

**Adding Value to Ocean- and Fisheries-Related Research
through Integrating the Knowledge and Expertise of the
West Coast Fishing Community**

**The Final Evaluation of
the Port Liaison Project**

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Background

The initial concept – to hire “underemployed, impacted-by-limits-in-commercial-fishing” fishermen to assist with on-going fisheries research projects – was created by Elizabeth Clarke and other innovators at the Northwest Fisheries Science Center, as part of their “Cooperative Research Mosaic.” They ran the concept by Ginny Goblirsch and Flaxen Conway of Oregon Sea Grant, who then met with Bob Schoning (retired NMFS) and Terry Thompson (retired fisherman), and several fishing industry leaders to review the concept and desired goals and objectives. These discussions illuminated that to successfully connect researchers with cooperators from port regions in Washington, Oregon, and northern California, the concept would need to be designed and driven from the community level.

The Port Liaison Project (PLP) began in earnest in the spring of 2003. The PLP was funded by a three-year, \$342,000 grant from NOAA’s Northwest Fisheries Science Center, via the Cooperative Institute for Marine Resources Studies. In 2004 the PLP received an additional infusion of funding (roughly \$100,000) and an extension for another year. The PLP ended in December 2007.

Oregon Sea Grant Extension provided the final design and the leadership for the PLP. Ginny Goblirsch and Flaxen Conway served as the co-directors of the PLP; Kaety Hildenbrand served in Ginny’s role after she retired in 2005. The PLP received guidance and support from an eight-person advisory committee made up of representatives from agencies, academia, commercial fishing and processing.

Heather Mann served as the project manager for the PLP throughout the life of the project. Bob Briscoe Jr., Bill Walsh, Scott McMullen, David Jordan, Jim Seavers, Gerald Gunnari, Leesa Cobb, Brad Pettinger, Pete Leipzig, and Roger Cullen served as the port liaisons. Port liaisons were members of the local fishing community who reached out to folks within their geographic region to promote the PLP, assess the interest of fishing community members in serving as industry cooperators on research projects, and ultimately make the connections between research cooperators and potential industry cooperators (see appendices for examples of outreach methods used).

Goals and Objectives

The goal of the PLP was to support the success of “cooperative” research and encourage the movement toward “collaborative” research. As such, the PLP had objectives related to both cooperation and collaboration in research:

Cooperative Objectives:

1. Connect funded research projects with industry experience and expertise.
2. Build trust and relationships between industry and researchers.

Collaborative Objectives:

1. Improve the ability and comfort of industry to share their researchable ideas with researchers.
2. Improve the ability and comfort of researchers to connect with industry early on in the research process (before they finalize the design and get funding).
3. Improve the understanding and tolerance of both industry and researchers about the cultural differences between them.

The purpose of the PLP was to “add value” to already funded¹ research projects, through the use of members of the commercial fishing community. In practice, adding value meant integrating the knowledge and expertise of the west coast fishing industry into ocean- and fisheries-related research to provide the best-possible science. One of the early letters reaching out to members of the fishing community stated:

The PLP's main goal is to create a workable process by which fishermen and others in the industry can be brought to the table as equal partners in fisheries research. As true partners, fishermen will be valued and compensated for their vast expertise, years of knowledge and experience, and their time. While this particular project does not charter fishing vessels, it does pay for your time if you were asked to assist a researcher with his project. This assistance could range from consulting on gear design to actual at-sea work. Ultimately we hope to establish a model for future collaboration where scientists and the industry actually work together to identify research needs and create and conduct research projects.

The PLP had a simple but effective design. Outreach and engagement was community driven and included a wide range of approaches and tools: person-to-person direct contact, mailings, fliers, and a web site (see appendices 1, 2, and 3). Paperwork and processes were designed to be informative yet efficient. PLP co-directors (or the project manager) initially received project requests from an interested researcher. Requests were then reviewed by all the port liaisons, and a group decision was made to fund or not to fund, based on each project’s ability to “add value” to the research. If the project request was accepted, the port liaison for that region (or all of them, if it was a coast-wide project) then identified possible fishing industry cooperators who fit the type of partner the project was seeking. A list of “potential industry cooperators” was presented to the research cooperator, who is ultimately responsible for choosing which industry cooperator(s) he or she would work with.

Each of the PLP-supported projects probably had an evaluation, to determine whether and how their projects met their ecological, biological, or physical dimension objectives. Yet because the PLP supported more than 40 of these “fisherman-scientist” partnerships, we felt that it was important to use this opportunity to look at the human dimension as well. This is a summative evaluation of this four-year effort.

Rationale for this Evaluation

People often proselytize about the benefits, or demonize the challenges, of cooperative fisheries research. But what is cooperative research, and what makes it work when it does work or fail when it doesn't? What does cooperative research mean? Many of these fisherman-scientist partnerships in research are labeled variously – and even synonymously – as cooperative or collaborative. Sometimes, the same project will be called “cooperative” by one partner and “collaborative” by another.

Although there is not full agreement in the literature, a “true partnership of scientists and industry will involve participants from both groups in every aspect of the research, from project design to analysis and recommendations” (National Research Council 2004). Using that definition, cooperative research could then be thought of as research that involves limited roles for some partners, and

¹ Projects that were currently funded from other, non-PLP sources but did not have available funding for fishermen’s participation.

collaborative research involves partners equally in all phases of the research process (idea/vision, research questions generation, implementation, decision making, reporting).

In 2004 the National Research Council described these efforts as the deliberate connection and engagement of fishermen and scientists to address information needs for fishery management. The same report describes a continuum from cooperative to collaborative research: “Cooperative research becomes collaborative when fishermen are incorporated into all phases of the research process, including formulation of the research questions and generation of the hypothesis.” The reality right now might be that most fisherman-scientist partnerships in research generally fall somewhere along this continuum, from 100 percent cooperative to 100 percent collaborative.

What We Did

The first thing we evaluated was interest and participation. The PLP received requests for assistance for 48 projects; the PLP actively supported 44 research projects (four of the requests were withdrawn by the research cooperator). Appendix 4 provides a listing of the 44 funded projects.

The leadership of the PLP actively promoted the PLP to a wide variety of ocean and fisheries researchers from around the Pacific Northwest. Table 1 lists the types of organizations (research cooperators) that made requests:

Type of Organization	Name	# of Projects	% of total projects
Academic		20	41%
	Oregon State University	19	
	University of California	1	
NGOs		12	25%
	Pacific Marine Conservation Council	3	
	Pacific Groundfish Conservation Trust	1	
	Oregon Trawl Commission	1	
	Port Orford Ocean Resource Team	2	
	Ecotrust	1	
	National Fisheries Conservation Center	1	
	Electric Power Research Institute	1	
	Kintama Research Group	1	
	Oregon Solutions	1	
Federal Agencies		8	17%
	NOAA Fisheries	8	
State Agencies		8	17%
	Oregon Dept. of Fish & Wildlife	7	
	Washington Dept. of Fish & Wildlife	1	

Table 1. Types of organizations requesting assistance.

There were 458 people who signed up to be potential fishing-industry cooperators for projects:

- o 64, or 14 percent, were from Washington,
- o 236, or 52 percent, were from Oregon,
- o 153, or 33 percent, were from California, and
- o 5, or 1 percent, were from places other than the west coast.

The PLP received interest in cooperating from members of the fishing community in all regions of the Pacific Northwest; Table 2 lists the breakdown of potential ICs by region:

Region	# of Cooperators	% of total
Northern Washington	28	6%
Southern Washington	36	8%
Astoria, Oregon	39	9%
Garibaldi, Oregon	17	3%
Newport, Oregon	76	17%
Coos Bay, Oregon	41	9%
Port Orford, Oregon	43	9%
Brookings, Oregon	20	4%
Eureka, California	58	13%
Central California	95	21%
Non-West Coast	5	1%

Table 2. Breakdown of potential fishing industry cooperators by region.

Almost half (214, or 47 percent) of the 458 people who signed up actually participated in at least one project. Table 3 lists the number of industry cooperators who participated in one or more projects:

# of Projects	# of Cooperators	Percent
1	158	75%
2	39	18%
3	9	4%
4	5	2%
5	3	1%

Table 3. Number of fishing-industry cooperators participating in one or more projects.

Although the majority (72 percent) of participating industry cooperators came from Oregon, cooperation was spread across the West Coast region (Table 4).

Region	# of ICs	% of total	# by state	% by state
Northern Washington	2	1%	25	12%
Southern Washington	23	11%		
Astoria, Oregon	27	13%	155	72%
Garibaldi, Oregon	8	4%		
Newport, Oregon	58	27%		
Coos Bay, Oregon	27	13%		
Port Orford, Oregon	32	15%		
Brookings, Oregon	3	1%		
Eureka, California	18	8%	34	16%
Central California	16	7%		

Table 4. Breakdown of participating fishing industry cooperators by region.

Although these statistics tell us a lot, we also wanted to better understand how these projects worked with regard to:

- (1) **Involvement:** How do projects get started, and what were the incentives for partners to get and stay involved?

- (2) **Communication between partners:** How do partners communicate with each other, and how did they feel about that communication?
- (3) **Cooperative or collaborative:** Were partners comfortable or satisfied with the cooperative or collaborative nature of their project? and
- (4) **Future partnerships in fisheries and ocean research:** How did partners feel? Would they be willing to enter into partnerships in fisheries research again?

To answer these questions, we embarked upon and completed a two-stage evaluation process. Both stage one (winter 2006) and stage two (spring 2007) consisted of conducting a simple mail survey of completed PLP-supported projects. For each of these projects, both the research cooperator and industry cooperators would be surveyed.

Surveys were sent to PLP-supported project partners, along with a cover letter. For industry cooperators, the letter was signed by their regional port liaison; for research cooperators, it was signed by the PLP co-directors. The survey asked participants about:

- their motivations for participating in the specific PLP-supported project,
- their expectations and experiences related to level of participation,
- their perceptions and preferences related to cooperative and collaborative research, and
- their attitudes about participating in future projects.

The survey included a mix of closed and open-ended questions. Each person who responded to the survey (respondent) was assigned an identification code, the key to which was maintained in a separate, secure file so that we could track responses and assess non-responses, while assuring all respondents of their anonymity in the reporting of research results.

We mailed the cover letter and survey to 201 participants (from 44 PLP-supported projects). Following standard survey protocols (P. Salant and D. Dillman, 1994, *How to Conduct Your Own Survey*, John Wiley & Sons, Inc.), a month later we sent a reminder postcard. By the end of that month, we had received 155 completed surveys, for a total response rate of 47.9 percent (48.6 percent did not respond to the survey; 3.5 percent refused the survey). Of the 155 who responded, 76.1 percent (118) were fishing-industry cooperators and 23.9 percent (37) were research cooperators. Seven of the 44 PLP-supported projects had a 100 percent response rate from partners; 3 projects had a response rate of 75 to 90 percent, and 11 had a response rate of 50 to 74 percent. We conducted simple, descriptive analyses of the data for all respondents, and by primary group affiliation (fishing industry or research). Preliminary results are presented below.

What We Learned

Generally we learned quite a bit about why people became involved, how the communication between partners went, what their perceptions were about the cooperative or collaborative nature of their project, and what their interest was in future partnerships in fisheries research.

Involvement

With regard to how people learned about the PLP, 43 percent learned about it from a Sea Grant Extension agent, 38.1 percent from a port liaison, 16.8 percent from a fishing community member other than a port liaison, 8.4 percent from a scientist, 11 percent from a meeting discussion, 4.5 percent from a mailing, and 1.3 percent each from a poster or an e-mail.

To assess why people got involved, 43.2 percent of fishing community respondents (industry cooperators; ICs) stated that they were asked and then selected by the research cooperator (RC); 30.5 percent stated that they were interested in earning income. Some fishing-community respondents wrote in explanations about how important it was to be asked; others shared their interest in “protecting fishing rights through providing ‘correct’ data.” Research community respondents reported that they got involved because they were looking for industry cooperation (75.7 percent) or they had an interest in adding value to their research project (43.2 percent).

When looking at the reasons partners got involved, the top reason was an interest in the topic of the research. Explanations from both research and fishing community respondents talked about their genuine interest in cooperation in research. Table 5 shows the reasons partners got involved:

Reasons participants became involved	Industry Cooperators (%, N=118)	Research Cooperators (%, N=37)	All (%, N=155)
Availability of data on this research topic	50.0	29.7	45.2
Quality of available data on this topic	55.9	37.8	51.6
Interest in the research	65.3	45.9	60.6
Opportunity to learn from others	55.1	43.2	52.3
Opportunity to teach others what I know	47.5	10.8	38.7
Other	18.6	13.5	17.4

Table 5. Reasons participants became involved in their PLP-supported project.

We also wanted to understand what aspects of partners’ PLP-supported projects they had actually been involved in. We got this information by asking about the roles they played in the research project. Table 6 (below) shows the roles played. Of special interest was how active partners were in problem solving. Explanations revealed a strong interest in being part of the problem-solving process—having input and improving the data or the ability to get it—from the beginning of the project through the end.

Individuals’ involvement	Industry Cooperators (%, N=118)	Research Cooperators (%, N=37)	All (%, N=155)
<i>Roles played</i>			
Research design	16.1	81.1	31.6
Consulting/reviewing plans	20.3	37.8	24.5
Gathering data at sea/plant	44.1	51.4	45.8
Gathering data via interview, mtg.	54.2	59.5	55.5
Analyzing data	3.4	64.9	18.1
Reporting results/project promotion	11.0	83.8	28.4
Other	22.0	8.1	18.7
<i>Active in problem solving</i>	39.8	88.1	49.7

Table 6. Individual’s involvement in their PLP-supported project.

When asked whether the involvement of others encouraged their participation in the PLP-supported project, 69.7 percent of all people who responded said “yes” (69.5 percent for ICs; 70.3 percent for RCs), 19.4 percent reported “no” (19.5 percent for ICs; 18.9 percent for RCs), and 3.2 percent did not

respond (1.7 percent for ICs; 8.1 percent for RCs). Explanations revealed the importance of the reputation of the person or organization that was requesting the involvement; specific names or organizations were mentioned as “unbiased” or “safe” areas to get involved. When asked whether the involvement of others *discouraged* their participation in the PLP-supported project, most of the explanations indicated that the experience was positive, and the data reflects this: only 3.9 percent of respondents reported “yes” (4.2 percent for ICs; 2.7 percent for RCs), 57.4 percent reported “no” (55.9 percent for ICs; 62.2 percent for RCs), and 34.8 percent did not respond (34.7 percent for ICs; 35.1 percent for RCs).

In trying to assess whether involvement had any impact on relationships, we asked respondents to share their perspectives on changes in relationships within and among groups (Table 7):

Relationships with	Industry Cooperators (%, N=118)	Research Cooperators (%, N=37)	All (%, N=155)
<i>Industry Cooperators</i>			
Better	38.1	81.1	48.4
Worse	1.7	0.0	1.3
No change	47.5	13.5	39.4
Don't know	5.1	0.0	3.9
No response	7.6	5.4	7.1
<i>Research Cooperators</i>			
Better	58.5	37.8	53.5
Worse	6.8	0.0	5.2
No change	22.9	40.5	27.1
Don't know	8.5	2.7	7.1
No response	3.4	18.9	7.1

Table 7. Change in relationships within and among groups.

Explanations from both researchers and fishermen revealed that they appreciated the partnerships in research because they allowed them to get to know and establish good working relationships with more people than before; this was a benefit listed by both the fishing and the research communities.

We also asked whether there had been any benefits and drawbacks of their involvement in their PLP-supported projects. With regard to benefits, such as learning from others, production of missing data, and improvements in data collection, 66.5 percent of all respondents indicated “yes” (61.9 percent for ICs and 81.1 percent for RCs). With regard to drawbacks, such as economic costs, time, social costs, and physical costs, 23.9 percent of all respondents indicated “yes” (24.6 percent for ICs and 21.6 percent for RCs). Explanations revealed the biggest limitation or drawback was time or conflicting commitments, and lost wages (for the fishermen involved). The second-most talked-about drawback was lack of follow-through on communicating the results of the research.

Communication

The second series of questions on the survey had to do with communication among partners in PLP-supported projects. Looking first at how communication was maintained among partners, Table 8

shows the different methods used, plus— *in italics and parentheses*—which methods *would have been the most effective* for project communication/coordination:

Communication method	Industry Cooperators (%, N=118)	Research Cooperators (%, N=37)	All (%, N=155)
<i>Phone calls</i>			
Selected	57.6 (37.3)	86.5 (70.3)	64.5 (45.2)
Not selected	37.3 (51.7)	13.5 (24.5)	31.6 (45.2)
No response	5.1 (11.0)	0 (5.4)	3.9 (9.7)
<i>Meetings</i>			
Selected	68.6 (60.2)	83.3 (70.3)	72.3 (62.6)
Not selected	26.3 (28.0)	16.2 (24.3)	23.9 (27.1)
No response	5.1 (11.9)	0 (5.4)	3.9 (10.3)
<i>E-mail</i>			
Selected	41.5 (37.3)	64.9 (48.6)	47.1 (40.0)
Not selected	53.4 (50.8)	35.1 (45.9)	49.0 (49.7)
No response	5.1 (11.9)	0 (5.4)	3.9 (10.3)
<i>Mail / newsletters</i>			
Selected	37.3 (27.1)	16.2 (2.7)	32.3 (21.3)
Not selected	56.8 (61.0)	83.8 (91.9)	63.2 (68.4)
No response	5.9 (11.9)	0 (5.4)	4.5 (10.3)

Table 8. Communication methods among partners in PLP-supported projects.

Table 9 shows how respondents characterized the communication between themselves and other partners in their PLP-support project, and with the PLP Team (co-directors, project manager, and port liaisons):

Communication with	Industry Cooperators (%, N=118)	Research Cooperators (%, N=37)	All (%, N=155)
<i>Industry Cooperators</i>			
Good	54.2	83.8	61.3
Not good	2.5	5.4	3.2
Don't know	6.8	8.1	7.1
Not applicable	22.9	2.7	18.1
No response	13.6	0	10.3
<i>Research Cooperators</i>			
Good	64.4	62.2	63.9
Not good	8.5	2.7	7.1
Don't know	10.2	2.7	8.4
Not applicable	11.0	16.2	12.3
No response	5.9	16.2	8.4
<i>PLP Team</i>			
Good	72.9	100	79.4
Not good	5.1	0	3.9
Don't know	14.4	0	11.0
Not applicable	2.5	0	1.9
No response	5.1	0	3.9

Table 9. Communication within and among groups.

Explanations offered by respondents indicated that they felt personal contact—face-to-face and phone calls—in communication was important, and they appreciated any efforts to make this happen. It's recognized that partnerships in research take extra time and effort. Breakdowns in communication left “sour taste” in partners' mouths:

“He made initial contact with me but I never heard anything after that.”

“I helped to get all this data but was never involved in the analysis...I don't know what problems were solved as a result of my involvement.”

“No follow up. (It's like it) went off a cliff.”

These statements clearly indicate that partners desire and feel it is important to be communicated with after the project is complete.

You Say Cooperative, I Say Collaborative

The final series of questions on the survey elicited respondents' thoughts and perspectives about the cooperative or collaborative nature of their projects and their interest in future partnerships in fisheries research. On the survey, we presented a brief definition of “cooperative research” and “collaborative research” with the following statement:

There is growing interest in cooperative and collaborative fisheries research. Cooperation and collaboration are not the same thing. Cooperative research involves limited roles for some partners. Collaborative research, in contrast, involves partners equally in all phases of the research process (idea/vision, research question generation, implementation, decision

making, reporting). Research projects generally fall somewhere along a continuum, from 100 percent cooperative to 100 percent collaborative.

We first asked partners where, along this continuum, they felt their PLP-supported project fell. Then we asked them about their comfort with the nature of the project. Last, we asked them to share any preferences they had regarding their project being “more cooperative” or “more collaborative” (Table 10).

	Industry Cooperators (%, N=118)	Research Cooperators (%, N=37)	All (%, N=155)
<i>Perception of project as cooperative v. collaborative</i>			
100% cooperative	18.6	24.3	20.0
75% cooperative	18.6	18.9	18.76
50-50	25.4	24.3	25.2
75% collaborative	5.9	5.4	5.8
100% collaborative	4.2	13.5	6.5
No response	27.1	13.5	23.9
<i>Comfort with nature of project</i>			
Yes	53.4	81.1	60.0
No	15.3	10.8	14.2
Don't know	22.0	2.7	17.4
No response	9.3	5.4	8.4
<i>Prefer more cooperative²</i>			
Yes	25.0	7.1	21.0
No	37.5	53.6	41.1
Don't know	20.8	17.9	20.2
No response	16.7	21.4	17.7
<i>Prefer more collaborative³</i>			
Yes	37.2	37.5	37.2
No	23.0	31.3	24.8
Don't know	22.1	15.6	20.7
No response	17.7	15.6	17.2

Table 10. Perceptions and preferences for their PLP-supported project as a cooperative or collaborative project.

Explanations revealed that even if someone was unclear about whether to label a project as “cooperative” or “collaborative,” he or she was clear that he/she had an interest in being more involved from the beginning, stating that more involvement and exchange as “partners” in the research are preferred. Common comments included:

“This would improve with more fishermen’s involvement.”

Better industry “involvement from the beginning through implementation.”

“Involvement at all levels”

We also asked the question, “Do you think fishing-industry participation added value to the project and/or in some other way made the project successful?” There was a strong positive response across

² For Q18B when Q18 is *unequal* to 100% cooperative

³ For Q18C when Q18 is *unequal* to 100% collaborative

all respondents (81.9 percent [78.0 percent for ICs and 94.6 percent for RCs]). Responses included such comments as “*Absolutely, this information could not have been obtained without the cooperation of the participating fishermen!*” and “*Using fishermen that were experienced made all the difference in the world.*”

Future Partnerships in Fisheries Research

With regard to interest in participating in future partnerships in fisheries research, there were two separate questions that, again, received a resounding positive response (Table 11).

Interest in participating in future PLP-supported partnerships in fisheries research and interested in developing new ideas for research.

	Industry Cooperators (IC) %, N=118		Research Cooperators (RC) %, N=37		All %, N=155	
	Interest in participating in PLP-supported projects	Interested in developing new ideas	Interest in participating in PLP-supported projects	Interested in developing new ideas	Interest in participating in PLP-supported projects	Interested in developing new ideas
Yes	82.2	83.9	91.9	67.6	84.5	80.0
No	5.9	4.2	2.7	2.7	5.2	3.9
Don't Know	7.6	7.6	5.4	16.2	7.1	9.7
No Response	4.2	4.2	0	13.5	3.2	6.5

Table 11. Interest in participating in future partnerships in research.

Explanations revealed a qualifier to the positive responses:

“Yes, if they will communicate with me.”

“Yes, if I’m involved from the beginning.”

Conclusion

When the concept of the PLP was first being discussed, both hope and skepticism were expressed about the effort. No one doubted the need to support the integration of fishermen’s experiential knowledge into critically needed ocean- and fisheries-related research to provide the best-possible science. But questions remained. Could a project funded by NOAA Fisheries really make this happen? Could it motivate fishermen and scientists to take the time and to work in partnership? Would only certain fishermen (say, friends of the port liaisons) or certain researchers (say only agency scientists) participate? Of those that did participate, would they only be from certain ports or states or institutions? The leadership of the PLP took a lot of time and effort to establish processes and procedures that encouraged a broad diversity of participation on all levels. Did that pay off?

This evaluation has provided insight into these questions. It has revealed some of the procedural considerations for partnerships in research: when, how and why to secure involvement; preferences for communication (methods and follow through); and desires to move toward more collaboration in research. All is not perfect, and some research projects fared better than others in the human dimension.

Yet the PLP, a NOAA Fisheries-funded program, did connect funded research projects with industry experience and expertise. Requests from researchers came in relatively similar amounts from academia, agencies, and NGOs, and although requests for support came in rather slowly in the beginning, over the course of the PLP requests came in on a regular basis. In fact, we still get requests almost two years after the program has ended.

Regarding fishing community participation, involvement was not limited or heavily weighted to any one area or group. Rather, potential and actual industry cooperators came from all three states. Participation was spread out over the west coast fishing community with 75 percent cooperating on one project (18 percent on two projects). The main reason indicated for getting involved was being asked and an interest in the research topic.

In many cases, the connections made via the PLP helped to build trust and relationships between the fishing community and the research community. Comments indicated that building relationships is important to both communities and insights were provided on how this happens when all participants work together as true partners. These research partnerships provided both fishermen and researchers with lessons learned that improved their ability and comfort with connecting, their ability to share researchable ideas, design effective studies, and to discover information of mutual interest and benefit.

This evaluation has shed some light on cooperative fisheries research. The Northwest Fisheries Science Center initiated the effort in the spirit of cooperation by enlisting the leadership of Oregon Sea Grant. Oregon Sea Grant engaged the advice and commitment of both the research and fishing communities. The implementation of the PLP has proven that partnerships in research, when done well, ultimately can improve the understanding and tolerance of both communities about the cultural differences between them and how they can be bridged for mutually beneficial outcomes.

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SEEKING Fishermen!

Appendix 1: Flier to Engage Fishing Industry Cooperators

The **Port Liaison Project** is seeking fishermen interested in working with fisheries researchers on funded research projects on the West Coast.

•Get Paid for *YOUR* Time, Knowledge & Experience!

Requirements:

- Interest in working with researchers.
- Knowledge & experience of the ocean and fishing operations.



Past / Present

Project Topics

- Predator-Prey Dynamics
- Traceability in Albacore Tuna
- Rockfish Life History
- Trawl Gear Design
- Rockfish Photography
- Hook and Line Survey
- Mercury in Tuna
- Rockfish Port Sampling
- Ocean Wave Energy



Port Liaisons on the West Coast

Bob Briscoe Jr. (360) 739-1172 ● **Ferndale**

Bill Walsh (360) 268-0076 ● **Westport**

Scott McMullen (503) 325-2285 ● **Astoria**

David Jordan (503) 842-2177 ● **Garibaldi**

Jim Seavers (541) 265-9390 ● **Newport**

Gerald Gunnari (541) 269-2352 ● **Coos Bay**

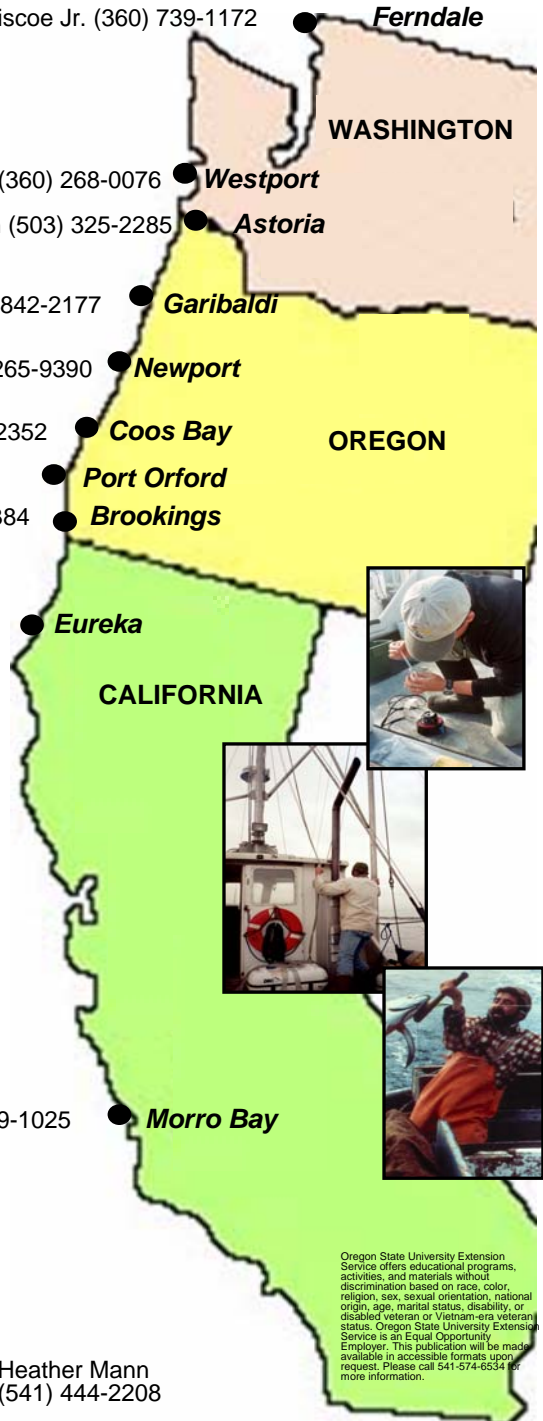
Lessa Cobb (541) 332-0627 ● **Port Orford**

Brad Pettinger (503) 325-3384 ● **Brookings**

Pete Leipzig (707) 442-3789 ● **Eureka**

*We need
YOU
to make
these
projects
successful!*

Roger Cullen (805) 909-1025 ● **Morro Bay**



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For more information, contact your local Port Liaison or

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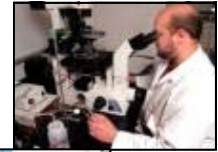
Project Manager Heather Mann
(541) 444-2208

Attn: West Coast Fisheries and Ocean Researchers

*Do you want to add value to funded research projects
without increasing your budget?*

*Would your project benefit by having direct access to the
knowledge/services of commercial fishermen?*

Is your project funded?



If you answer yes to these questions, you need to know about the

Port Liaison Project

*A NWFSC/CIMRS/Oregon Sea Grant/Fishing Industry
Cooperative Research Project*



Over 380 Industry Cooperators -- with experience in hook & line, longline, trawl, seine, pot and trap gears, and in the groundfish, whiting, shrimp, crab, salmon, albacore, and sardine fisheries -- to add value to your project in a variety of ways:

- *project and proposal* consultation*
- *gear design and testing*
- *data collection and groundtruthing*
- *and more!*

**Best of all - it costs you nothing to add this value to your project.
We pay the costs!**

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**Several highly experienced fishing industry members may be able to provide pre-proposal guidance on incorporating fishing industry expertise into cooperative research project design and implementation.*

Appendix 3: The PLP Web Site

HOME | HOW PLP WORKS | GOALS | PROJECTS | CONTACTS | PLP RESOURCES

PORT LIAISON PROJECT

Funded by NOAA Fisheries Northwest Fisheries Science Center



The Port Liaison Project is an innovative project funded by grant from NOAA Fisheries Northwest Fisheries Science Center, via the Cooperative Institute for Marine Resources Studies, and is administrated by Oregon Sea Grant. The project began in the spring of 2003, with funding for up to 3 years.

The goal of the Port Liaison Project is to move towards truly *collaborative* research by supporting cooperative ocean or fisheries research.

The PLP is an active partner with FishResearchWest.org, a website funded by NOAA Fisheries Northwest Fisheries Science Center through the Cooperative Research Program.

Learn more about How PLP Works.

Who are the People Involved with PLP that can help you?

Take a quick look at some of the Projects we're working on.

HOME | HOW PLP WORKS | GOALS | PROJECTS | CONTACTS | PLP RESOURCES

PORT LIAISON PROJECT

Funded by NOAA Fisheries Northwest Fisheries Science Center



Researchers and fishermen working together.

PROJECTS

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English Sole (PLP032)

Research Cooperator :	Michael Morrissey
Geographical Spread :	Eureka, CA to Astoria, OR
Type of Industry Cooperation Requested :	harvesting species
Project Status :	ongoing

Essential Fish Habitat EIS Meeting (PLP028)

Research Cooperator :	Hal Weeks, ODFW
Geographical Spread :	Newport, Oregon
Type of Industry Cooperation Requested :	Information / data gathering & sharing / participation at a meeting.
Project Status :	Completed

Essential Fish Habitat Public meetings (PLP029)

Research Cooperator :	Hal Weeks, ODFW
Geographical Spread :	Bandon, Newport & Astoria, Oregon
Type of Industry Cooperation Requested :	Information / data gathering & sharing / participation at a meeting.
Project Status :	Completed

Evolution and Structure of Bottom Water Temperature (PLP026)

Research Cooperator :	Kipp Shearman, OSU
Geographical Spread :	Off coast of Newport, range 60 miles
Type of Industry Cooperation Requested :	information / data gathering
Project Status :	Ongoing

Appendix 4: List of PLP-Supported Fisheries- or Ocean-Related Research Projects

Predator-prey Dynamics in Recovering Systems: Influences of Strong-year Classes of Ling Cod (*Ophiodon elongates*) on Recovery of Rockfishes (*Sebastes spp*) on the Oregon Coast

Research Cooperator: Oregon State University

Industry Cooperators: Fourteen Oregon fishermen

The goals of the project were to explore the impact of lingcod on rockfish recovery and to document collaborative research that integrates the knowledge, experience and hypotheses of fishermen and scientists.

Coast-wide Life History and Habitat Associations in California and Oregon: Small-scale Collaborative Research and Fishery Management

Research Cooperator: Pacific Marine Conservation Council

Industry Cooperators: Three Oregon fishermen

The goals of the project were to involve fishermen, marine advisors, and fishery scientists in collaborative data collection and development of management recommendations (collect essential fish habitat information and habitat and life-history data on managed rockfish species; determine juvenile rockfish habitat associations in diverse near-shore environments, including rock reef, kelp forest, eelgrass beds, unvegetated soft bottom, and artificial structures; and develop a sampling method and index sites for long-term sampling by commercial and recreational fishermen and commercial passenger fishing vessels).

Shifting Groundfish Trawl Efforts: Evaluation of Small Footrope Limitations and Essential Fish Habitat

Research Cooperator: Oregon State University

Industry Cooperators: Three Oregon fishermen

The project goals were to evaluate the extent to which footrope regulation (and other management measures) have shifted (and reduced) fishing effort on traditional fishing grounds, relate these changes to benthic habitat types, identify reference areas of reduced effort on rocky habitat, and provide recommendations for data collection to facilitate spatial analysis and decision making.

Age and Growth of Longnose Skate, Status of Longnose Skate

Research Cooperator: NOAA Fisheries

Industry Cooperator: One Oregon processor

The goal of the project was to collect skate specimens of varying sizes off the Oregon coast for each month of the year in order to assess age, growth, and maturity.

CIMRS Hook & Line Survey

Research Cooperator: Oregon State University

Industry Cooperator: One Oregon fisherman

The goals of the project were to use a longline survey to improve research coverage for groundfish below Point Conception and begin establishing a time series of catch-rate data and other biological information to use in managing groundfish species in that area.

NMFS Coring Project

Research Cooperator: National Marine Fisheries Service

Industry Cooperator: One Oregon fisherman

The goal of the project was to collect basic information about habitats on the Oregon shelf and upper slope by sampling and photographing the seafloor with a sediment corer/camera system.

Coast-wide Life History and Habitat Associations of Juvenile Rockfish, Greenling, and Cabezon in California and Oregon

Research Cooperator: Pacific Marine Conservation Council

Industry Cooperator: One California fisherman

The goals of this project were the same as above. This is a second round of funding for the same project.

Rockfish Port Sampling Project

Research Cooperator: Port Orford Ocean Resources Team

Industry Cooperators: Seventeen Oregon fishermen

The goals of the project were to gather critical data on near-shore species, china rockfish, Cabezon, and kelp greenling. Using vessel charters, POORT will collect and sample these species to determine length-to-weight ratio, age at maturity, fecundity, and genetic makeup of each species.

Spatial Community Outreach Project

Research Cooperator: Ecotrust

Industry Cooperators: Twenty-seven Washington, Oregon, and California fishermen

The goals of the project included a complete analysis of community impacts of spatial management for groundfish, and subsequent development of community-based recommendations for spatial management.

Whale Research

Research Cooperator: Oregon State University

Industry Cooperators: Two Oregon fishermen

The project goals included modifying former commercial fishing vessels for use in scientific research, and carrying out support-vessel roles for research on endangered blue whales from Oregon to the equator.

Integrating Marine Reserves Science into the Fisheries Management System

Research Cooperator: National Fisheries Conservation Center

Industry Cooperators: Ten Oregon fishermen

The goal of the project was to ensure the participation of fishermen in a consensus conference on marine reserves science.

Community Seafood Initiative—Traceability in Albacore Tuna

Research Cooperator: Oregon State University

Industry Cooperators: Six Washington and Oregon fishermen

The goal of the project was to develop quality and handling guidelines for high-quality albacore; to design a computerized traceability system integrated into handling procedures for on-board grading of albacore; and to measure fat content using a bio-electrical impedance device (also for on-board grading of fish).

Seafloor Fuel Cells

Research Cooperator: Oregon State University

Industry Cooperator: None

Goals of the project included deploying eight prototype seafloor fuel cells at two locations to test their performance as long-term power sources for autonomous ocean instrumentation. If fishermen located one by accident, they would contribute by sharing knowledge of bottom properties and conditions at different localities, sharing knowledge of seasonal fishing activities and areas of closure. PLP assisted by alerting the fishing community to avoid the locations.

Scientist and Fishermen Exchange (SAFE)

Research Cooperator: Oregon State University

Industry Cooperators: Thirty Oregon and Washington fishermen

The primary goal of the project was to ensure significant participation of fishermen in discussions with scientists to advance cooperative fishery research and management. SAFE provides regular opportunities for fishermen and marine researchers to meet and informally find and share mutually interesting/beneficial information and research ideas and needs.

Pilot Study to Develop and Evaluate Alternative Survey Methodologies for Assessing Canary Rockfish (*Sebastes pinniger*)

Research Cooperator: Pacific Groundfish Conservation Trust

Industry Cooperators: Seventeen Oregon and Washington fishermen

The primary goals of the project were to evaluate the feasibility of using long-line, fish traps, or non-lethal sampling devices (photographs or video footage) to measure the densities of rockfish; to develop a standardized survey methodology and protocols that can be used for quantitative sampling of near-shore rocky reefs and other types of habitat that are not adequately covered by the NOAA Fisheries triennial bottom trawl surveys; and to present results from the pilot study to scientists from NOAA Fisheries and the PFMC advisory bodies.

Determination of Mercury in Pacific Troll-caught Albacore

Research Cooperator: Oregon State University

Industry Cooperator: One Oregon fisherman

The goals of the project included a comprehensive analysis of methyl mercury in albacore tuna harvested off the Pacific Northwest. A wide-ranging database will be developed and made available to regulatory agencies, medical professionals, scientists, food specialists, and the general public.

Black Rockfish Acoustic Tagging: Where Are Black Rockfish Releasing Young?

Research Cooperator: Washington Department of Fish & Wildlife

Industry Cooperator: Ten Washington fishermen

The goals of phase one included meeting with fishermen and scientists to generate hypotheses on black rockfish movement, evaluate and determine specific study area, determine the availability of fishermen to participate, and select vessels to participate. Phase two will catch and tag nine black rockfish with acoustic transmitter tags.

Collaborative Trap Survey for Juvenile Rockfishes, Greenling, and Cabezon in Near-shore Habitats of Washington, Oregon, and California

Research Cooperator: Pacific Marine Conservation Council

Industry Cooperators: Four California fishermen

This project had the same goals as Coast-wide Life History and Habitat Associations of Juvenile Rockfish, Greenling, and Cabezon in California and Oregon.

HMSC Discussion and Project to Investigate Historic Ocean Changes as Viewed by Fishermen and Scientists

Research Cooperator: Oregon Department of Fish & Wildlife

Industry Cooperators: Five Oregon fishermen

Participation included attending a meeting and sharing information.

Aurora Rockfish/Red-banded Rockfish Maturity Study

Research Cooperator: Oregon Department of Fish & Wildlife

Industry Cooperators: Two Oregon fishermen

The goals of the project included developing maturity curves for two species of rockfish.

Assist in Sample Collection for Black Rockfish Tagging Study

Research Cooperator: Oregon Department of Fish & Wildlife

Industry Cooperators: Eight Oregon fishermen

The goal of the project was to determine an independent estimate of the exploitation rate for black rockfish. An Oregon-specific stock assessment model could then use that exploitation rate to assess the status of Oregon populations independently.

Observing the Evolution and Structure of Bottom Water Temperature on the Oregon Shelf, through Industry/Academic Collaboration

Research Cooperator: Oregon State University

Industry Cooperators: Four Oregon fishermen

The goals of the project included observing the structure and evolution of near-bottom water temperature on the Oregon shelf, developing ties between the coastal Oregon fishing industry and academic researchers at Oregon State University, and providing a basis and motivation for a future experiment that will be larger in scope and magnitude.

Acoustic Assessment of the Distribution and Abundance of Widow Rockfish at Selected Survey Sites off Newport, Oregon—A Pilot Study

Research Cooperator: NOAA Fisheries

Industry Cooperators: Two California and Oregon fishermen

The goal of the project was to test methodology (acoustics and underwater cameras) at several widow study sites off Newport, Oregon. These sites have been identified by west coast commercial fishermen. Widow distribution and relative biomass at different times of the day will be documented.

Essential Fish Habitat EIS Meeting

Research Cooperator: Oregon Department of Fish & Wildlife

Industry Cooperators: Unknown

The goals of the project were to discuss and share information, ideas, and concerns with a small group from the commercial fixed-gear and hook-and-line sectors, regarding the groundfish EIS process prior to the June council meeting. It is unknown how many industry cooperators participated in this project. Participation included attending a meeting to discuss the groundfish EIS process and impacts.

Ocean Wave Energy and Research Demonstration Park

Research Cooperator: Oregon State University

Industry Cooperators: Thirty-three Oregon fishermen

The goals of the project include establishing a Wave Energy Research and Demonstration Park off the coast of Oregon.

Fishermen in Stock-assessment Process

Research Cooperator: National Marine Fisheries Service

Industry Cooperators: Eleven Oregon and California fishermen

The goal of the project was to include fishing industry experience through the 2005 groundfish stock assessment/STAR panel meeting process.

English Sole Shelf Life

Research Cooperator: Oregon State University Seafood Lab

Industry Cooperators: Six Oregon and California fishermen

The goal of the project was to provide data and information about the intrinsic flavor and compositional characteristics of English sole and effects from seasonality, location, storage, and shelf life.

Coastal Circulation (Domed Anchors)

Research Cooperator: Oregon State University

Industry Cooperators: Four Oregon fishermen

The goals of the project included fabricating a domed design for anchors with no snag points and leaving the anchors behind on the seafloor following research. Currently the anchors are retrieved, which is dangerous and expensive. The goal is to investigate whether a domed shape would suffice to leave anchors on the seafloor.

Groundfish Essential Fish Habitat

Research Cooperator: National Marine Fisheries Service

Industry Cooperators: Three California and Oregon fishermen

The goal of the project was to review habitat suitability profiles for groundfish.

Pilot ROV Survey of Orford Reef

Research Cooperator: Oregon Department of Fish & Wildlife

Industry Cooperators: Two Oregon fishermen

The purpose of the research was to demonstrate non-lethal methods to survey bottom-associated near-shore groundfish species along transects selected on the basis of depth and relief. The success of this project depended on the Industry Cooperators' knowledge of the Port Orford Reef area as well as the knowledge and skill to conduct safe, effective, efficient vessel operations and to design and install an ROV system in the vessel. Special emphasis on adapting ROV for small vessels to charter this work, which is near rocky high relief.

Baseline Mapping of Santa Lucia Bank

Research Cooperator: Northwest Fisheries Science Center

Industry Cooperator: One California fisherman

The goal of the project was to collect baseline data on the area using an AUV dispatched from R/V Thompson.

Western Groundfish Conference

Research Cooperator: Oregon Trawl Commission

Industry Cooperators: Four California and Oregon fishermen

The goal of the project was to connect and build better relationships between experienced groundfish fishermen and the science community. This conference offered two specific opportunities to accomplish this goal: (1) a panel presentation that will include three members from both communities, and (2) round-table dialogues around important, groundfish-related issues.

Groundtruthing Community Profiles

Research Cooperator: Northwest Fisheries Science Center

Industry Cooperators: Thirty-two Oregon and California fishermen

The goal of this project was to provide policy makers with baseline information regarding these communities and their involvement with various fisheries. This information will help policy makers better establish potential impacts of fisheries management decisions on communities. Having each community profile groundtruthed by industry cooperators with the PLP would create a more accurate profile.

Derelict Gear Removal.

Research Cooperator: Oregon State University

Industry Cooperators: Five Oregon fishermen

The goal of this project was to find and remove derelict pots and nets, measure impacts of derelict gear, develop retrieval methods for derelict gear, recycle gear, find owners of lost gear, and reducing the loss of gear.

River Influences on Shelf Ecosystems

Research Cooperator: Oregon State University

Industry Cooperator: One Washington fisherman

The goal of this project was to understand the influence of the Columbia River plume on Oregon and Washington shelf ecosystems.

Wave Moorings

Research Cooperator: University of California San Diego.

Industry Cooperator: Unknown

The goal of this project was to assist researchers in developing the Coastal Data Information Program (CDIP). CDIP measures, analyzes, archives, and disseminates coastal environmental data for use by coastal engineers, planners, and managers, as well as scientists and mariners.

Improving Community Profiles.

Research Cooperator: Oregon State University

Industry Cooperators: Four Oregon fishermen

The goal of this project was to advance the understanding of the social and economic dimensions of west coast commercial fishing communities, and to do it in a way that strengthens the relationship between the fishing, fisheries management, and science communities.

Wave Energy in California

Research Cooperator: Electric Power Research Institute

Industry Cooperators: Nine California fishermen

The goal of the project was to attract private investment capital to build a wave-power plant at Fort Bragg, much as Oregon did in attracting Ocean Power Technology (OPT) to file a preliminary permit with FERC for a plant at Reedsport, Oregon. One of the key factors in attracting OPT to Reedsport

was the support and good working relationships established with the fishing and crabbing industry. This project sought to establish that good working relationship with fishermen in Fort Bragg.

POST Project

Research Cooperator: Kintama Research Group

Industry Cooperator: One Oregon fisherman

The goal of this project was to develop a coast-wide acoustic tracking array that will be used to study fish movements. The current study primarily targets the migration timing and movement patterns of Columbia River Salmon stocks. However, the array would allow various researchers to track a variety of fish species and marine animals as they move along the continental shelf, from Baja, California, to the Bering Sea, Alaska. Also, the array is equally applicable to all animals greater than about six inches in length.

Reedsport Wave Energy Project

Research Cooperator: Oregon Solutions

Industry Cooperators: Eight Oregon fishermen.

One goal of this project was to engage crabbing and fishing industry representatives in helping to identify key impacts and issues with a wave energy project. Identification of issues included the development of quantitative support for the impacts. Another goal was to develop and agree on different methods for and approaches to minimizing the impacts of the project to the crabbing and fishing industry.

Public Fisheries Knowledge

Research Cooperator: Oregon State University

Industry Cooperator: One Oregon fisherman

The goal of this project was to use a fishing industry member as a researcher to find out what the public knows and doesn't know about fisheries and seafood issues. The resulting information will be used in designing an exhibit.

Fish Carcass Recycling Program

Research Cooperator: Oregon State University

Industry Cooperators: Four Oregon fishermen

The goal of this project was to test the effectiveness of a new bait prototype for crab fishing made from tuna carcasses.