

Flood Authority Study and Project Expenditures April 2011

Over the last three years the Flood Authority has undertaken several studies and projects to address flooding issues in the Chehalis Basin. The Authority has been responsive to the citizens of the Basin by analyzing potential flood mitigation measures that have been proposed.

Study/Project	Contract Amount
Public Values Survey	\$37,000
Flood Plan	\$175,000
Stream Gauge Inventory	\$17,000
Stream Gauge Repair	\$40,239
Early Warning System	\$585,000
Upstream Storage Geology & Engineering	\$250,000
Upstream Storage Benefit/Cost Analysis	\$230,000
Upstream Storage Fish Study	\$900,000
Basin-Wide Economic Analysis	\$141,600
Ecosystem Services	\$75,000
Total	\$2,450,839

The first effort was a public values survey to assess what the citizens thought about flooding in the Basin and their desires to address the issues. (\$37,000)

The Authority produced a Comprehensive Flood Hazard Mitigation Plan for the Basin. The plan gathers information on flooding throughout the basin, catalogues potential projects that could mitigate flood damage, and includes land use regulation recommendations that would protect new development from flooding. (\$175,000)

The Authority provided member jurisdictions with funds to repair and upgrade stream gauges damaged in 2007 flood (\$40,239). The Authority also funded a stream and precipitation gauge inventory (\$17,000) which is being followed by the development and implementation of a basin-wide Early Warning System. In June, a new early warning web site will be available to the public and emergency personnel and new stream and precipitation gauges will be in place. (\$585,000)

In early 2009, the Lewis County PUD published a study that concluded that upstream storage structures could have positive Benefit/Cost (B/C) ratios. While water retention structures (dams) take a considerable amount of time to analyze, and, if feasible, fund and build, the Authority has used a significant portion of its funding on studies to jump start the process.

After the PUD study was published, the Authority funded a high level reconnaissance study to analyze the engineering and geological feasibility of two potential dams on the upper Chehalis River. The work also included an environmental study plan. That study

concluded that the dams had potential and that no fatal flaws were known at that time. (\$250,000)

The Authority subsequently funded a study to see if the proposed dams would have positive benefit-cost (B/C) ratios using US Army Corps of Engineers criterion, which could potentially make them eligible for federal funding. That preliminary study, currently in draft form, suggested that the larger dam could have a positive B/C ratio but that the smaller dam on the South Fork would not. (\$230,000)

The Authority then contracted to undertake an analysis of the impacts the proposed dams might have on fish and fish habitat. This study is currently underway with results expected in June. (\$900,000)

Presently the Authority has contracted with a firm to help form a basin-wide flood district. Part of that effort entails an economic study that models the damage caused by flooding and the economic activity (benefits) created by reducing that damage. The study will also indicate how revenue can be raised to implement flood mitigation projects. (\$141,600)

The Authority has also proposed to modify the current basin-wide General Investigation Project being conducted by the US Army Corps of Engineers to identify ecosystem restoration projects. The Authority has worked to modify the project to add the analysis of flood risk reduction, including potential water retention projects. The Authority has also requested that the State become the non-federal sponsor for the project.

Another study completed by the Authority estimated the value of ecosystem services to the Basin and the potential value they have in helping to mitigate flood impacts. (\$75,000)

The Flood Authority is currently working to form a more permanent flood mitigation entity in the Basin to continue to support the citizens of the Basin and the State.