Studies of Green Sturgeon along the West Coast of the U.S. to Guide the Design and to Implement a Monitoring Program to Track Coast-Wide Status and Trends for Future Population Viability Assessments

PROGRESS REPORT

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Project accomplishments by objective are:

Objective 1: (Database Development) To establish a cooperative coast-wide biotelemetry, tag, and biological data interchange system to be used by resource managers for assessing population viability, status, trends, and threats to survival and recovery of green sturgeon.

Task 1.1: Solicit and select a contractor to oversee the development of the database

Due to the late start in the contract, this task was not completed.

Task 1.2: Convene a conference to define needs and standards

The conference dates and schedule of activities have not been established. This is due to the delay in hiring staff and establishing a contractor for the database development.

Task 1.3: Build a beta-version of the database system

This task was identified for completion after 2010.

Task 1.4: Incorporate feedback from researchers

This task was identified for completion after 2010.

Task 1.5: Complete the database with sample/historical data

This task was identified for completion after 2010.

Task 1.6: Input tagging information

This task was identified for completion after 2010.

Task 1.7: Roll out green sturgeon tagging data website for accessing coast-wide data

This task was identified for completion after 2010.

Task 1.8: Roll out enhanced green sturgeon tagging data website for input and access to coast-wide data (including interface to other databases)

This task was identified for completion after 2010.

Task 1.9: Develop a maintenance plan for the website

This task was identified for completion after 2010.

Task 1.10: Maintain the website, and make improvements

This task was identified for completion after 2010.

Objective 2: (Critical Habitat) To characterize the critical habitat through the study of fine scale spatial distribution and movements patterns in areas of Washington and Oregon with potential future threats to the Southern DPS. During the period of this proposal we will use biotelemetry in the Columbia River, Willapa Bay, Grays Harbor, and at least one estuary on the Oregon coast.

Task 2.1: Deploy acoustic receivers at the entrance to the main estuaries.

The acoustic receiver gateway array for Grays Harbor was reestablished using borrowed receivers from the NMFS NWFSC. Dialog between array owners has been established, and most acoustic receivers in the Willapa Bay and Columbia River estuaries are being maintained through the winter, rather than being pulled. The USGS had receivers in the Columbia River that were pulled in the fall. Those receivers will not be redeployed in 2011. We are working to see if those receivers can be borrowed and deployed by WDFW/ODFW or another regional agency that might benefit from the extra coverage. The USGS array in Coos Bay did not have many green sturgeon detections in 2010. That array is being removed. Due to the late start of our contract, we have not made purchase of receivers; therefore, we were not able to establish a gateway array in the Umpqua River in 2010. We have made a determination that at least one other array

will be established in another Oregon estuary, most likely Tillamook Bay or one of the estuaries near the Umpqua River.

Task 2.2: Complete download of all gateway receivers yearly in November-December.

Downloading of the Grays Harbor gateway was completed in November and December 2011.

Task 2.3: Complete year one acoustic tagging of fish.

The late start to the contract precluded ODFW/WDFW from purchasing acoustic tags. Not to miss an opportunity, we partnered with NMFS NWFSC and the USGS Western Research Center to deploy 44 acoustic tags in green sturgeon (18 in Grays Harbor, 25 in Willapa Bay, and 1 in the Columbia River). Most of the USGS tags were V16-6L pressure/temperature tags placed in larger fish. Most of the NMFS tags were V16-4H tags placed in smaller fish. These efforts will be very informative, as there has not been a lot of depth and temperature tag data gathered for green sturgeon before, and past tagging efforts were restricted to larger fish.

Task 2.4: Deploy and monitor non-gateway receivers in the Columbia River.

Due to the contract delay, purchase of receivers was not possible. The Columbia River estuary had a lot of receivers deployed by other entities (Columbia River Inter-Tribal Fish Commission, Oregon State Health and Science University, NMFS, USGS, Kintama Research, etc.). There is full cooperation amongst these groups to share detection data.

Task 2.5: Complete year two acoustic tagging of fish.

This task was identified for completion after 2010.

Task 2.6: Deploy and monitor non-gateway receivers in Willapa Bay.

The acoustic array in Willapa Bay was operated by NMFS-NWFSC. No supplementation of the array was done.

Task 2.7: Complete year three acoustic tagging of fish.

This task was identified for completion after 2010.

Task 2.8: Deploy and monitor non-gateway receivers in Grays Harbor.

This task was identified for completion after 2010.

Task 2.9: Complete assessment of fine scale critical habitat use in the three estuaries.

This task was identified for completion after 2010.

Objective 3: (Abundance/Survival) To design, evaluate and implement an approach to estimate the coast-wide abundance and survival of Southern and Northern DPS of green sturgeon using products resulting from Objectives 1 and 2 and supplemental data collected through a coast-wide mark and recapture program.

Task 3.1: Complete year one tagging of fish.

WDFW lead this task, with assistance from ODFW, NMFS-NWFSC, USGG-WRL, and the University of Washington staff. 560 fathom.hours of diver gillnet effort was made in Willapa Bay during early July and late August. 482.5 fathom.hours of effort was made in the Columbia River estuary during early September. 732.5 fathom.hours of effort was made in Grays Harbor during late September and October. Take (including dropouts from the net) was 37, 147, and 1 green sturgeon for Grays Harbor, Willapa Bay, and the Columbia River respectively. In addition to the targeted efforts, 22 green sturgeon were handled during the annual white sturgeon stock assessment in the lower Columbia River. Most of the fish handled were PIT tagged, specifically the numbers receiving PIT tags were 34 in Grays Harbor, 76 in Willapa Bay, and 4 in the Columbia River.

Task 3.2: Present a stratified sampling approach for the mark-recapture study to the green sturgeon steering committee for their critical review.

The steering committee has not been established as of yet. There have been discussions about the study design with our biostatisticians.

Task 3.3: Complete year two tagging and recovery of fish.

This task was identified for completion after 2010.

Task 3.4: Complete initial (year two) abundance estimates.

This task was identified for completion after 2010.

Task 3.5: Complete year three tagging and recovery of fish.

This task was identified for completion after 2010.

Task 3.6: Complete assessment of alternative survival and abundance estimates.

This task was identified for completion after 2010.

Objective 4: (FMEP) To develop a Fishery Management and Evaluation Plan for Washington coastal fisheries not covered by an ESA Section 7(a)(2) Biological Opinion that meets the criteria set by NMFS for exemption from take prohibitions for green sturgeon under the proposed ESA 4(d) rule.

Task 4.1: Complete a review of what Washington fisheries would benefit from having an FMEP.

WDFW filed their letter of intention to develop an FMEP in July 2010. It was determined that the FMEP should address the WDFW regulated fisheries in waters of Grays Harbor, Willapa Bay, their tributaries, and coastal water adjacent to Washington State (the area collectively being referred to as the Twin Harbors Region). Excluded from the list were multiple fisheries in state and federal waters managed by WDFW off the Washington coast, because these are authorized by federal permit or regulation and managed according to Pacific Fishery Management Council fishery management plans, subject to future Section 7 consultations between PFMC and NMFS. Also not addressed were the fisheries in the Columbia River or its estuary, because these are covered by an existing Biological Opinion.

Task 4.2: Determine how WDFW can meet the essential elements of the FMEP.

This task was completed in August and September 2010.

Task 4.3: Gather or generate supporting documentation.

This task was completed by WDFW Region 6, Region 5, and Marine Division staff during October and November 2010.

Task 4.4: Complete and circulate a draft of the FMEP.

This task was completed by WDFW Region 6, Region 5, and Marine Division staff during November and December 2010. The draft was reviewed by NMFS Office of Protected Resources staff and members of the Green Sturgeon Recovery Team at different stages of development.

Task 4.5: Complete revisions and submit a final FMEP to NMFS by the 120-day deadline.

The final Twin Harbors Region FMEP was submitted by WDFW on January 7. 2011, thereby meeting the 120-day deadline.

Objective 5: (Miscellaneous NOAA Section 6 Grant Work Elements) To provide the Grantor (NMFS; National Marine Fisheries Service Branch of the National Oceanographic and Atmospheric Administration) documentation and information necessary to permit and process the grant.

Task 5.1: Form and meet semiannually with the green sturgeon steering committee.

The steering committee has not been formed yet.

Task 5.2: Complete annual progress report for each objective.

This is the first annual progress report.

Task 5.3: Complete a comprehensive report of the three-year study

This task was not scheduled for completion during 2010.

Task 5.4: Document and distribute datasets from the study.

The raw biological sample information and tag information has been shared with NMFS-NWFSC and USGS-WRL. The acoustic receiver and tag information is currently being entered into regional acoustic databases.

Task 5.5: Complete submission of articles to peer-reviewed journals.

No journal article has been submitted. ODFW and WDFW Co-investigators attended the World Sturgeon Conservation Society, North American Chapter meeting in Chico Springs, Montana. A presentation about the project proposal was made, but ODFW/WDFW felt that the content of the presentation did not warrant inclusion in the associated special issue of the Journal of Applied Ichthyology.

Expenditures:

	$ 389.74
Subcontract to WDFW, July 1 to December 31, 2010	$ 77,871.60
Total expenditures for reporting period:	$78,261,34