

NOAA 2012 Protected Species Studies of Eulachon Smelt in Oregon and Washington

PROGRESS REPORT

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Reporting Period: January 1, 2012 to June 30, 2012

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Project accomplishments by objective are:

A). Stock Assessment Objective

1. *Complete larval sampling at mainstem Columbia River stations January 1- May 31, during 2011, and 2012*

Season One: January 1 –May 31, 2011

(See previous progress report for time period January 1 through June 30, 2011.)

Season Two: January 1 –May 31, 2012

Due to indications of earlier spawning, we began sampling the Columbia River transect index sites the first week of December, on 12/6/11, and continued sampling once to twice per week until 5/21/12(Figure 1). The Grays River was also sampled from 12/20/11to 5/14/12.



Figure 1: Map of lower Columbia River with index sites indicated by orange circles, and USGS gauge station indicated by blue triangle.

2. *Complete calculations of river discharge by July 31, during 2011, and 2012*

Season One: January 1 –May 31, 2011

(See previous progress report for time period July 1, 2011 through December 31, 2011.)

Season Two: January 1 –May 31, 2012

(Task is not scheduled for completion during this reporting period.)

3. *Complete laboratory work (larval densities in samples) by June 30, during 2011, and 2012*

Season One: January 1 –May 31, 2011

(See previous progress report for time period July 1, 2011 through December 31, 2011.)

Season Two: January 1 –May 31, 2012

Laboratory analysis consisting of visually identifying and counting smelt eggs and larvae from 256 samples collected in the mainstem Columbia River and the Grays River during the 2012 field season has been completed. The average density of smelt larvae per sample was 4.4 and 1.2 smelt larvae per cubic meter of water for the Columbia River and Grays Rivers respectively.

4. *Complete sampling of adult smelt December 1, 2010- March 31, 2011, and December 1, 2011- March 31, 2011*

Season One: December 1, 2010 –March 31, 2011

(See previous progress report for time period July 1, 2011 through December 31, 2011.)

Season Two: December 1, 2011 –March 31, 2012

WDFW staff assisted the Cowlitz Tribe in efforts to collect returning adults in the Cowlitz River using dip nets. While WDFW staff was present, a total of 582 adult eulachon were handled. Of these fish, most were released alive after sex determination, but 33 (23 female, 10 male) were sacrificed and retained by WDFW for biological, genetic, and fecundity studies.

5. *Complete fecundity, sex, and age determinations on adult samples by July 31, during 2011 and 2012*

Season One: December 1, 2010 –March 31, 2011

(See previous progress report for time period July 1 through December 31, 2011.)

Season Two: December 1, 2011 –March 31, 2012

In cooperation with the Cowlitz Tribe, WDFW staff handled and made a sex determination on a total of 582 adult eulachon. Of these fish, most were released alive, but 33 (23 female, 10 male) were sacrificed and retained by WDFW. Fecundity and age has not yet been determined.

6. *Compile environmental correlates by August 15, during 2011 and 2012*

Season One: December 1, 2010 –May 31, 2011

(See previous progress report for time period July 1, 2011 through December 31, 2011.)

Season Two: December 1, 2011 –May 31, 2012

(Task is not scheduled for completion during this reporting period.)

7. *Complete calculation of Spawning Stock Biomass calculations by August 31, during 2011 and 2012*

Season One: January 1 –May 31, 2011

(See previous progress report for time period July 1 through December 31, 2011.)

Season Two: January 1 –May 31, 2012

(Task is not scheduled for completion during this reporting period.)

8. *Complete retrospective analysis and report on performance of indicators relative to SSB by September 30, 2012*

(Task is not scheduled for completion during this reporting period.)

B) Freshwater Distribution Objective.

1. *Complete plankton tows and spawning substrate sampling at Columbia River and tributary stations January 1- May 31, 2011-2013*

Season One: January 1 –May 31, 2011

(See previous progress report for time period January 1 through June 30, 2011.)

Season Two: January 1 –May 31, 2012

We began collection activities in the mainstem Columbia River November 21, 2011, and completed 368 plankton tows and 175 spawning substrate sets through the end of this reporting period (June 26, 2012). Collection activity occurred from the town of Longview, Washington and proceeded upstream to the area below Bonneville Dam (Figure 2). Due to continued presence of larvae in plankton tows, sampling has been extended until the end of July.

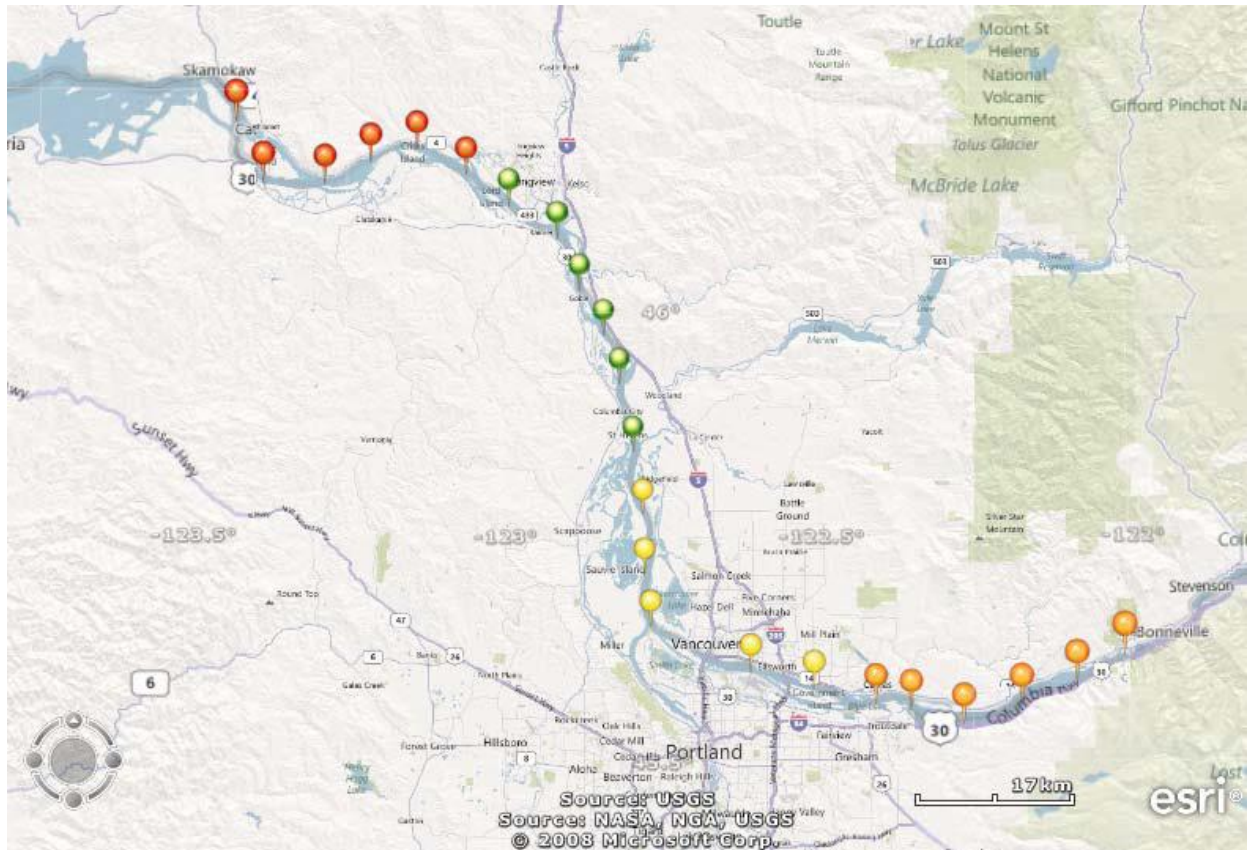


Figure 2: Overview of sampling locations used to set artificial substrate mats and vertical plankton tows in the mainstem Columbia River. November sampling occurred in areas with red pin marks. Subsequent weeks sampling proceeded in an upstream direction.

2. *Complete plankton tows and spawning substrate sampling from coastal streams outside the Columbia Basin January 1- June 30, 2011-2013*

Season One: January 1 –May 31, 2011

(See previous progress report for time period January 1 through June 30, 2011.)

Season Two: January 1 –May 31, 2012

A total of 13 water bodies outside the Columbia Basin were sampled for the presence of smelt plankton in during the 2012 field season (Table 1).

Table 1: List of water bodies outside the Columbia Basin sampled for smelt plankton.

Water Body	Year Sampled	Sample Days	Eggs/Larvae Observed
Naselle River	2011	1	Yes
Bear River	2011	1	Yes

N. Fork Willapa River	2012	1	Yes
Hoh River	2012	2	No
Goodman Creek	2012	2	No
Quillayute River	2012	2	Maybe
Clallam River	2012	2	No
Chahalis River	2012	1	Yes
Elwha River	2012	1	No
Clearwater River	2012	1	No
Humtulpis River	2012	1	No
Moclips River	2012	1	No
Little Quilcene	2012	1	No
Big Quilcene	2012	1	No
Tahuya River	2012	1	No
Umpqua River	2011	1	Yes

3. *Complete surveys of Sandy and Cowlitz River for extent of spawning activity January 1-May 31, 2011-2013*

Season One: January 1 –May 31, 2011

(See previous progress report for time period January 1 through June 30, 2011.)

Season Two: January 1 –May 31, 2012

The Cowlitz River was sampled extensively by the Cowlitz Tribe. WDFW refrained from sampling the Cowlitz River during this period to avoid redundant sampling and conserve resources.

Work was not conducted in the Sandy River during the reporting period because a funding reduction reduced our overall scope of work in the contract.

C) Marine Life-stage Objective.

1. *Complete experiments on gear-related bycatch reduction*

a. *Pilot phase: August 1-October 31, 2010*

(See previous progress report for time period July 1 through December 31, 2010.)

b. Season 1: April 1-October 31, 2011

(See previous progress reports for time periods January 1 through June 30, 2011 and July 1 through December 31, 2011.)

c. Season 2: April 1- October 31, 2012

Due to budget reductions this task has been removed from the scope of work, and is no longer planned.

2. Complete observation of Washington ocean shrimp trawl fisheries

a. Pilot phase: August 1-October 31, 2010

(See previous progress report for time period July 1 through December 31, 2010.)

b. Season 1: April 1-October 31, 2011

(See previous progress report for time period July 1 through December 31, 2011.)

c. Season 2: April 1- October 31, 2012

(Task is not scheduled for completion during this reporting period.)

3. Complete processing of the observation data from the Washington ocean shrimp trawl fisheries by December 31, 2010-2012

Processing of the data from the 2011 season is complete. Observer data has been entered in MS Access and QA/QC procedures have been completed. Skipper data (logbooks) for 2011 have also been entered and are undergoing QA/QC procedures via ArcGIS.

Data from the 2012 fishing season is currently being entered as received from observers. QA/QC procedures for the 2012 data will follow at the close of the 2012 season (October).

4. Complete processing of the data from the gear experiments by December 31, 2010-2012

See C) 1.b. and 1.c. above.

5. Complete outreach education for the ocean shrimp trawl fishers

a. Project Launch: July 31, 2010

(See previous progress report for time period January 1 through June 30, 2011.)

b. Pilot Phase Review: February 28, 2011

(See previous progress report for time period January 1 through June 30, 2011.)

c. Season Review: February 29, 2012

Multiple workshops have been held with fishers regarding rule changes affecting the pink shrimp trawl fishery. The implementation of more restrictive excluder devices has been the primary focus of these meetings. Other topics of discussion include ESA related information and timelines, gear modification options, observer issues, and rule change issues. Workshops will continue to be held with fishers to collaborate with managers.

In addition, the production of a pink shrimp trawl educational video is currently underway. The aim of the video is to provide a tool for managers or fishers to use to highlight the pink shrimp fishery and its efforts to reduce by-catch levels. On deck as well as trawl camera footage will be used in combination with observer data for the video.

d. Project Completion: December 31, 2013

(Task is not scheduled for completion during this reporting period.)

D) Genetic Analysis Objective.

1. *Complete collection of genetic samples in conjunction with activities under objectives 1-3*

(See previous progress report for time period January 1 through June 30, 2011.)

2. *Complete laboratory work (genetic sample processing) by June 30, 2011-2013*

(See previous progress report for time period July 1 through December 31, 2011.)

3. *Complete all genetic analyses by September 30, 2013.*

Genetic analyses will only be pursued if sufficient funds are made available during FFY 2013. The priority will be on getting genetic analysis completed for

the shrimp trawl eulachon bycatch, with other sub-objectives taking on a lower priority.

E) Reporting.

1. *Complete annual progress reports for each objective by June 30, 2011-2013*
2. *Complete comprehensive report of three year study by December 31, 2013*
3. *Document and distribute datasets from the study by December 31, 2013*
4. *Complete submission of articles to peer reviewed journals by December 31, 2013*

This is the fourth semiannual progress report.

There were no articles submitted during 2012.

Presentations:

Dionne, P.E., O.P. Langness 2012. Eulachon Smelt. Presented January 12th to the Coastal Conservation Association, Longview, WA.

Van Dyke, E.S., A.J. Storch, C. Mallette, and T. A. Rien 2012. Understanding Status and Trends of Pacific Eulachon (*Thaleichthys pacificus*) Presented March 1st at the 48th Annual Meeting of the Oregon Chapter of the American Fisheries Society, Eugene , OR.

Dionne, P.E., E. VanDyke 2012. Eulachon Smelt Distribution and Abundance. Presented February 23rd at the Eulachon Technical Summit, Toledo, WA.

Dionne, P.E., E. VanDyke 2012. Eulachon Smelt Distribution and Abundance. Presented June 26th at the Pt. Adams Biological Research Station, Hammond, OR.

Expenditures (Estimated):

ODFW, January 1 – June 30, 2012:	\$303,269
Subcontract to WDFW: January 1, 2012 – June 30, 2012	<u>\$210,166</u>
Total expenditures January 1 to June 30, 2012:	\$513,435