

# NOAA 2014 Protected Species Studies of Eulachon in Oregon and Washington

## PROGRESS REPORT

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Reporting Period: July 1, 2014 to December 31, 2014

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Project accomplishments by objective are:

### **A). Stock Assessment Objective**

1. *Complete larval sampling in the Columbia River and, Oregon and Washington coastal rivers December 1- May 31.*

*Season One: December 1, 2014–May 31, 2015*

Staff from ODFW visited two Oregon coastal streams—Cummins and Tenmile creeks—on December 19, 2014, to: (1) reconnoiter suitable locations in each stream to sample ichthyoplankton and collect data to estimate stream discharge, (2) install water level data loggers, and (3) conduct initial ichthyoplankton tows and collect water quantity data, where possible. During this trip, a water level data logger was deployed successfully in Cummins Creek and flow and depth measurements were collected along a stream cross-section to estimate instantaneous discharge (see sub-objective 2). Collected throughout the proposed sampling period, these data will be used to develop a relationship between depth (data logger readings) and discharge measured simultaneously. This model will then be applied to water level logger data to predict discharge during periods when it was not evaluated directly. Conditions (i.e., water level and velocity) in Tenmile Creek precluded the installation of a water-level data logger and therefore, information necessary to estimate instantaneous discharge will not be collected. To develop a suitable relationship for our purposes, discharge should be assessed at several different water levels throughout the period of interest. Given constraints to data collection resulting from stream conditions in Tenmile Creek at the time of sampling, we determined that any model developed would likely prove useful for predicting discharge at relatively

low water levels/depths. Thus, only larval outflow will be quantified in Tenmile Creek during future sampling events. During this reporting period, Big Creek (44.174377, -124.115133) was identified as an alternative to Tenmile Creek; stream morphology appears suitable to allow for consistent collection of data necessary to estimate instantaneous discharge. We filed a permit request to access Big Creek with the Oregon Parks and Recreation Department. Upon issuance of the permit, we will install a water level data logger and sampling will commence as in Cummins Creek.

During the reporting period, ODFW staff conducted larval sampling in Cummins and Tenmile creeks on the Oregon coast on four different occasions: December 9, December 16, December 23 and December 30, 2014. In addition to larval sampling, water quantity information was also collected in Cummins Creek to support the development of a water level-discharge relationship.

*Season Two: December 1, 2015–May 31, 2016*

(Work not scheduled to occur during this reporting period.)

*Season Three: December 1, 2016 – June 21, 2017*

(Work not scheduled to occur during this reporting period.)

2. *Complete calculations of river discharge by July 31.*

*Season One: December 1, 2014–May 31, 2015*

As described above, river discharge will be estimated in Cummins Creek and Big Creek. For sampling events during which ichthyoplankton tows are conducted, water velocity ( $\text{m}\cdot\text{sec}^{-1}$ ) and depth measurements will be collected at regular intervals along a transect. These data, and measurements of stream width (i.e., transect width), will be used to calculate instantaneous discharge. Instantaneous discharge values estimated throughout the proposed sampling period will then be used in conjunction with water level measurements recorded by water-level data loggers to develop a relationship between discharge and water level. This model will ultimately be applied to water-level data to predict discharge during intervals when it was not quantified directly. To this end, we collected data necessary to calculate instantaneous discharge in Cummins Creek on December 9, December 16 and December 30, 2014. Pending access permission, we plan to begin collecting data to develop a relationship between water-level and discharge for Big Creek during mid-January, 2015.

*Season Two: December 1, 2015–May 31, 2016*

(Work not scheduled to occur during this reporting period.)

*Season Three: December 1, 2016 – June 21, 2017*

(Work not scheduled to occur during this reporting period.)

3. *Complete laboratory work (larval densities in samples) by August 31.*

*Season One: December 1, 2014–May 31, 2015*

From December 9- 30, 2014, we collected a total of 13 individual samples from Cummins and Tenmile creeks. Processing of these samples in the laboratory will commence in January of 2015.

*Season Two: December 1, 2015–May 31, 2016*

(Work not scheduled to occur during this reporting period.)

*Season Three: December 1, 2016 – June 21, 2017*

(Work not scheduled to occur during this reporting period.)

4. *Complete calculation of Spawning Stock Biomass calculations by September 30.*

*Season One: December 1, 2014–May 31, 2015*

We collected information necessary to calculate Spawning Stock Biomass (e.g., ichthyoplankton densities and stream discharge) in Cummins Creek from December 9- 30, 2014. ODFW staff plans to continue collecting these data from Cummins Creek and Big Creek.

*Season Two: December 1, 2015–May 31, 2016*

(Work not scheduled to occur during this reporting period.)

*Season Three: December 1, 2016 – June 21, 2017*

(Work not scheduled to occur during this reporting period.)

## **B) Genetic Analysis Objective.**

1. *Complete collection of genetic samples in conjunction with activities under objective A by June 30.*

*Season One: December 1, 2014–May 31, 2015*

Laboratory analyses of ichthyoplankton samples collected from Oregon coastal streams will begin in January, 2015. A proportion of eulachon larvae encountered during examination of samples will be preserved for later genetic analysis.

*Season Two: December 1, 2015–May 31, 2016*

(Work not scheduled to occur during this reporting period.)

*Season Three: December 1, 2016 – June 21, 2017*

(Work not scheduled to occur during this reporting period.)

2. *Complete all laboratory work (genetic sample processing) by August 31, 2017.*

Samples collected from Oregon coastal streams for genetic analysis (see above) will be transferred to the Washington Department of Fish and Wildlife's Molecular Genetics Laboratory to allow for subsequent genetic analysis.

3. *Complete all genetic analyses by September 30, 2017.*

Samples collected from Oregon coastal streams for genetic analysis (see above) will be transferred to the Washington Department of Fish and Wildlife's Molecular Genetics Laboratory to allow for subsequent genetic analysis.

### **C) Outreach and Education Objective.**

1. *Complete webpage development and populate webpages with information from previous studies by December 31, 2014.*

Project staff has contacted the ODFW webmaster to begin exploring options for the development of a eulachon-specific webpage. The ODFW/WDFW project completion report for the FY 2010-13 eulachon Section 6 Grant has been uploaded to the ODFW website ([http://www.dfw.state.or.us/fish/OSCRP/CRI/docs/section\\_6\\_eulachon\\_final\\_Report\\_2014\\_0922cm.pdf](http://www.dfw.state.or.us/fish/OSCRP/CRI/docs/section_6_eulachon_final_Report_2014_0922cm.pdf)).

2. *Complete annual webpage update by October 31.*

Year One: July 1, 2014–June 30, 2015

Updates will be made regularly following creation of the web page.

Year Two: July 1, 2015–June 30, 2016

(Work not scheduled to occur during this reporting period.)

Year Three: July 1, 2016 – June 30, 2017

(Work not scheduled to occur during this reporting period.)

3. *Incorporate more eulachon information into the displays and activities at the City of Vancouver/WDFW Annual Sturgeon Festival.*

Year One: July 1, 2014–June 30, 2015

ODFW staff participated in, and developed material for, the Vancouver/WDFW Annual Sturgeon Festival held on September 20, 2014.

Year Two: July 1, 2015–June 30, 2016

(Work not scheduled to occur during this reporting period.)

Year Three: July 1, 2016 – June 30, 2017

(Work not scheduled to occur during this reporting period.)

4. *Attend and present work at a regional meeting and a conference or workshop annually.*

Year One: July 1, 2014–June 30, 2015

No public regional meetings, conferences, or workshops have occurred to date.

Year Two: July 1, 2015–June 30, 2016

(Work not scheduled to occur during this reporting period.)

Year Three: July 1, 2016 – June 30, 2017

(Work not scheduled to occur during this reporting period.)

5. *Present findings of previous work and preliminary year one work at the national meeting of the American Fisheries Society at Portland, OR in August 2015.*

(Work not scheduled to occur during this reporting period).

#### **D) Reporting.**

6. *Complete semi-annual progress reports for each objective by June 30 and December 31.*

Year One: July 1, 2014–June 30, 2015

This is the first progress report for the current grant prepared and submitted by the Oregon Department of Fish and Wildlife. The co-awardee (WDFW) will be filing separate progress reports as separate awards were granted to both parties listed in the joint-state proposal.

Year Two: July 1, 2015–June 30, 2016

(Work not scheduled to occur during this reporting period.)

Year Three: July 1, 2016–June 30, 2017

(Work not scheduled to occur during this reporting period.)

7. *Complete comprehensive report of study by December 31, 2017.*

(Work not scheduled to occur during this reporting period).

8. *Document and distribute datasets from the study by December 31, 2017.*

(Work not scheduled to occur during this reporting period).

9. *Complete submission of articles to peer reviewed journals by December 31, 2017.*

(Work not scheduled to occur during this reporting period).

**Expenditures (Estimated; ODFW only, excludes expenditures by co-awardee):**

Total expenditures July 1 – December 31, 2014: **\$ 2,401**