Proposed floodplain restoration reduces flood risk and restores salmon habitat

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Tillamook County, Oregon, experiences frequent, seasonal flooding, resulting in considerable property damage. Credit: NOAA

Salmon are severely impacted by the loss of floodplain habitats throughout the West Coast. In few places is this more pronounced than in Oregon's Tillamook Bay, where nearly 90 percent of estuaries' tidal

wetlands have been lost to development—threatening the survival of federally-protected coho salmon and the safety of the local community. Now, the Federal Emergency Management Agency, NOAA Fisheries, and others have come together to reduce flood risk, increase resiliency of the ecosystem, and restore salmon habitat in Tillamook Bay by coordinating and aligning their investments.

The Southern Flow Corridor project, as the proposed collaborative effort is known, will reconnect over 500 acres of floodplain habitat to two of the Bay's most productive salmon-bearing streams—the Wilson and Trask Rivers. The corridor is currently modified with levees and dikes that constrict the natural river channels and disconnect them from their historical floodplains. As a result, the corridor is prone to frequent seasonal flooding, often with catastrophic impacts to individual landowners and Tillamook County.

The Wilson and Trask Rivers crest above flood stage annually, and often more frequently. Records show that from 1970 to 1996 the Wilson River exceeded flood stage 43 times—resulting in significant economic costs. Between 1996 and 2000 alone, Tillamook County accrued over $60 million in flood damage to homes, farmland, businesses, and infrastructure. These damages are a result of converting floodplain habitat to farmland and residential land use.

The consequences of these flood events to public safety and property are mounting, and so too are the risks to the environment. Floodplains naturally serve as a buffer from catastrophic flooding. Though their value often goes unseen, floodplains absorb millions of gallons of what would otherwise be destructive floodwater, slowly recharging the groundwater system and releasing it into nearby streams.

Floodplains also provide refuge for young salmon to forage and rear, and habitat for adult salmon to spawn. Coho salmon, in particular, rely

heavily on floodplains for rearing. They depend on cool pools and woody cover during warm summer months, and off-channel and pond habitats in winter months. Unfortunately, the loss of floodplain habitat has contributed to the decline of Tillamook Bay's coho runs and the federal protection of Oregon Coast's coho across the state. In 2012, roughly 2,000 coho returned to Tillamook Bay and the rivers that feed it, a small fraction of the 200,000 fish that once returned to the Bay.

The Southern Flow Corridor project will restore roughly 10 percent of the watershed's historical tidal acreage. To allow flood waters to flow freely across the floodplain, the preferred alternative for the project is a proposal to remove seven miles and modify three miles of levees. One mile of new set back levees would be constructed to protect remaining lower delta agricultural lands and businesses. In addition, an 85-acre easement would allow high flows to pass directly to Tillamook Bay, and flood elevations would be reduced across the entire area. When all is said and done, 526 acres of tidal wetlands would be restored, providing economic and environmental benefits.

The project, as proposed, will reduce flooding in Tillamook's Highway 101 business corridor during the 100-year flood events, as well as during more frequent floods. Reducing the frequency and intensity of these events will limit damage to local infrastructure and farmlands—translating directly into reduced economic impacts incurred from road closures and damaged property.

Fish and wildlife will benefit from the restoration, including threatened coho, Chinook, chum, and steelhead. Environmental restoration benefits are expected to provide rearing habitat for juvenile fish and passage for migrants returning upstream to spawn.

The proposed project is an outgrowth of the Oregon Solutions process, whereby federal, state, and local partners came together with community

leaders to develop sound strategies for mitigating flood events in Tillamook County. The project is still in the proposal phase and the public is encouraged to provide comments on the draft environmental impact statement through July 13, 2015. NOAA Fisheries' Restoration Center and West Coast Region will provide additional environmental review under the Endangered Species Act and the National Environmental Policy Act. In addition, NOAA Fisheries will provide technical-on-the-ground support and fund implementation of the project through the NOAA Community-based Restoration Program and Pacific Coastal Salmon Recovery Fund.

Provided by NOAA National Marine Fisheries Service