

# North Willapa Shoreline Protection Demonstration Project



## For Immediate Release

**Tokeland, March 27, 2019:** The public is invited to a community update about protective actions proposed to stem ongoing erosion along the northernmost shores of Willapa Bay. The meeting will present preferred alternatives for long-term protections recommended by a team of engineers, scientists, and community members tasked with preparing a comprehensive design and permitting solution for a region of Willapa shoreline to demonstrate how to guard the shoreline without adverse impact to the environment and within state and federal regulatory requirements.

The meeting will be hosted at the Shoalwater Bay Community Center, located at 2373 Old Tokeland Road in Tokeland, from 5:00pm through 7:30pm on Wednesday, April 17. Representatives from the engineering firms heading the demonstration team, Mott MacDonald and Coastal Harbor Engineering, will be joined by project partners from the Washington Departments of Ecology, Transportation, Parks, Fish & Wildlife, as well as the Army Corps of Engineers, Pacific County Drainage District One, Pacific Conservation District, Shoalwater Bay Tribe, and the North Cove community. “Developing a scalable erosion protection strategy given the complexities of the Willapa shoreline conditions was exceptionally challenging,” acknowledged Shane Phillips, Demonstration Project Leader from Mott MacDonald. “The collaborative engagement from our working committees and the community has succeeded in achieving recommendations which we hope will provide a template for future construction.”

### **Demonstration Project Funded by WA Legislative Community Project**

Implementation of shoreline erosion protections for the entire Willapa shoreline is complicated by the interplay of physical conditions (wave directions and intensities, tidal flow circulation, sediment transport, and coastal geology and geomorphology) and concerns over environmental impacts and construction and maintenance costs. Instead, a smaller-scale protection project for a particularly vulnerable section of eroding shoreline was funded by the Washington State Legislature in 2017 as a demonstration and feasibility project to include design and permitting of permanent protection measures that can scale to a broader solution. “By focusing on a shorter extent of shoreline, we can assess alternatives in the full context of coastal geology and hydrology conditions, as well as accommodate regulatory and ecological concerns,” asserts Vladimir Shepsis, Principal Engineer with Coastal Harbor & Engineering.

For more information about the April 17 meeting, visit the program website at <https://tinyurl.com/WillapaErosion> or contact Kelly Rupp at [wecan@leadtoresults.com](mailto:wecan@leadtoresults.com) or 503.708.1623.

## Background: **Decades of Erosion along the North Cove Shoreline**

Approximately six miles of the northwest shoreline of Willapa Bay continues to erode to such degree that even a single severe storm or tidal surge event in the immediate future might breach the remaining defenses of Washington SR105 and result in catastrophic flooding.

The tidal prism – or volume of water leaving an estuary at low tide – of Willapa Bay exceeds 10 billion cubic feet, which ranks among the largest of all inlets on the coast of the continental United States<sup>1</sup>. This means that Willapa Bay experiences exceptionally large tides compared with most other estuaries; more than 50% of the surface area and volume of the bay lies in the intertidal zone<sup>2</sup>. The strong tidal currents and energetic waves at the entrance to the Bay, known as Cape Shoalwater, act to transport millions of cubic yards of sediment in, out, and around the shoreline.

Beach erosion at Cape Shoalwater has been a chronic problem since the turn of the 20th century. The original site of North Cove was once the site of a town, U.S. Coast Guard Station and lighthouse. Severe beach erosion erased the original site during the 1960s. By 1971, shoreline erosion had forced the relocation of Washington State Route 105 (SR-105) and destroyed 3,000 acres of public and private lands including over 30 homes, businesses, a grange hall, a public schoolhouse, and a U.S. Coast Guard Station. Subsequent erosion has impacted over 500 parcels including residences and undeveloped land totaling 2018 acres. Future erosion projections suggest an additional 500 parcels totaling 547 acres will be lost by 2060<sup>3</sup>.

Coastal flooding and salt water intrusion into the Grayland cranberry bogs would deliver a catastrophic blow to the industry, potentially leading the Ocean Spray Cooperative to abandon its operations in Pacific and Grays Harbor counties. And should SR-105 be breached in a flood event, there are no alternate routes for cross-county transit or utility infrastructure, thereby compromising access to electricity for over 1300 businesses and residences., schools, the Shoalwater Bay Tribe Health Clinic (Wellness Center), and law enforcement.

---

<sup>1</sup> Jarrett, J.T., 1976. "Tidal prism - inlet area relationships". GITI report no. 3. Coastal Engineering Research Center, US Army Corps of Engineers.

<sup>2</sup> Banas et al, 2007. "Tidal exchange, bivalve grazing, and patterns of primary production in Willapa Bay, Washington, USA". Marine Ecology Progress Series, University of Washington.

<sup>3</sup> Decker, 2017. "North Cove: The Erosion of a Coastal Community." Washington Coastal Hazards Resilience Network, WA Sea Grant.



Caption:

**Grayland Drainage Outflow into Willapa Bay, including area where Dynamic Revetment Installed**

Drone Photo credit: **Washington Dept of Transportation, October 2018**



Caption:  
**North Cove erosion claims another beachfront home**

Photo credit:  
**U.S. Army Corps of Engineers, February 2019**

## Contacts:

### Program Information Website

<http://www.wacoastalnetwork.com/willapa-shoreline-erosion-protection-demonstration-project.html>

### Pacific County

#### **Kathy Spoor**

County Administrative Officer

[kspoor@co.pacific.wa.us](mailto:kspoor@co.pacific.wa.us)

### Facilitator

#### **Kelly Rupp**

LeadToResults, LLC

[kelly.rupp@leadtoresults.com](mailto:kelly.rupp@leadtoresults.com)

### Project Leader

#### **Shane Phillips**

Mott MacDonald

[shane.phillips@mottmac.com](mailto:shane.phillips@mottmac.com)

### Chair, Technical Committee

#### **Vladimir Shepsis**

Mott MacDonald

[vladimir.shepsis@mottmac.com](mailto:vladimir.shepsis@mottmac.com)

### Co-Chairs, Steering Committee

#### **Mike "Hawk" Runyon**

[mrnyon@co.pacific.wa.us](mailto:mrnyon@co.pacific.wa.us)

#### **David Cottrell**

[cranberrydavid@yahoo.com](mailto:cranberrydavid@yahoo.com)