



October 15, 2013

TO: Flood Authority Members

FROM: Scott Boettcher, Staff

SUBJECT: Phase II -- Lower Satsop River Floodplain Restoration Project

Attached please find a proposed project description for utilization of the remaining \$450,000 in 2012 Jobs Now Act dollars for "improvements to areas affected by the Satsop river" (see ESB5127 §313(6) at <http://apps.leg.wa.gov/documents/billdocs/2011-12/Pdf/Bills/Session%20Laws/Senate/5127.SL.pdf>). Proposal here is for the WA State Department of Fish and Wildlife (WDFW) to assume project sponsorship and advance the previous alternatives identified by Watershed Science and Engineering in favor of reducing soil and bank erosion, improving habitat complexity, and improving floodplain connectivity. WDFW is proposing to assume sponsorship here due to its significant land holdings in the area as well its mission-driven habitat and natural system restoration interests. We will seek your approval of this project proposal at our October 17, 2013 Flood Authority conference call. Please feel free to call or email in advance if you have any questions (i.e., 360/480-6600, scottb@sbgh-partners.com).

Lower Satsop River Floodplain Restoration Project (Phase II)

Lead Agency: Washington State Department of Fish and Wildlife, Habitat Program

Budget: \$450,000.

Description: The goal of the Lower Satsop River Floodplain Restoration Project is to restore physical and natural fluvial processes to reduce soil and bank erosion, improve habitat complexity, and improve floodplain connectivity. The project will build on the recently completed Phase I Satsop River Riprap Removal Restoration Project which developed background information and identified a range of conceptual project alternatives (25+ alternatives). See work at:

- Phase I project website -- https://www.ezview.wa.gov/site/alias_1746/overview/34377/overview.aspx
- Phase I final report -- <https://www.ezview.wa.gov/pr/DesktopModules/Documents2/View.aspx?tabID=34380&alias=1746&mid=64550&ItemID=1628&wversion=Staging>

The benefits, impacts, and potential future evolution of the most promising alternatives from that Phase I final report will be evaluated using the SRH-2D hydraulic model developed for the previous project and by conducting in-depth hydrologic and geomorphic analyses. Together with project stakeholders a preferred alternative will be selected based on the results of the modeling and analysis. A basis of design report, 60% design plans, and permit documents will be prepared for the selected alternative.

Potential Flood Hazard Reduction Benefits: The intended benefit is to restore natural fluvial processes and floodplain connectivity to reduce soil and bank erosion, preserve agricultural soils, and improve fish and wildlife habitat.



Adverse Impacts/Effects: The Satsop River Riprap Removal Restoration Project analyzed one alternative, riprap revetment removal, for flood hazard reduction. The project concluded that removal of the riprap revetment could substantially increase lateral erosion risks to infrastructure and property along the study reach; therefore, the project identified a broad range of other potential project alternatives to examine. This phase (Phase II) of the project will evaluate those alternatives, select a preferred alternative and develop engineering designs and permit documents. No known adverse impacts or effects are anticipated.

Project Feasibility: Project feasibility is unknown at this time. Feasibility will be determined as part of the alternatives analysis conducted by WDFW habitat engineering staff and a consultant with expertise in hydrologic and hydraulic modeling and analysis, geomorphology, and the design of flood and erosion hazard reduction and habitat restoration projects.

Timeline: By January 1, 2014, contract with an engineering firm with expertise in hydraulics/fluvial processes and knowledge of the lower Satsop River project reach. By January 1, 2015, consultant will work closely with WDFW Habitat engineers, regional staff, local landowners, and key stakeholder organizations (e.g., local Conservation District) to refine and analyze alternatives. Stakeholder involvement is essential and local landowners will be invited to participate on the design review team. In addition, the local Conservation District will also be invited to provide their expertise on preserving agricultural lands and working with agricultural landowners. Design and permit documents will be complete by June 30, 2015. Future funds will be needed to construct the project.

Authority: ESB5127 (2012)

Jobs Supported: 1.88 FTEs

Studies Completed: Recent key studies include:

- Satsop River Riprap Removal Restoration Project Report (WSE, 2013).
See <https://www.ezview.wa.gov/pr/DesktopModules/Documents2/View.aspx?tabID=34380&alias=1746&mid=64550&ItemID=1628&wversion=Staging>.
- Satsop River Floodplain Restoration Report and Addendum (WEST Consultants, 2004).
See <https://www.ezview.wa.gov/DesktopModules/Documents2/View.aspx?tabID=34380&alias=1746&mid=64550&ItemID=2037>.

Further Studies Needed: This project will be the last of the feasibility and alternative analysis studies. The next phase (Phase III) will entail final design and construction.

Current Project Status: ESB5127 §313(6) appropriated \$500,000 for a project on the Satsop River. Under authority from ESB5127 §313(6) the Chehalis River Basin Flood Authority on 10/02/2012 approved \$50,000 for the initial phase of this project which was contracted through Grays Harbor County. For Phase II the Lead Agency will change to Washington State Department of Fish and Wildlife (Habitat Program) since Grays Harbor County declined Lead Agency status for this phase and the project area includes substantial lands owned by WDFW.