17, 2005.

NEPA Environmental Assessment

Since the proposed experiment involved dumping of un-ground seafood waste, it required a detailed environmental assessment. A 29-page, 1.3 MB document was completed and transmitted on May 13, 05 to Steven K. Davis, Regional NEPA Coordinator for NOAA Fisheries/Alaska Region and approved by the end of May.

Initial 2005 Fieldwork

Oceanographic surveys had been conducted in July and August 2004 to generally characterize potential locations. Additional surveys were conducted on May 10 and 11, 2005. The May 10 survey covered the region extending from Humpback Creek to Fleming spit. The currents and hydrography in this portion of Orca Inlet were measured during one full semidiurnal tidal period (i.e. a sequential ebb and flood tide) in the same manner as the sites surveyed in 2004. This included continuous measurements of currents over repeated transects with a 600 kHz acoustic Doppler current profiler (ADCP) and 4 sets of temperature and salinity profiles taken at various stations located along the transects. On May 11, the currents at an additional site next to Mud Bay were also surveyed during peak and slack tides. This survey confirmed the Mud Bay site as the preferred location for the first year's experimental dumping of fish waste. A location just south of Observation Island was identified as the control site, while the one near Humpback Creek was chosen as a potential second dump site.

After preliminary underwater camera surveys for baseline conditions, the project began in earnest with the purchase of waste from local Cordovan seafood processors by Alaska Department of Environmental Conservation and subsequent dumping of about 40,000 lbs of salmon heads and 55,000 lbs of salmon carcasses at a location near Mud Bay during June and July. Figure 1 shows GPS maps and boat tracks associated with some of the disposal activities. Figure 2 shows pictures of the disposal operation. Post disposal surveys did not find any floating or beached salmon heads or carcasses.

The preliminary underwater camera surveys showed a substantial population of halibut, flounders and starfish at the Mud Bay site (Fig. 3). Five camera surveys have been conducted to date. Each survey includes observation of any seabird or marine mammal activity. In addition, four aerial surveys of gull activity around the current discharge have been completed by the U.S. Forest Service.

In addition to the surveys, we have asked members of the Cordova community to aid by reporting fish catches, specifically instances of fish with salmon heads in their stomach (Fig. 4). At this date, three halibut have been reported with salmon heads.

Preliminary indications are that the salmon heads and carcasses are rapidly dispersed and efficiently incorporated into the food chain, with no negative consequences, which contrasts very favorably with the current EPA-mandated practice that requires grinding to less than ½ inch in any dimension.

Future Work:

Subsequent dumps of salmon carcasses and heads and camera surveys will be occurring throughout the summer and early fall. Bear & Wolf anticipates providing about 100,000 lbs of silver salmon heads in late August and September.

It is already apparent that the operation is characterized by rapid dispersal and consumption of the salmon heads and carcasses. As a result, we are considering the possibility of sonic tracking of salmon heads next year. While labor-intensive, such information would be ideal for the waste dispersal model.

Coordination/Collaboration:

This project is a collaborative effort among several entities. The primary institutions are the Prince William Sound Science Center, Alaska Department of Environmental Conservation, Cordova seafood processors, especially Bear & Wolf and Copper River Seafoods, and the U.S.D.A. Forest Service, Cordova Ranger District. However, as seen in Table 1, there has been widespread interest and participation in the project.

Community Involvement/ TEK and Resource Management Applications:

The collaboration noted above has been facilitated by long-term community interest in this issue going back many years, which has included the Orca Inlet Issues Committee, and more recently, the Prince William Sound Utilization Committee, organized by the Copper River Watershed Project. Many of the issues addressed by the Prince William Sound Utilization Committee are parallel to the concerns of this project. In addition, members of the Cordova community are participating by providing catch data, especially stomach contents, as detailed above.

Information Transfer:

Project results are being incorporated into the PWSSC website:

http://www.pwssc.gen.ak.us/research/seafood_waste/index.shtml. Classified

ads have been placed in the Cordova Times by both the Alaska Department of Environmental Conservation and the PWSSC advising the public of the project. Two posters on the project were presented at the annual EVOS TC meeting in January 05. In addition, the project has been featured in several radio station interviews and public talks.

Below are more details on public outreach activities.

Presentations & Posters

January 2005 Poster. Alternative Methods for Seafood Waste Discharge in Cordova, R. Thorne, M. Bishop, K. George, & S. Gay. Marine Science in Alaska: 2005 Symposium. Anchorage, Alaska.

January 2005 Poster. Oceanographic Conditions within Alternative Sites for the Disposal of Fish Offal in Orca Inlet, Cordova, Alaska. S. Gay. Marine Science in Alaska: 2005 Symposium. Anchorage, Alaska.

April 2005. Poster. Alternative Methods for Seafood Waste Discharge in Cordova. R. Thorne, M. Bishop, K. George, & S. Gay. Alaska Section, American Water Resources Association Cordova, Alaska

June 2005. Presentation. Overview of Projects at the Prince William Sound Science Center. N. Bird. Exxon Valdez Oil Spill Trustee Council. Cordova, Alaska.

July 2005. Presentation. Seafood Waste Discharge in Cordova. J. Thorne. Youth Leadership Summer Environmental Science Camp. Cordova, Alaska.

Popular Articles.

Gay, S. 2005. Oceanographic conditions within sites in Orca Inlet proposed for the experimental disposal of fish offal from canneries. The Breakwater (newsletter of the PWSSC). Spring 2005:3.

Thorne, R. & M. Bishop. 2005. PWSSC initiates field study of alternate seafood waste disposal methods. The Breakwater (newsletter of the PWSSC). Fall.

Budget:

There are no substantial changes in the budget projections at this stage.

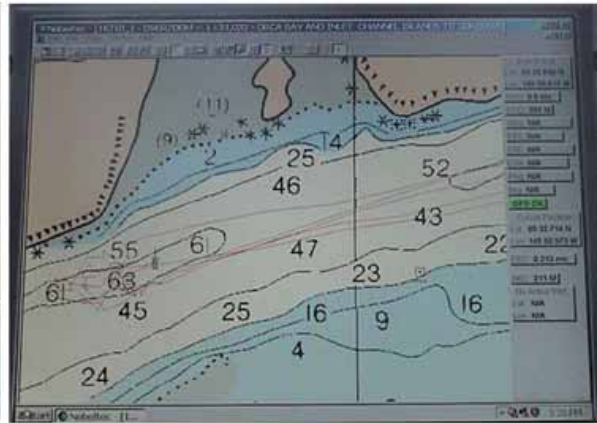
Signatures:

Table 1. Copy of Seafood Waste Workshop Participants

Name	Affiliation	e-mail	phone
Dan Ashe	ADF&G, Fish Biologist	dan_ashe@fishgame.state.ak.us	424-3212
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Clark Pearson	Native Village of Eyak	clark@ak.net	424-7738
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Scott Hahn	City Manager	citymanager@cityofcordova.net	424-6200
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James Thorne	PWS Science Center	james@pwssc.gen.ak.us	424-5800
Ken Adams	PWS Fisheries Research & Apps.	kadams@gci.net	424-4790
Gary Thomas	Rosenstiel School of Marine and Atmospheric Sciences	GThomas@rsmas.miami.edu	(305) 361-4733



(a)



(b)

Figure 1. Pictures of GPS output showing (a) boat in front of Bear & Wolf dock loading totes of salmon heads and (b) the disposal site.



Figure 2 (a). Tote of salmon heads being loaded from Bear & Wolf to the chartered fishing vessel, "Kyle David".



Figure 2 (b) Deck load of totes with salmon heads in route to disposal site.



Figure 2 (c). A tote of salmon heads being dumped from chartered fishing vessel, “Kyle David”.

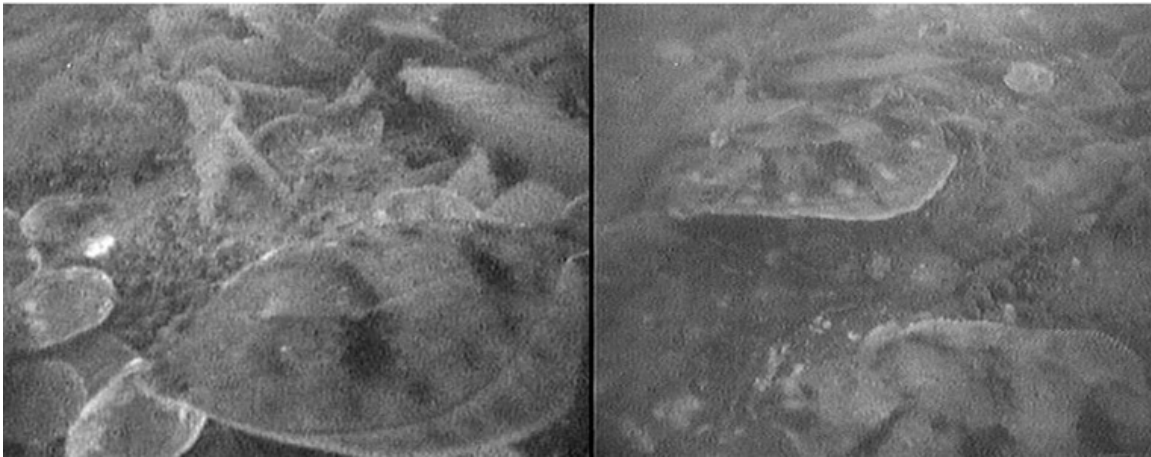


Figure 3. Still pictures of flatfish from underwater camera video of experiment site.

The Cordova Times
DEADLINE: 5 p.m., Friday, week prior

Fax: (907) 424-5799 - email: cdvtimes@ctcak.net
Cordova AK 99574

ED	LEGAL NOTICE	PUBLIC NOTICE
<p>or up coming e 18.00 per ast 24 years ord, and be iminal back- Will pay for ensing. Call 7-582-2596</p> <p>CE ICATION MISSION of ereby gives (Docket U- oldings, Inc. Inc. to effec-</p>	<p>LLP, 601 West Fifth Avenue, Suite 700, Anchorage, AK 99501, phone (907) 263- 6300. The complete filing is also avail- able for inspection at the Commission's office at 701 West Eighth Avenue, Suite 300, Anchorage, Alaska 99501; phone: (907) 276-5222. ESI requested confi- dential treatment of (1) the merger agreement between Evercom Holdings, Inc. and Securus Technologies, Inc; and (2) financial information for the five per- cent owners of the new parent company, and filed that information under seal. To comment on this filing, please file your comments by July 28, 2005, and include a statement that you have filed a copy of the comments with the applicants. If you need a special accommodation to make your comments, please contact: <a 142="" 521="" 883="" 901"="" data-label="Caption" href="mailto:lvce</p> </td> <td> <p>Attention Halibut Sport Fishers: Prince
William Sound Science Center is seek-
ing information on occurrences of
salmon fish heads in stomachs of hal-
ibut caught in Orca Inlet this summer as
part of a study on alternative seafood
waste disposal methods. If you catch a
halibut with salmon heads in its stom-
ach, please report the incident and gen-
eral location to the Science Center at
424-5800 ext 232.
Published 6/30, 7/7, 7/14
(305861 6/30-7/14)</p> </td> </tr> </tbody> </table> </div> <div data-bbox="> <p>Figure 4. Copy of advertisement in Cordova Times</p> </p>	