

A photograph of a flooded rural landscape. In the foreground, a grassy field is partially submerged. In the middle ground, a large barn with a red roof and a tall white silo are visible, surrounded by trees. The background shows a dense forest of bare trees under a hazy sky. The image is overlaid with a green header bar at the top and a blue footer bar at the bottom.

Flood Authority 2021-23 Local Project Submittals

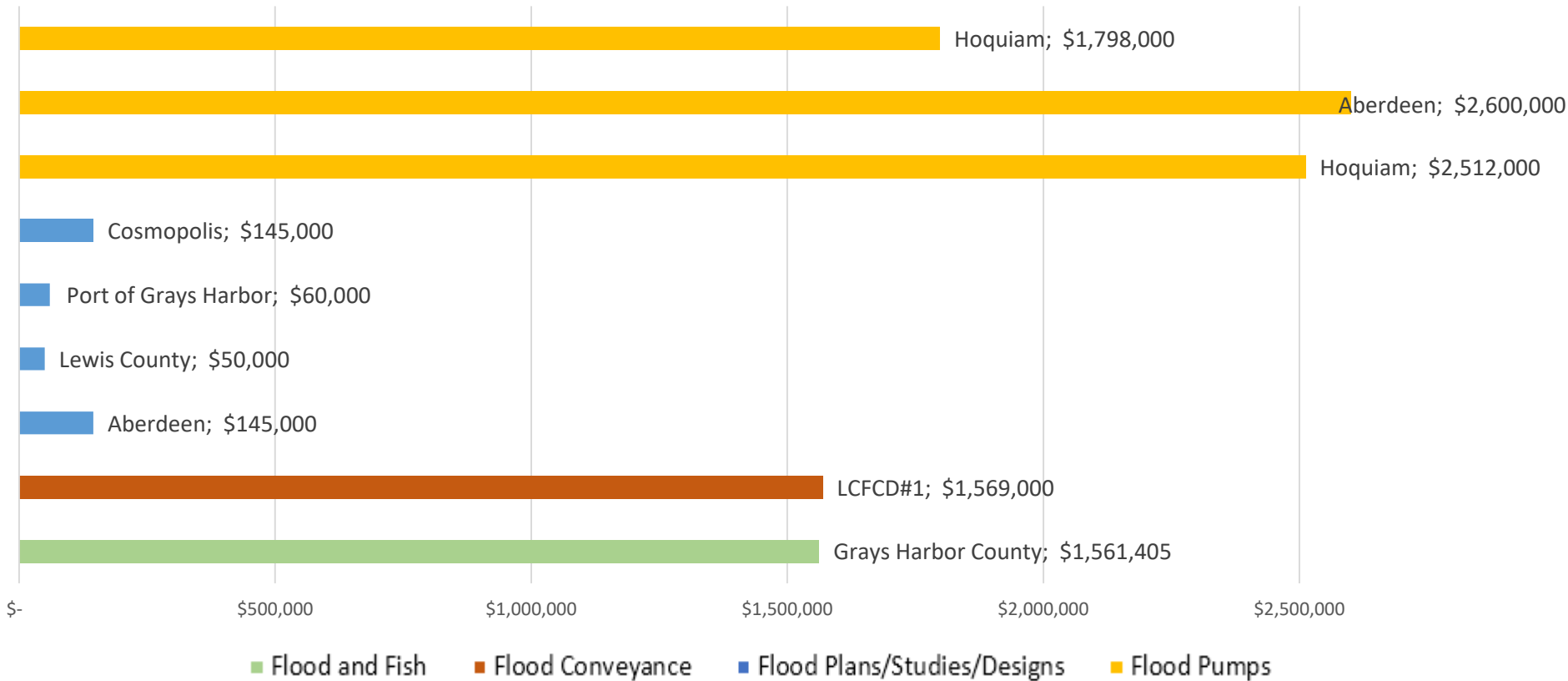
1-20-2021

Updated Costs 3-17-2021

Scott Boettcher, Staff
Chehalis River Basin Flood Authority

Originally - November 2020 - \$10.4M

Total request = \$10,440,405



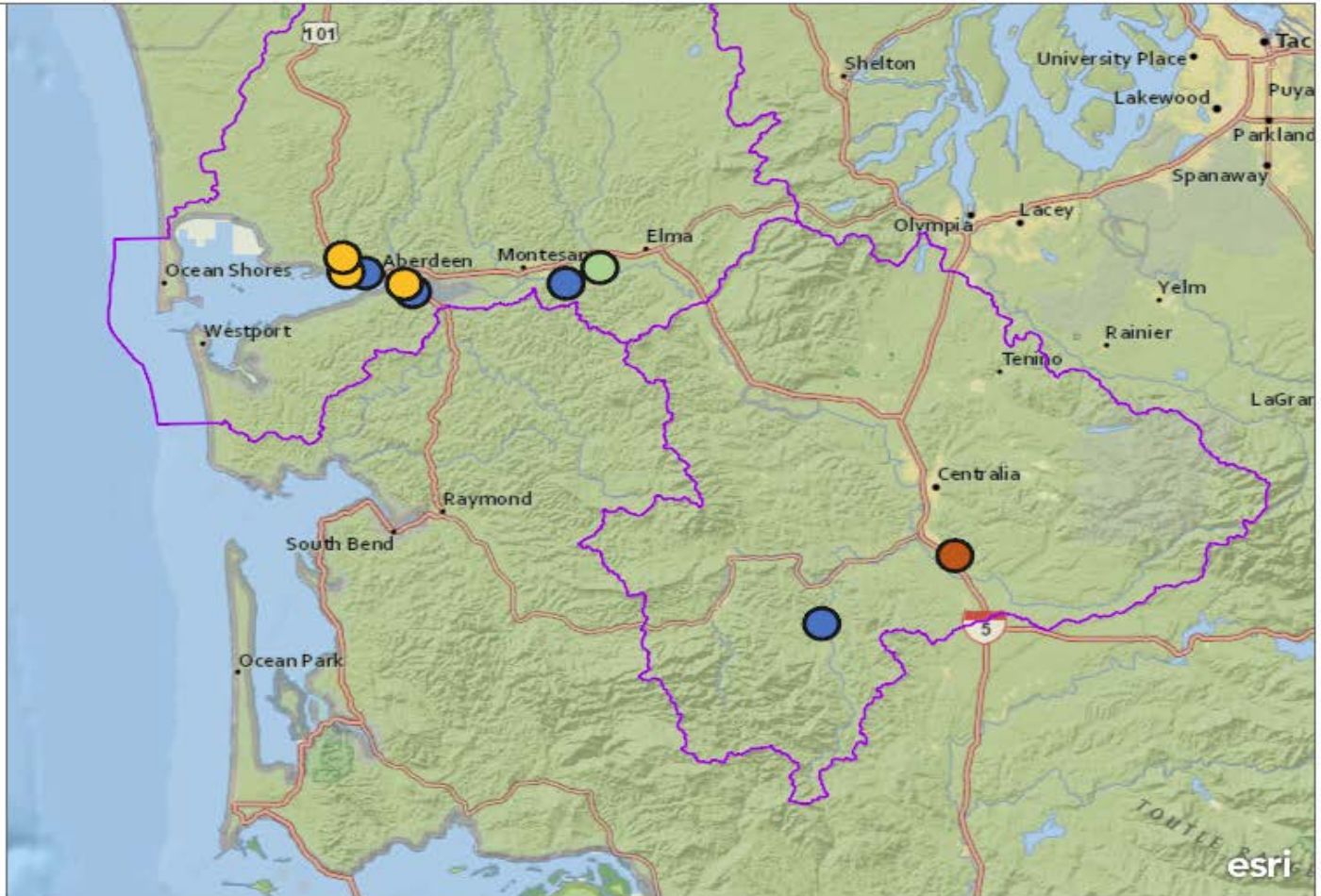
To Do: 1. Refine costs 2. Refine scopes of work 3. Chehalis Basin priorities
4. Future local project needs 5. Recommendation

Originally - November 2020 - \$10.4M

All 2021-23 Local Project Proposals 11-03-2020

-  Flood Plans/Studies/Designs
-  Flood Pumps
-  Flood Conveyance
-  Flood and Fish

View interactive map
<https://arcg.is/OrDTjr>

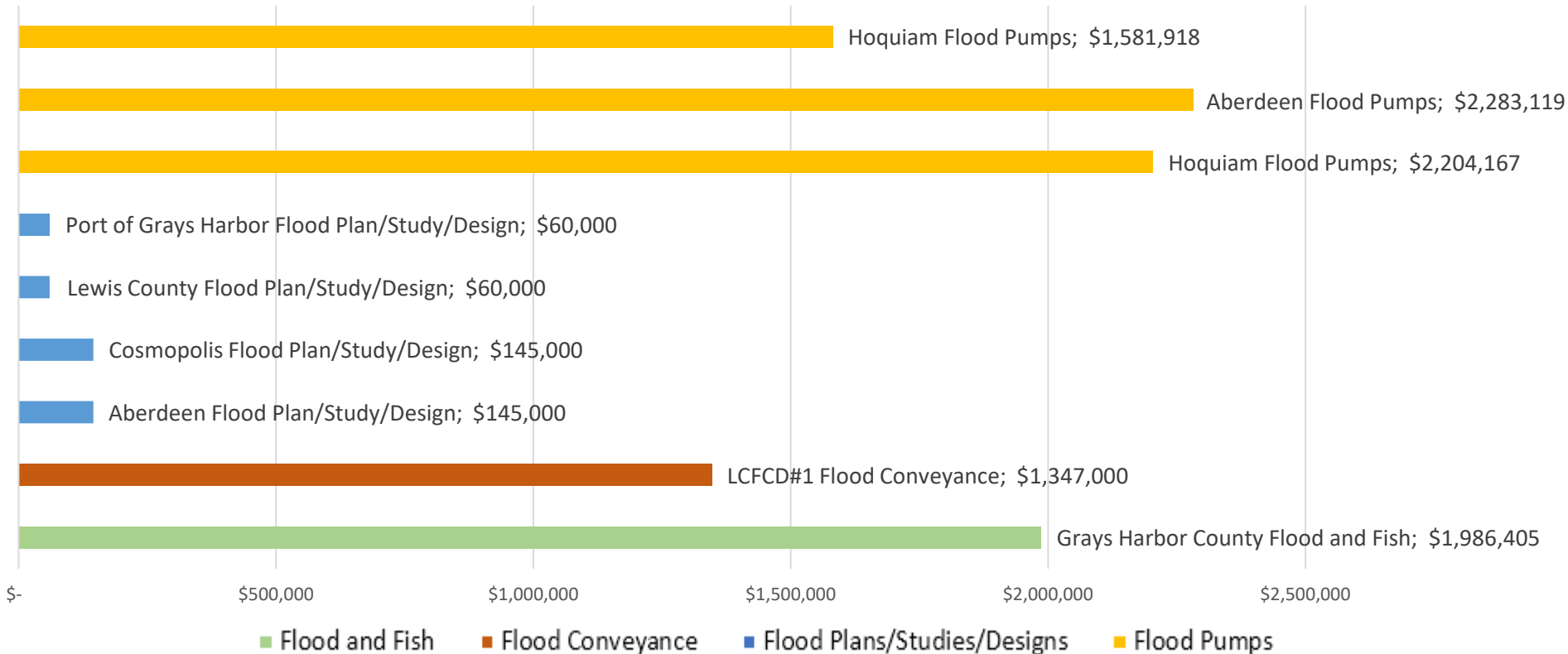


- To Do:**
1. Refine costs
 2. Refine scopes of work
 3. Chehalis Basin priorities
 4. Future local project needs
 5. Recommendation

1. Refine Costs (March 2021)

Costs have been **reduced by 6%** or \$627,796 (originally \$10,440,405).

All Projects (March 2021)
(total request = \$9,812,609)



2. Refine Scopes (March 2021)

Scopes have been refined (to ensure do-ability, implementability, and results):

- ✓ **Lewis County Boistfort Study** -- Restructured study to use Ecology's methodology for conducting planning-level channel migration zone analyses ([here](#)) for South Fork Chehalis River.
- ✓ **Aberdeen & Hoquiam Pumps** -- Restructured cost contingencies and assumptions.
- ✓ **Aberdeen Pump** and **Cosmopolis Study** – Verified beneficial synergy (opportunity) of pairing these two projects (Mill Creek is common to both).
- ✓ **LCFCD#1 Flood Conveyance Project** --
 - Reduced sub-projects from 5 to 3.
 - Incorporated downstream hydraulic analysis.
 - Upped flood conveyance expectations to address future precipitation increases.

3. Chehalis Basin Priorities (March 2021)

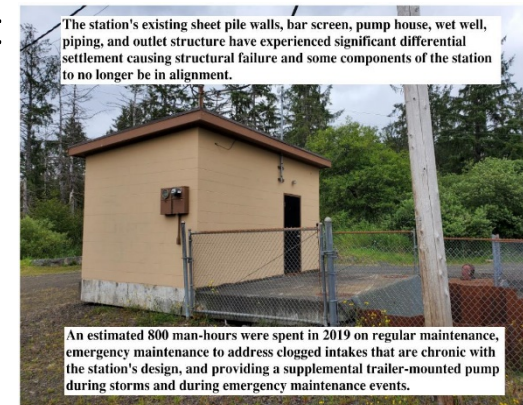
| Priority Outcomes (CBB memo here) | Particularly Relevant Projects (2021-23) |
|---|--|
| 1. Valuable structures protected. | <ul style="list-style-type: none"> • Aberdeen & Hoquiam Pumps • LCFCF#1 Flood Conveyance |
| 2. Homes & businesses protected. | <ul style="list-style-type: none"> • Aberdeen & Hoquiam Pumps • LCFCF#1 Flood Conveyance |
| 3. Lower basin properties & businesses protected from coastal storm surges. | <ul style="list-style-type: none"> • Aberdeen & Hoquiam Pumps |
| 4. Farmland and rural structures protected. | <ul style="list-style-type: none"> • Grays Harbor County Lower Satsop Phase II Construction |
| 5. Critical facilities protected. | <ul style="list-style-type: none"> • Aberdeen & Hoquiam Pumps • LCFCF#1 Flood Conveyance • Grays Harbor County Lower Satsop Phase II Construction |
| 6. Transportation routes protected. | <ul style="list-style-type: none"> • Aberdeen & Hoquiam Pumps • LCFCF#1 Flood Conveyance • Grays Harbor County Lower Satsop Phase II Construction |
| 7. Environmental justice advanced. | <ul style="list-style-type: none"> • Aberdeen & Hoquiam Pumps |
| 8. Prevent new at-risk development. | |

4. Future Local Project Needs (March 2021)

2021-23 Plan/Study/Design Projects -- Will generate future projects.

- Aberdeen Fry Creek
- Cosmopolis Mill Creek
- Lewis County Boistfort (South Fork Chehalis River)
- Port of Grays Harbor Chehalis River Erosion

Aberdeen & Hoquiam Pump Projects – Explore development of regional floodwater management, maintenance, capitalization approach (pumps and levees) for Cosmopolis, Aberdeen, Hoquiam, and Grays Harbor County.



LCFCD#1 Flood Conveyance Project – Explore development of regional floodwater management, maintenance, capitalization approach (detention) for greater Chehalis Industrial Park involving Port of Chehalis, LCFCD#1, WSDOT, Lewis County, and City of Chehalis.

5. Recommendation (March 2021)

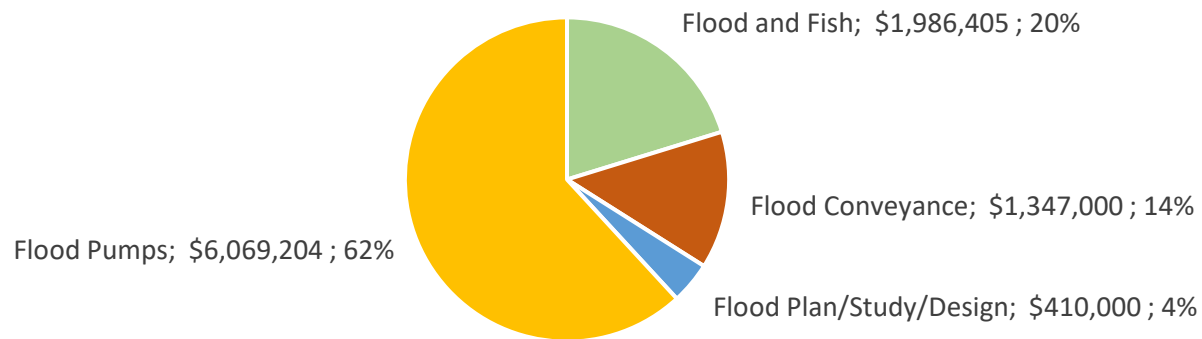
Either:

- A. Fund all 9 projects at **\$9,812,609** (2021-23); Address future projects at future date (2023-25). OR
- B. Fund all 9 projects at **\$9,812,609** (2021-23); Supplement request with cost to evaluate implementation of regional floodwater management, maintenance, capitalization approaches; Address remaining future projects at future date (2023-25).

| | | |
|----------------------|---|--------------------|
| Lewis County | Boistfort (South Fork Chehalis) CMZ | \$60,000 |
| Port of Grays Harbor | Chehalis River Erosion (Satsop Business Park) | \$60,000 |
| Aberdeen | Fry Creek Phase IIIa Pre- Design Planning & Alternatives Analysis | \$145,000 |
| Cosmopolis | Mill Creek Phase II Multi -Objective Implementation Plan (Channels, Culverts) | \$145,000 |
| LCFCD#1 | Chehalis Industrial Park Flood Conveyance | \$1,347,000 |
| Grays Harbor County | Lower Satsop Restoration & Protection Program (Phase II) | \$1,986,405 |
| Hoquiam | Queen Ave Pump Station | \$1,581,918 |
| Hoquiam | 10th Street Pump Station | \$2,204,167 |
| Aberdeen | Farragut Street Pump Station Rebuild | \$2,283,119 |
| | | \$9,812,609 |

5. Recommendation (March 2021)

- ✓ **All projects** have been reviewed, vetted, and restructured (where necessary).
 - Doable and protective of people, property.
 - On par with previous biennial funding levels (i.e., \$9.9M average since 2012).
 - Appropriate for unique flood conditions each Basin community faces.
 - Construction projects can be completed, on-the-ground, and operational in 2021-23. [**Note:** If done, these 9 projects would bring total completed projects since 2012 to 62 (34 construction projects, and 28 plan/study/design projects).]
- ✓ **All projects** can use surplus 2019-21 funds to “jump start” and reduce 21-23 need.



Pump Projects

Total request = \$6,069,204



Hoquiam -- 10th Street Pump Station \$2,204,167

Aberdeen -- Farragut Street Pump Station \$2,283,119

Hoquiam -- Queen Ave Pump Station \$1,581,918

Project: Replaces 1960s era pump station.

Benefit:

- ✓ Significant pump station for SE Hoquiam (\$38,101,152 assessed value).
- ✓ Implements 2000 City Surface Water Plan and 2016 Timberworks Plan.
- ✓ Immediate benefit without NSL West Seg.
- ✓ At end of useful, maintenance-efficient life.

Doable: Yes (design, permit, construct).

Initial Ranking: 4



Project: Replaces 1980 pump station.

Benefit:

- ✓ Significant pump station that protects 400 South Aberdeen properties (\$37M).
- ✓ Coordinated with Cosmopolis 2021-23 Mill Creek Multi-Objective Plan to optimize discharge to lower Mill Creek basin.
- ✓ At end of useful, maintenance-efficient life.

Doable: Yes (design, permit, construct).

Initial Ranking: 5



Project: Replaces 1962 pump station.

Benefit:

- ✓ Significant pump station for SE Hoquiam (\$27,435,496 assessed value).
- ✓ Implements 2000 City Surface Water Plan and 2016 Timberworks Plan.
- ✓ Immediate benefit without NSL West Seg.
- ✓ At end of useful, maintenance-efficient life.

Doable: Yes (design, permit, construct).

Initial Ranking: 6



1. "Stormwater utility revenues do not (and will not) have the capacity for pump capital improvements." (Kris Koski)
2. "Reducing flood risk and lowering flood insurance is single most important effort for community, economic development." (Brian Shay)

Plan, Study, Design Projects

Total request = \$410,000

**Aberdeen – Fry Creek
Restoration & Flood Reduction
Phase IIIa Plan
\$145,000**

Project: Plan to identify a preferred conceptual design for flood reduction within Sumner and Simpson Avenue corridor.

Benefit:

- ✓ Build on previous phases (I and II) and implement 2016 Timberworks Plan.
- ✓ Daylight Fry Creek (now underground, constricted, flood prone, and not fish-friendly).

Doable: Yes

Initial

Ranking: 2



**Cosmopolis – Mill Creek Multi -
Objective Implementation Plan
\$145,000**

Project: Plan to prioritize 4,500 feet of culvert improvements.

Benefit:

- ✓ Begins Phase II of Mill Creek Multi -Objective Plan. (Phase I was Mill Creek Dam, fish passage project.)
- ✓ Partner project with WDFW (fish passage) and Aberdeen (pump station project) to protect 250 homes (800 residents).

Doable: Yes

Initial

Ranking: 3



**Lewis County – Lower Boistfort
Valley Infrastructure
Vulnerability Assessment
\$60,000**

Project: Study to assess, prioritize infrastructure vulnerability.

Benefit:

- ✓ Reach-scale migration zone analysis (6-7 miles from South Fork Chehalis River at HWY 6 to Lost Valley Rd).
- ✓ Prioritized actions/plans to protect road, utilities, well, emergency access in this significant rural area.

Doable: Yes

Initial

Ranking: 8



**Port of Grays Harbor – Satsop
Business Park Chehalis River
Bank Stabilization Study
\$60,000**

Project: Study to identify preferred protection approach for Port's jeopardized haul road.

Benefit:

- ✓ Road is essential maintenance access to industrial water well.
- ✓ Opportunity for fish-friendly, maintenance-friendly solution.

Doable: Yes

Initial

Ranking: 9



Flood Conveyance Project

Total request = \$1,127,000

Lewis County Flood Control District #1 – Greater Chehalis Industrial Park Flood Conveyance/Flood Evacuation Project \$1,347,000 (Phase I)

Project: (Phase I) Improve conveyance, evacuation of immediate Chehalis Industrial Park flood waters to Dillenbaugh Creek by way of Dilly Twig Creek.

Benefit:

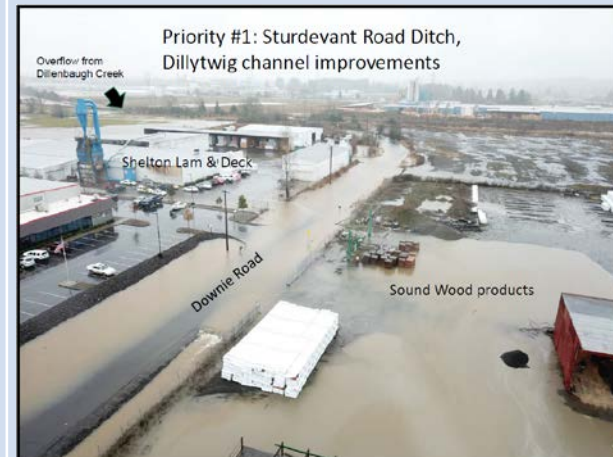
- ✓ Reduce flood impacts and down time costs to Industrial Park businesses.
 - 12/19-21/2019 flood event = \$1,150,000 impact/loss to Cascade Hardwoods, Sound Wood Products, Shelton Structures, Lewis County.
- ✓ Improve emergency response by reducing road and parking lot closures and flooding of local residences.

Doable: Yes**

Initial Ranking: 7

****Note:** Project scope has been modified since initial review and ranking to:

1. address immediate priority flood impact needs through a Phase I project (2021-23); and
2. assess larger drainage system with County, City, and other partners and set/sequence future investment priorities through a separate Phase II project.



Flood and Fish Project

Total request = \$1,986,405

Grays Harbor County -- Lower Satsop Restoration & Protection Program,
Phase II (Habitat Connectivity and Reach-Scale Aquatic, Riparian and Floodplain Restoration)
\$1,986,405

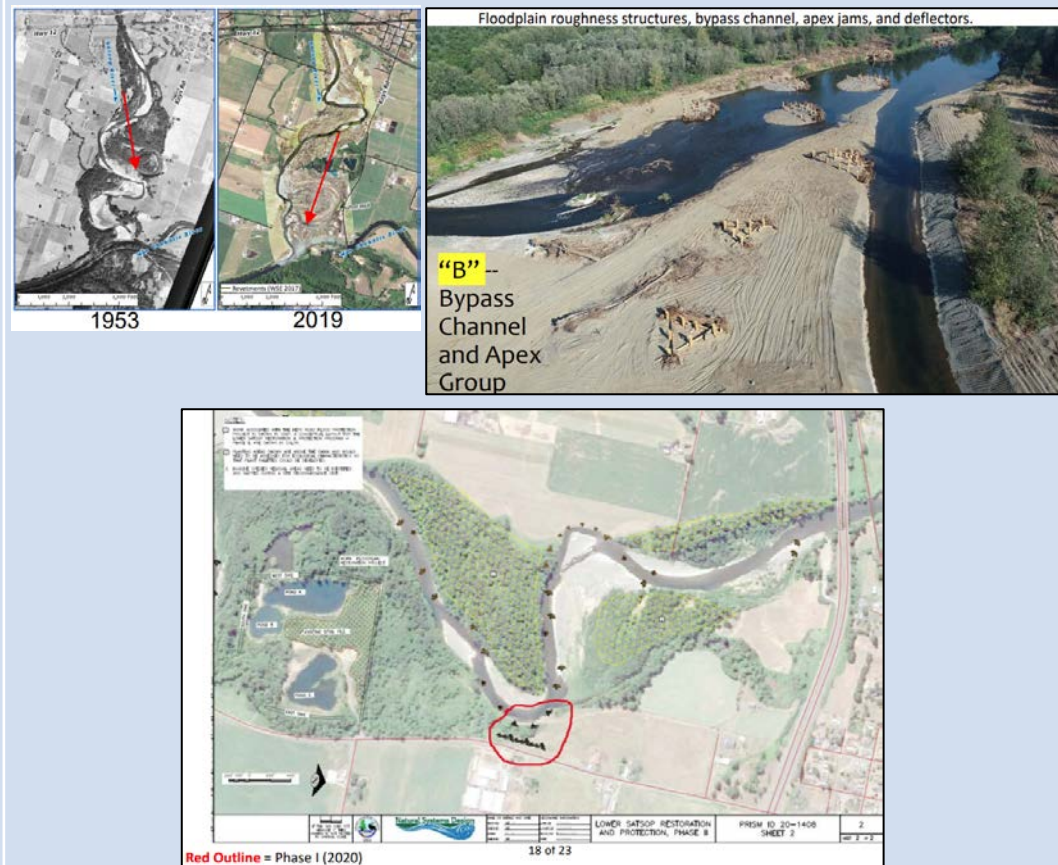
Project: Construct Phase II [Lower Satsop Restoration and Protection Program](#) to protect farmland, essential infrastructure and restore river/floodplain functions, habitat.

Benefit:

- ✓ Phase II (construction Summer 2022) -- flood relief through further river stabilization, erosion reduction, habitat restoration/enhancement.
 - ~35 in-channel structures.
 - ~130 acres riparian planting.
 - ~10 acres invasive species control.
- ✓ Phase I (completed Summer 2020) -- flood relief through river stabilization, erosion reduction, and reestablishing river access to its floodplain (construction areas - A, B, C).
 - 42 in-channel structures.
 - Rock revetment removal.
 - Post-construction Drone footage ([here](#) and [here](#))

Doable: Yes

Initial Ranking: 1



Questions / Discussion / Direction

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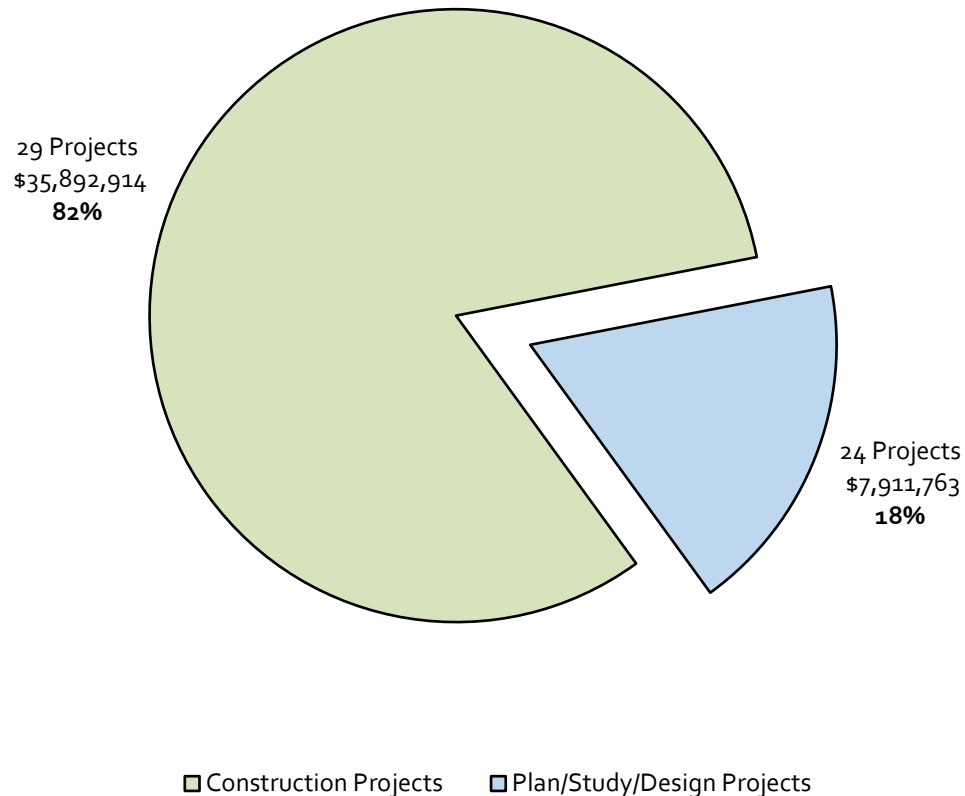


Background/Additional

Background and
Additional Information
(if needed)

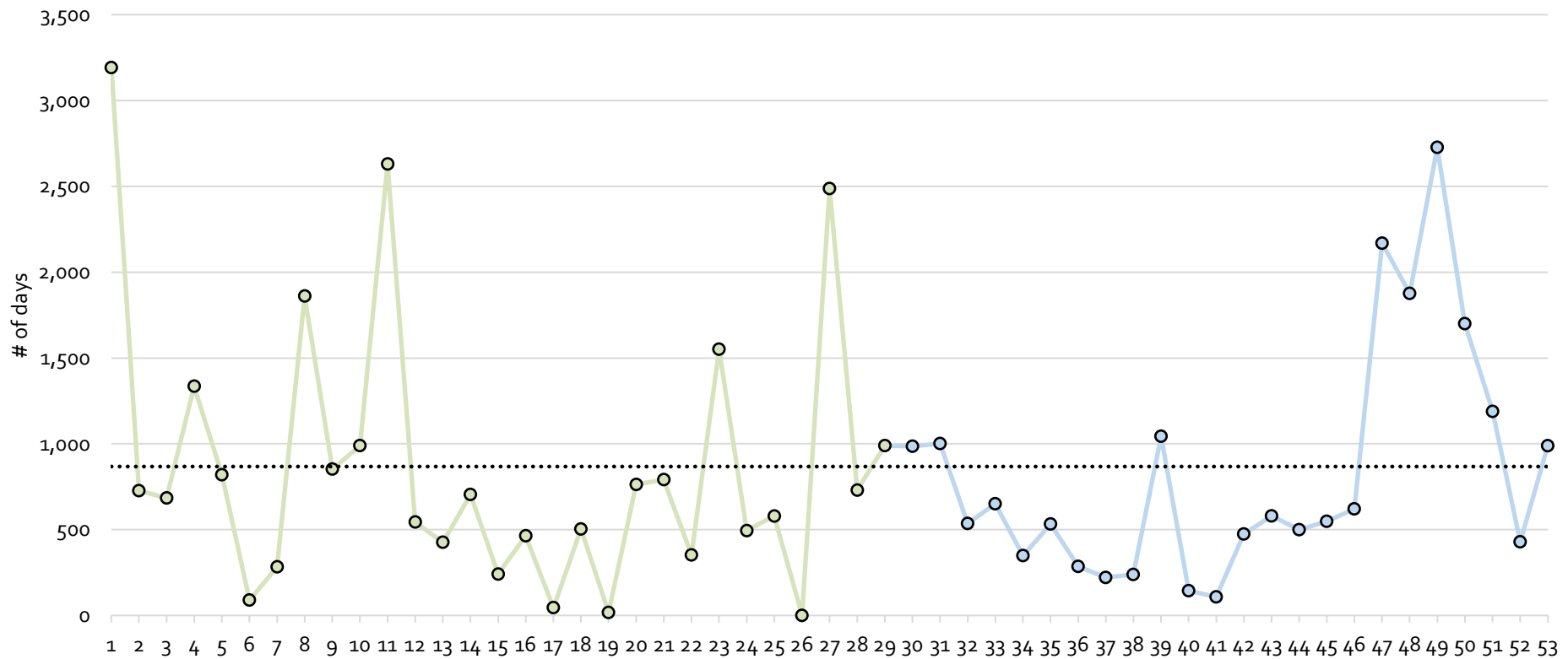
Background/Additional

Local Projects Completed
2012-21 / \$43,804,677 (all)



Background/Additional

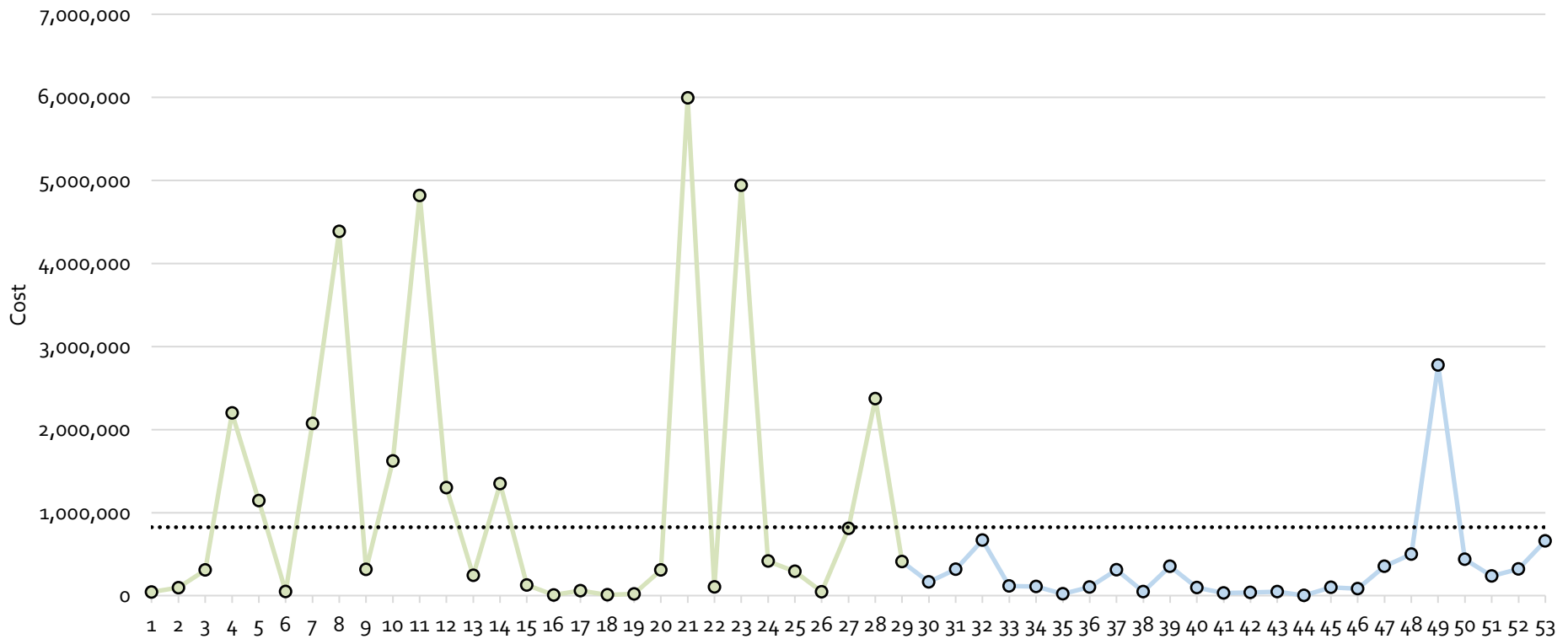
Local Projects Completed
2012-21 / 867 days (average)



Timeframe = 867 days (average)

Background/Additional

Local Projects Completed
2012-21 / \$826,503 (average)



Cost = \$826,503 (average)