

1953 (SW trajectory)

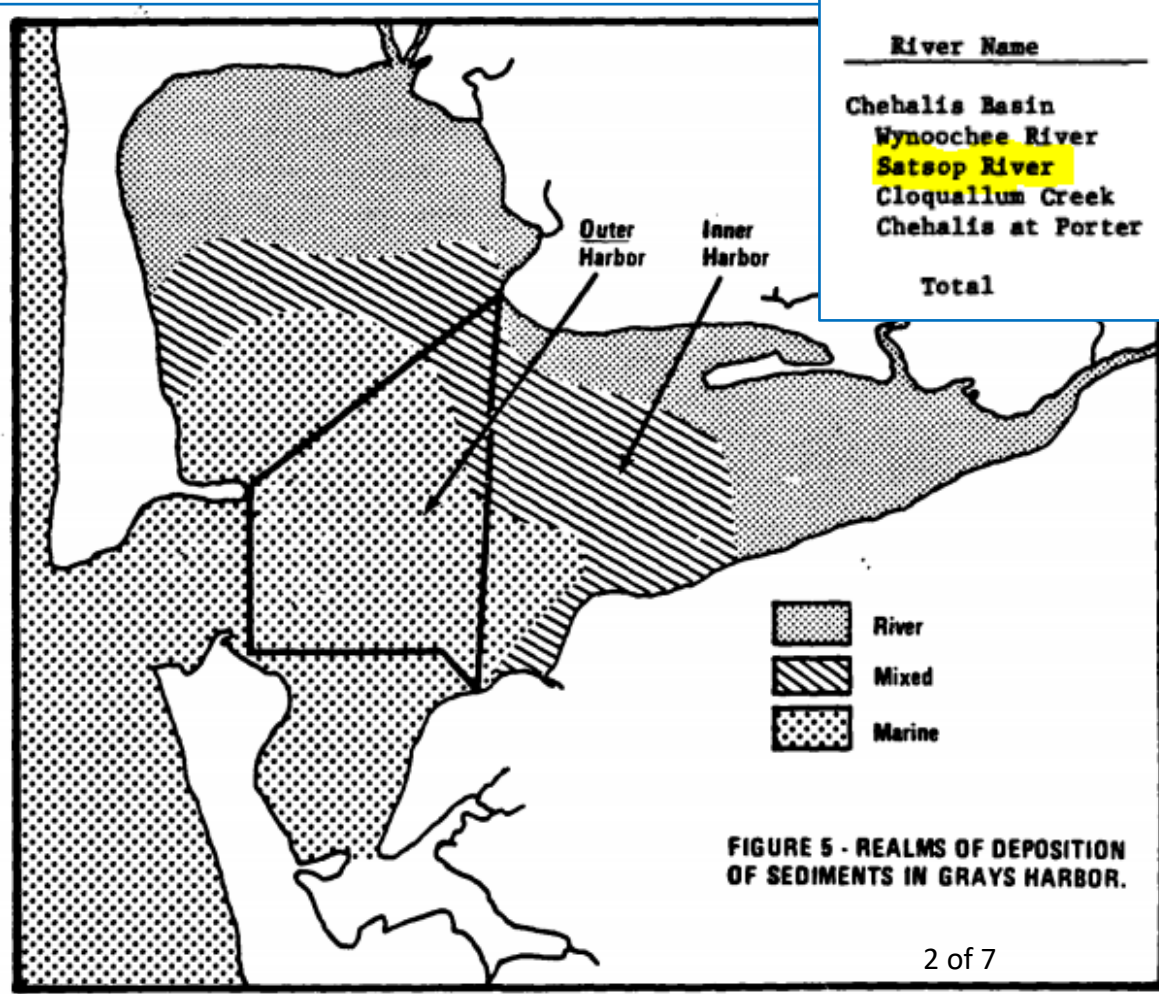


1974 Study

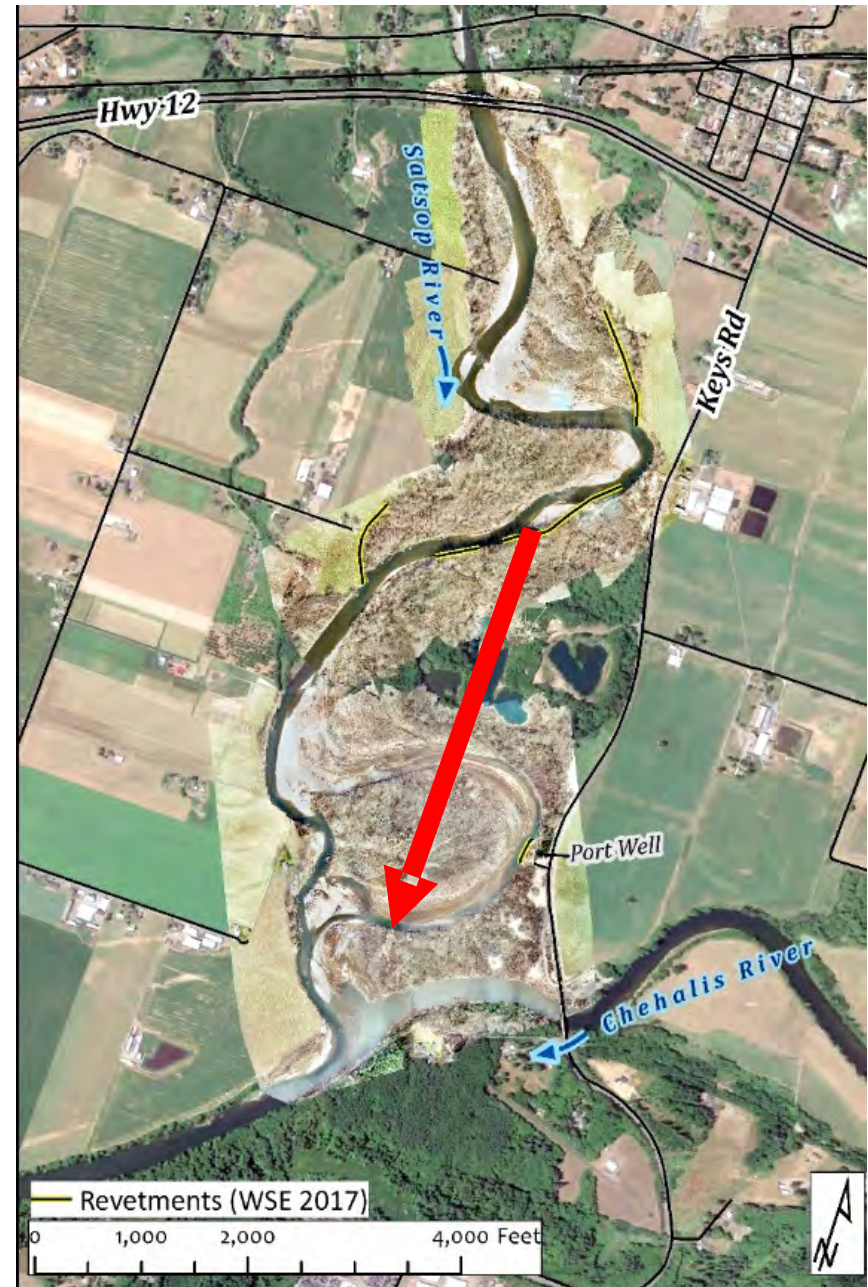
Click images to access,
pages 27 and 29

TABLE 9
AVERAGE ANNUAL SUSPENDED AND BEDLOAD SEDIMENT LEVELS
FROM RIVERS IN THE CHEHALIS BASIN
(NORMAN ASSOCIATES, 1974)

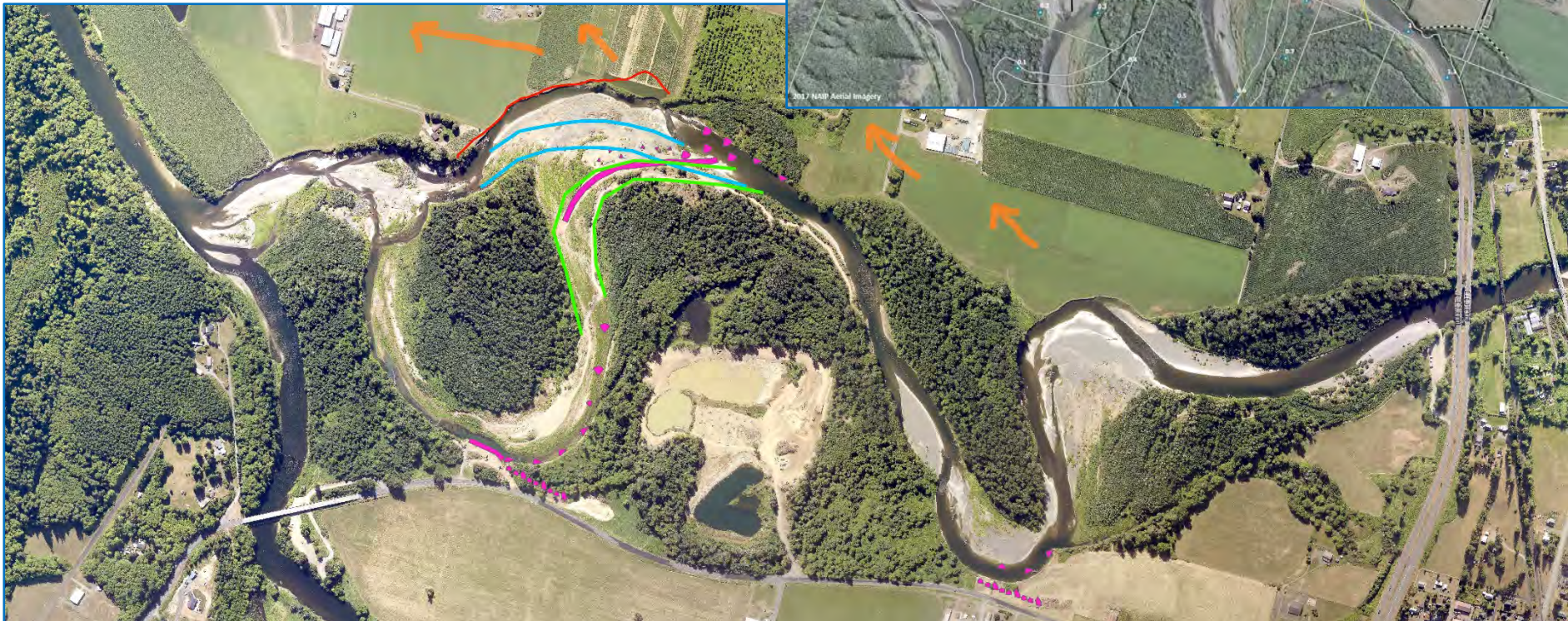
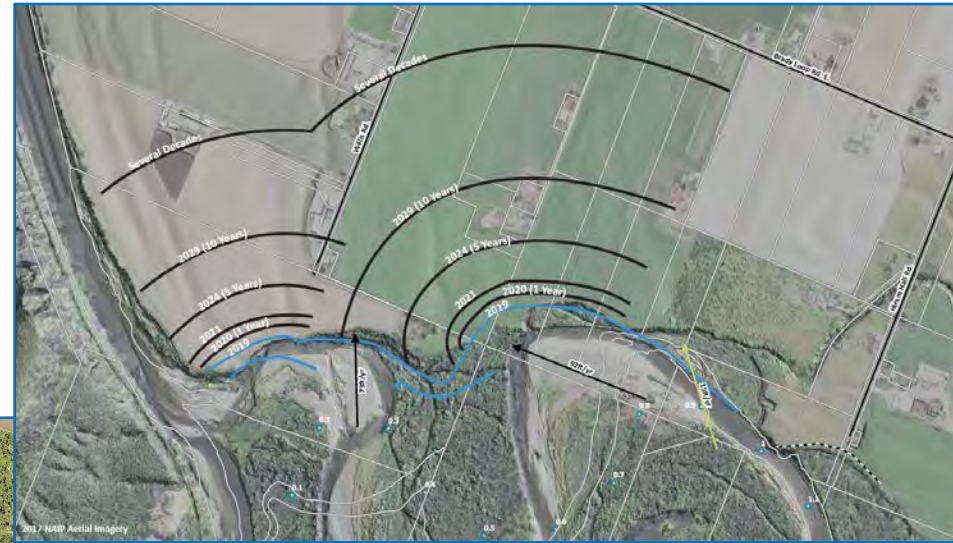
| <u>River Name</u> | <u>Suspended Load (tons/year)</u> | <u>Bedload (tons/year)</u> |
|--------------------|---------------------------------------|--------------------------------|
| Chehalis Basin | | |
| Wynoochee River | 294,000 | 135,000 |
| Satsop River | 420,000 | 195,000 |
| Cloquallum Creek | 21,000 | 7,500 |
| Chehalis at Porter | <u>224,000</u> | <u>105,000</u> |
| Total | 959,000 | 442,500 |



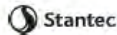
2019 (SE trajectory)



2021 (heightened erosion, sedimentation)



2021 (Twin Harbors Study)



Twin Harbors Sediment Dynamics - Final Report

Twin Harbors Sediment Dynamics - Final Report

January 29, 2021

Prepared for:
Grays Harbor Conservation District

Prepared by:
Stantec Consulting Services and
National Fisheries Conservation Center



TWIN HARBORS SEDIMENT DYNAMICS – FINAL REPORT

Data Analysis and Observations

Sediment from the Columbia River enters Grays Harbor and Willapa Bay as a marine source from the beaches and nearshore zone adjacent to the bay entrance. Sediment with distinctive heavy mineral components are found within Grays Harbor and Willapa, which originates from the respective inland watersheds as fluvial discharge (Scheidegger and Komar 1984). The depositional pattern in both Grays Harbor and Willapa Bay is dynamic, associated with seasonal variations in estuarine hydrography. Sand and gravel from local rivers are transported down the estuary with high fluvial discharge during winter months, while beach and nearshore sand is transported into the estuary by flood-tidal currents during summer months. Figure 24 and Figure 25, respectively, show the sediment distribution within Grays Harbor and Willapa Bay. Despite the seasonal migration of different sediment materials, sandy sediments from the Pacific Ocean dominate the outer bay while mud-rich deposits (greater than 50 percent silt and clay) dominate the inner bay and upper estuary.



Source: Scheidegger and Phipps 1970

Figure 24: Provinces of Sand Deposition in Grays Harbor



2021 (3-year, \$4.2M Dredging)



DALLAS EDWARDS | CORPS OF ENGINEERS Maintenance dredging of the inner harbor at Grays Harbor will begin Jan. 4. About 1.8 million cubic yards of material will be removed from the federal navigation channel over the course of roughly three years.

Corps of Engineers to start Grays Harbor maintenance dredging Jan. 4

Wed Dec 30th, 2020 4:15pm · **NEWS**

Member Request Idea

Provide updated analysis (more current than 1974) of sediment contributions to Chehalis river from lower basin tributaries (current and projected).

| Mitigating Chehalis River Sediment Contributions To Grays Harbor Estuary | | | | |
|--|---|---|--|------------|
| | Understand Sediment Dynamics and Contribution to Chehalis River | Identify and Develop Sediment Management Mitigation Solutions with Community Engagement | Design and Permit Preferred Mitigation Solutions | |
| Wishkah | \$75,000 | \$25,000 | | |
| Wynoochee | \$75,000 | \$25,000 | | |
| Satsop | \$75,000 | \$25,000 | \$50,000 | |
| | \$225,000 | \$75,000 | \$50,000 | \$ 350,000 |



2019



2021