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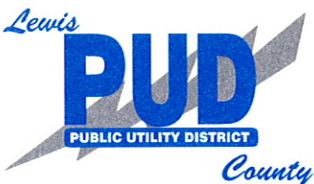
**CONCEPT PAPER**  
**DISCUSSION of CHEHALIS RIVER BASIN FLOODING and SOLUTIONS**

**THE PROBLEM:** At least every few years the Chehalis River Basin experiences flooding from its headwaters to its terminus with the Pacific Ocean near Aberdeen. These periodic events range from mild flooding affecting the low lands, pasture, farm land and the normal flood plain to severe floods inundating residential, agricultural, commercial, and public properties. Chehalis River Basin flooding includes the tributaries of the North and South Forks of the Chehalis, the North and South Forks of the Newaukum and the Skookumchuck.

Chehalis River flooding is a frequent occurrence in the low lands around Chehalis and Centralia and downstream in Thurston and Grays Harbor Counties. However, depending upon which tributary sees the most rainfall, the flooding also causes substantial damage to the areas of PeEll, Doty, Dryad, and Ceres; Wildwood, Boistfort, and Curtis, Adna and Littel; Onalaska, Forest, and Napavine; Bucoda and Galvin; Rochester, Oakville, Porter, Elma, and Montesano. The most recent flooding event of December 2007 caused an estimated \$165 million damage to public and private property in Lewis County alone, and another \$ \_\_\_ million in Thurston and Grays Harbor Counties.

**THE PROPOSED SOLUTION:** After many meetings, studies, and passage of time since the last major flood in 1996, multiple parties and jurisdictions arrived at the Chehalis River Basin Flood Reduction Project. This project is a combination of new levies, improved levies, agricultural land storage, and modifications to the Skookumchuck Dam for additional flood water retention. This appears to be a well thought out and reasonable plan for providing flood protection to certain areas of Chehalis and Centralia, and if the Skookumchuck modifications are completed, added protection for Bucoda, with possible benefits downstream for Rochester and Oakville. Unfortunately levies have been historically deficient in protecting against flooding as they fail or overtop in major floods. We have seen this happen here and in Skagit County and in New Orleans.

**IS NOW THE TIME TO LOOK AT A BROADER SOLUTION:** Many folks have voiced concern over the limited value of the Proposed Flood Reduction Project, as it protects only a limited portion of the areas that routinely experience flooding and has been characterized by some as only a plan to protect Interstate 5. In light of the magnitude and expansive nature of the recent December 2007 flood, as well as the impacts experienced in 1996, the question is, is now



the time to look at a broader solution for reduced flooding for the entire Chehalis River Basin for Lewis, Thurston, and Grays Harbor Counties.

In previous studies of the flooding problem, there were investigations into the construction of the flood control dams on the upper tributaries, such as the Chehalis above PeEll, Elk Creek above Doty and possible sites on the South Fork of the Chehalis, and the Newaukum, as well as the flood control modifications to the Skookumchuck Dam.

Because of extensive damage to both public and private properties in the western Lewis County communities including; PeEll, Doty, Dryad, Boistfort, Curtis, Ceres, and Adna areas, now may be the time to revisit storage possibilities on these major tributaries of the Chehalis River. Storage would protect not only these areas, but also provide substantial and reliable protection for the areas downstream in Chehalis, Centralia, Rochester, Oakville, Elma, and Montesano.

**THE POTENTIAL FOR MULTI-PURPOSE PROJECTS:** While the primary focus of water retention dams on any of the Chehalis River tributaries would be flood control, there is also the potential of other valuable benefits, including domestic water supply, hydroelectric generation, and enhanced fisheries habitat.

**Domestic Water Supply:** During the recent flood, we saw extensive damage to the Boistfort Water supply from Stillman Creek and the City of PeEll water supply from its surface water source above PeEll. During other flood events, the City of Chehalis has had problems with its domestic supply intact on the upper North Fork of the Newaukum.

A flood storage reservoir on the upper Chehalis above PeEll, could also provide a domestic water supply for PeEll. A flood storage reservoir on the upper South Fork of the Chehalis River or Stillman Creek could provide domestic water for Boistfort Valley Water, a system upon which many west Lewis county residents depend. A flood storage reservoir on the North Fork of the Newaukum could enhance the City of Chehalis water supply.

**Hydroelectric Generation:** Recent public attitudes relating to global warming and renewable electric energy supplies have taken focus away from conventional fossil fuel (coal, natural gas) power plants to renewable sources like wind, solar, and water power. If flood control dams were constructed on the Chehalis River tributaries, it may be possible to add small hydroelectric generators to each of the projects. Because these hydro facilities would be incremental to the primary purpose of the dams, the power could qualify as renewable for the state of Washington. The Skookumchuck Dam already includes a small hydro unit. The development of 1 to 3 megawatts for each of the dams noted above could combine for a total capacity of 3 to 10 megawatts of capacity. Depending upon the amount of hydro available and the value relative to renewable qualification Lewis County PUD could be a funding partner in these multipurpose projects.

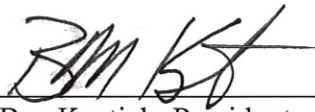
**Enhanced Fish Habitat:** One of the major issues of fish habitat on the Chehalis River is poor water quality particularly during the low flow months of August and September. The cause is low oxygen levels and high temperatures. With flood retention dams on the upper tributaries it

may be possible to retain spring flows for release during the later summer and early fall months to enhance flows to lower temperatures and improve oxygen levels.

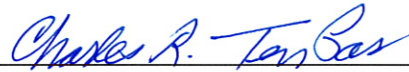
**DECISION PROCESS / PLAN DEVELOPMENT:**

This paper was prepared by Lewis County PUD to put on the table for consideration an expanded solution to reducing flooding for basin wide benefits through the concept of a multipurpose solution for Chehalis River Basin flooding. This idea is not proposed as a replacement of the current proposed solution of new and improved levies, but rather as an addition to compliment the levy improvements. Whether this multipurpose approach is feasible will depend upon all parties including local, state and federal governmental entities, public, and private interests, and property owners fully airing all the issues and identifying the costs and benefits and pros and cons. Lewis County PUD is prepared to participate in the planning and evaluation process, and ultimately funding for development should hydroelectric capability be included in the solution. Each local area, governmental jurisdiction, and interested party will need to make their own evaluation and come to their own conclusion on the merits of this idea.

If you have any questions or comments, please contact Dave Muller at (360)740-2411 or email [davem@lcpud.org](mailto:davem@lcpud.org).



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