

A photograph of a flooded rural landscape. In the foreground, a body of water reflects the sky. In the middle ground, a barn with a red roof and a tall white silo are partially submerged. The background is a dense forest of bare trees. The image is overlaid with a green header bar at the top and a blue footer bar at the bottom.

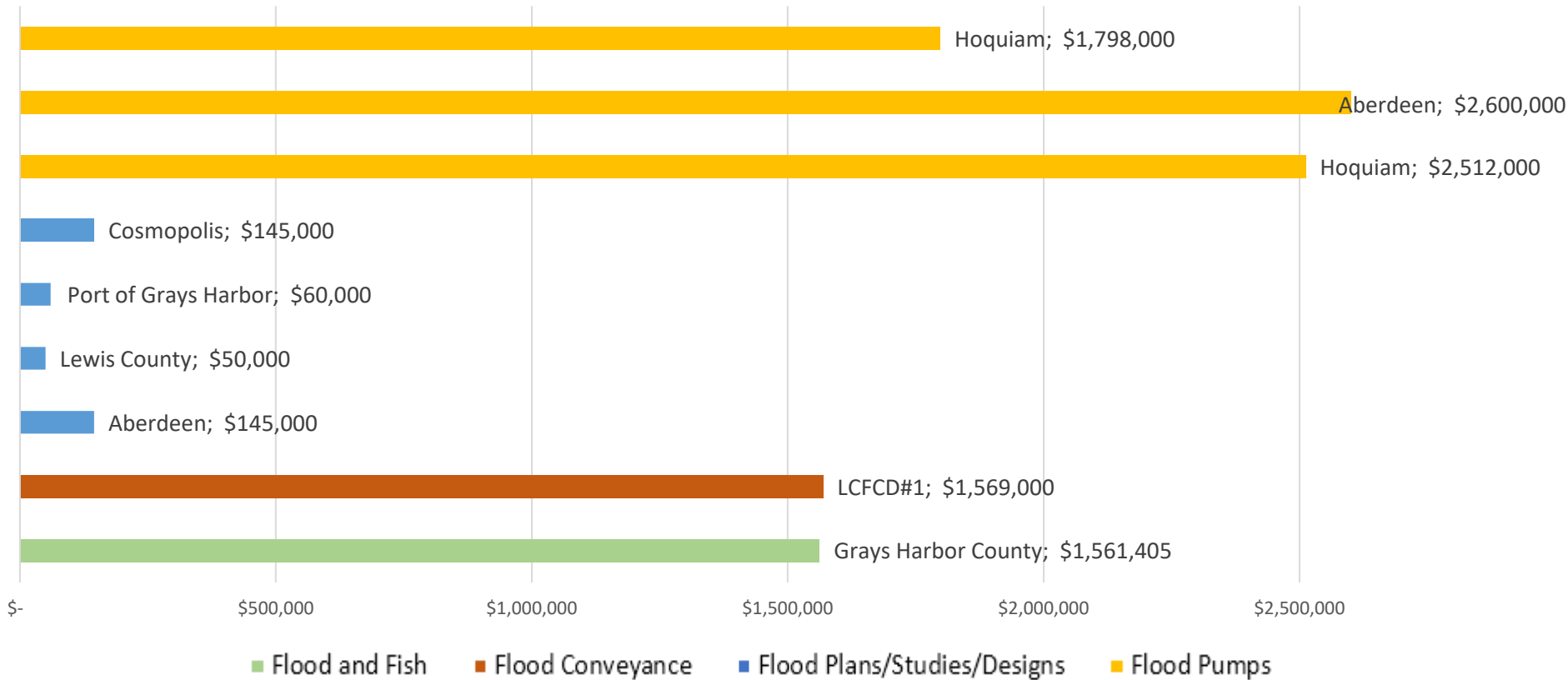
# Flood Authority 2021-23 Local Project Submittals Discussion/Direction

12-03-2020

Scott Boettcher, Staff  
Chehalis River Basin Flood Authority

# Recap (11-05-2020)

Total request = \$10,440,405



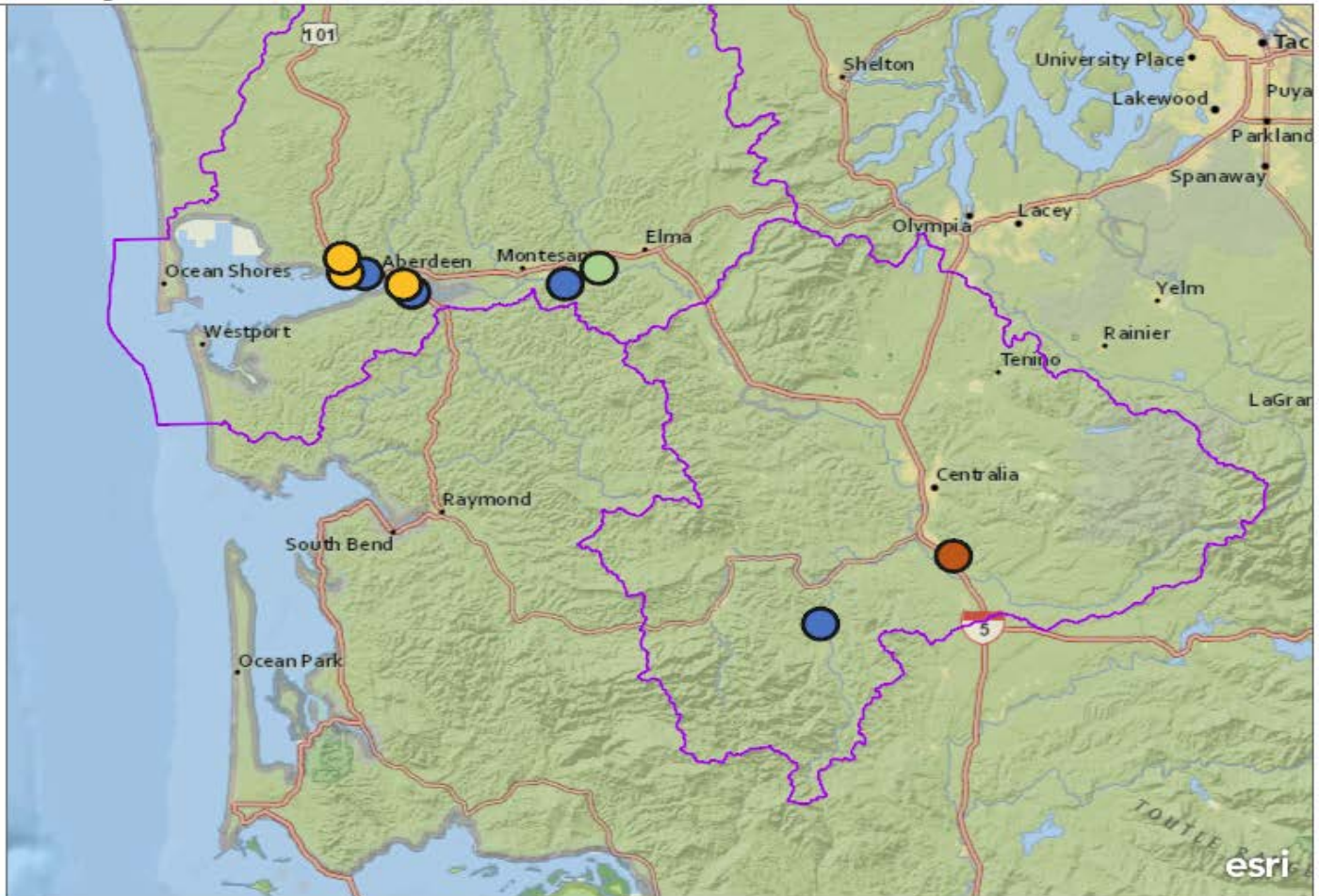
**To Do:** 1. Refine costs    2. Refine scopes of work    3. Chehalis Basin priorities  
4. Future local project needs    5. Recommendation

# Recap (11-05-2020)

## 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>



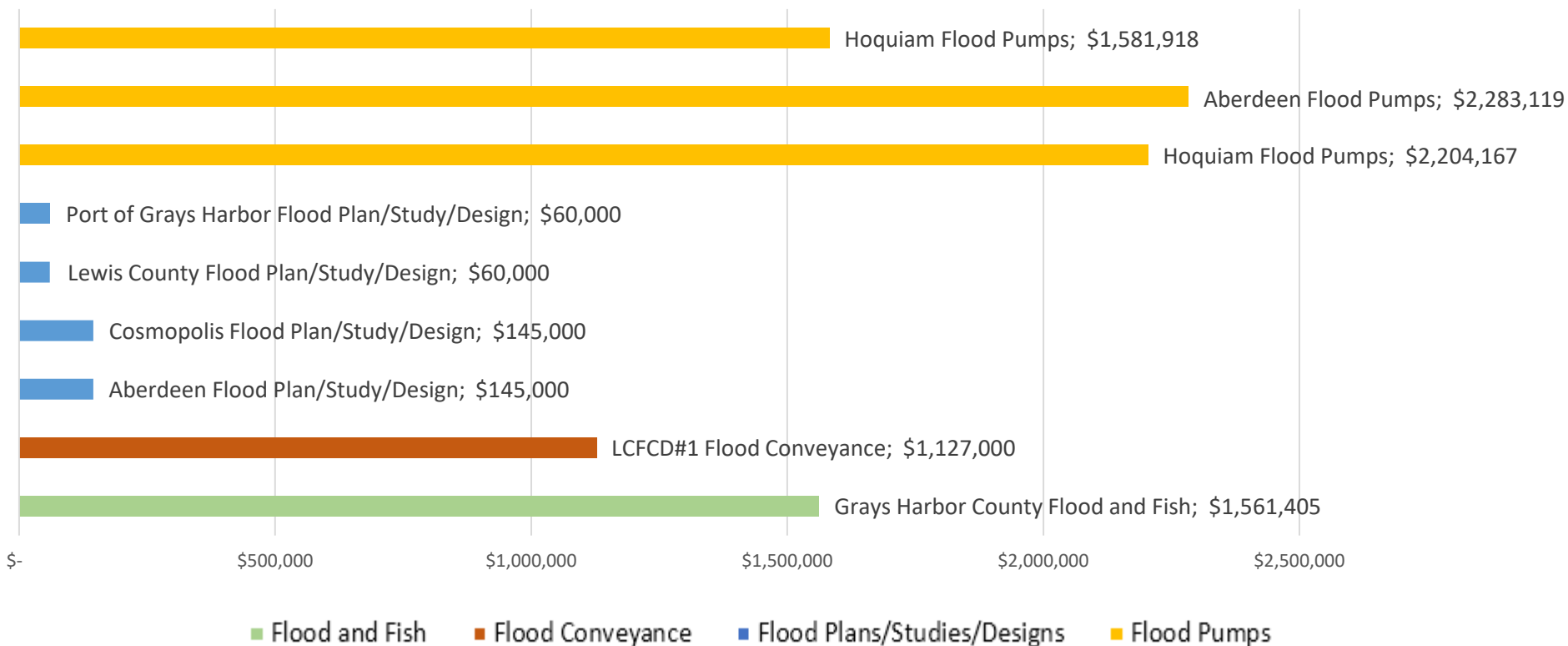
**To Do:** 1. Refine costs    2. Refine scopes of work    3. Chehalis Basin priorities  
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# 1. Refine Costs

Costs have been **reduced by 12%** or \$1,272,796 (originally \$10,440,405).

All Projects  
(total request = \$9,167,609)



## 2. Refine Scopes

Scopes have been refined (to ensure do-ability, implementability, 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

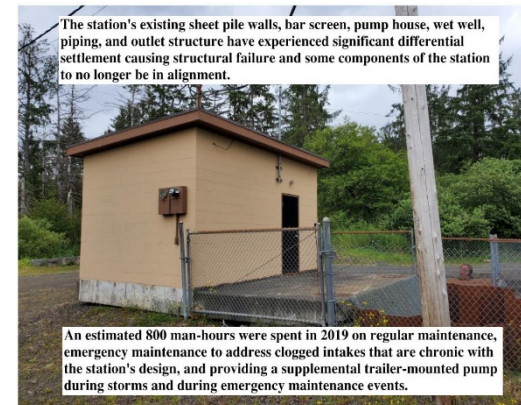
Priority Outcomes (CBB memo <a href="#">here</a> )	Particularlry Relevant Projects (2021-23)
1. Valuable structures protected.	<ul style="list-style-type: none"> <li>• Aberdeen &amp; Hoquiam Pumps</li> <li>• LCFCD#1 Flood Conveyance</li> </ul>
2. Homes & businesses protected.	<ul style="list-style-type: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

# 4. Future Local Project Needs

**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

Flood Authority recommends (either):

- A. Fund all 9 projects at **\$9,167,609** (2021-23); Address future projects at future date (2023-25).
- B. Fund all 9 projects at **\$9,167,609** (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	\$1,127,000
Grays Harbor County	Lower Satsop Restoration & Protection Program (Phase II)	\$1,561,405
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
		<b>\$9,167,609</b>



# 5. Recommendation

Flood Authority also makes note that:

- ✓ **All projects** have been reviewed, vetted, and restructured (where necessary).
  - Doable and protective of people and 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 utilize any surplus funds (2019-21) to “jump start” and reduce 2021-23 request.

# Questions / Discussion / Direction

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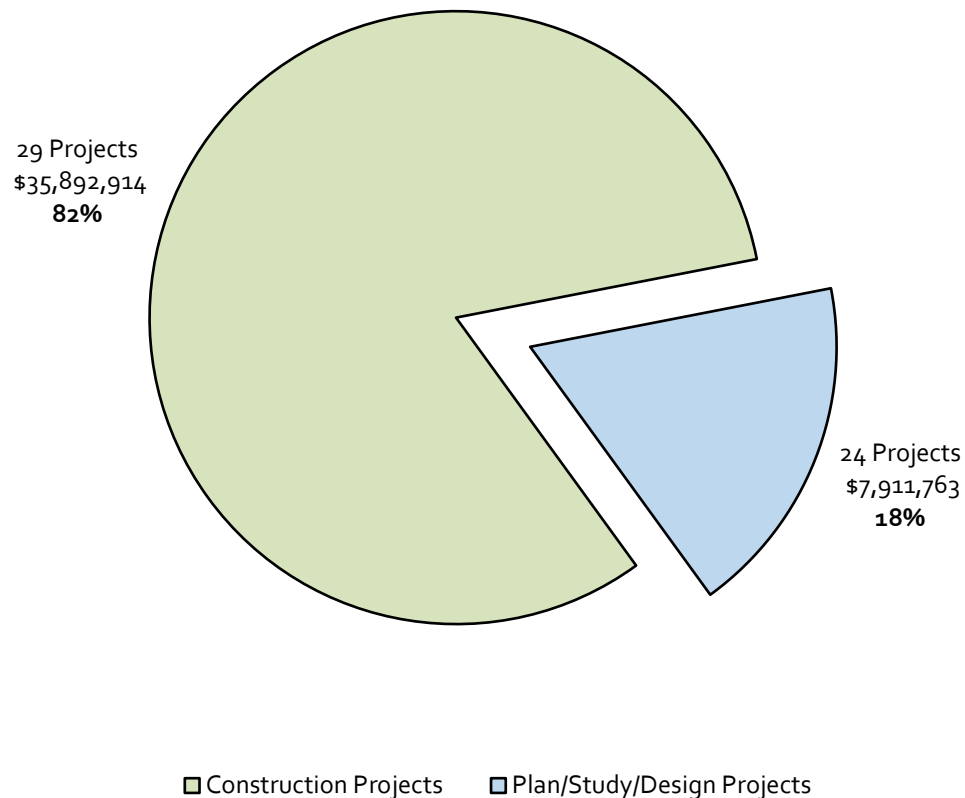


# Background/Additional

Background and  
Additional Information  
(if needed)

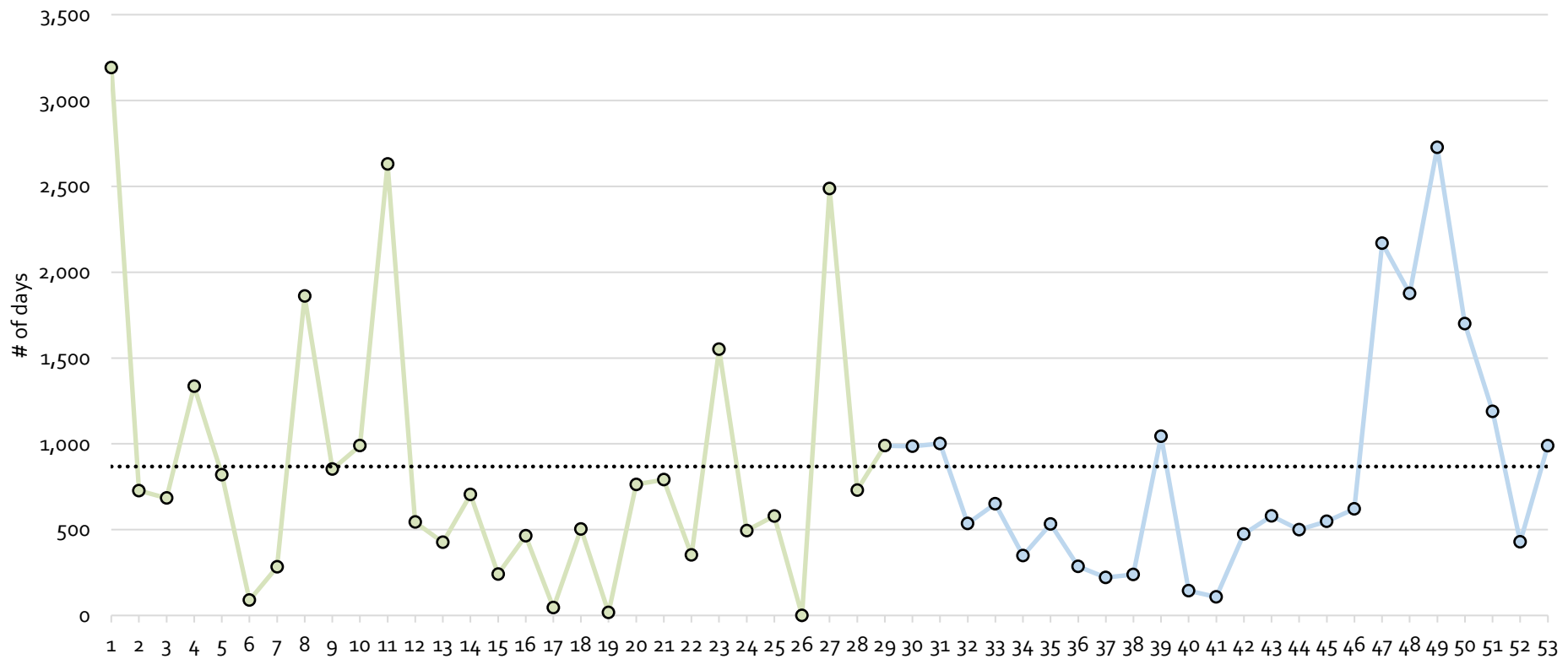
# Background/Additional

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



# Background/Additional

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

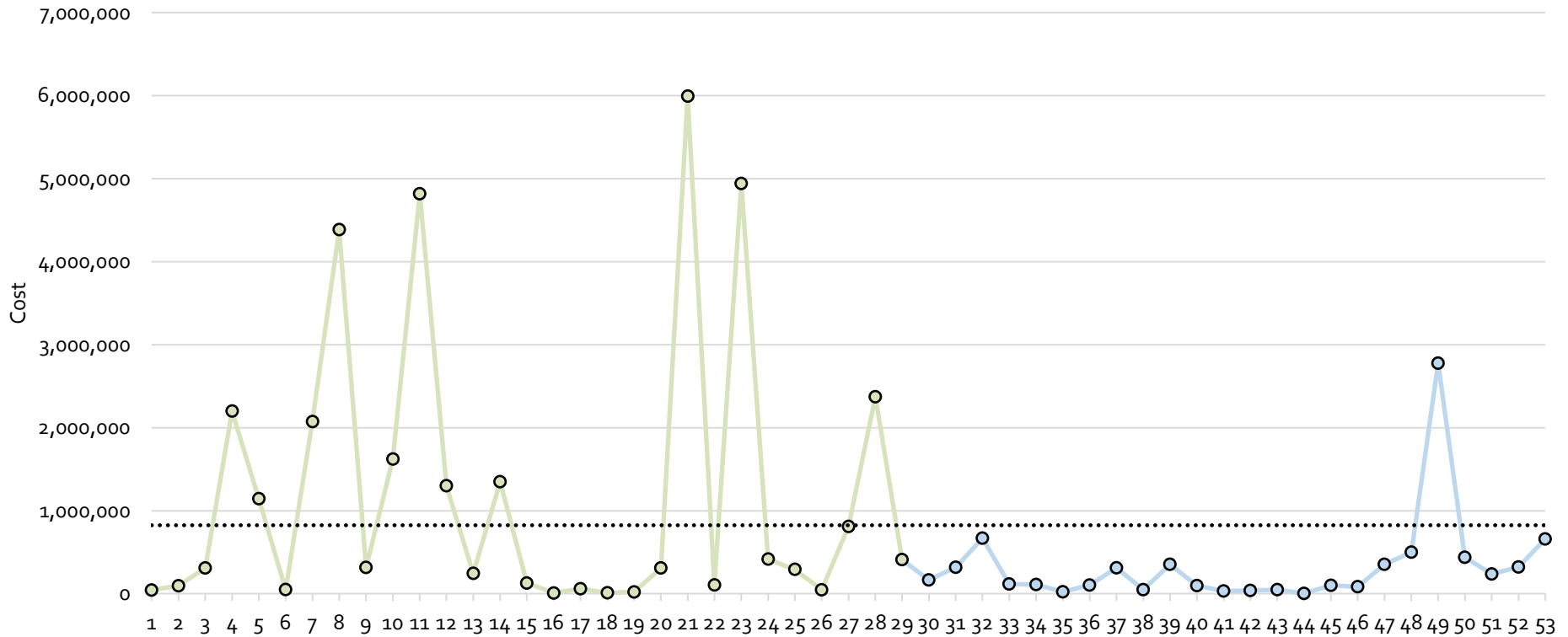


Timeframe = 867 days (average)



# Background/Additional

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



Cost = \$826,503 (average)

# 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 -- Chehalis Industrial Park Flood Conveyance, Evacuation Project \$1,127,000

**Project:** Improve conveyance, evacuation of Chehalis Industrial Park flood waters to Dillenbaugh and Berwick creeks .

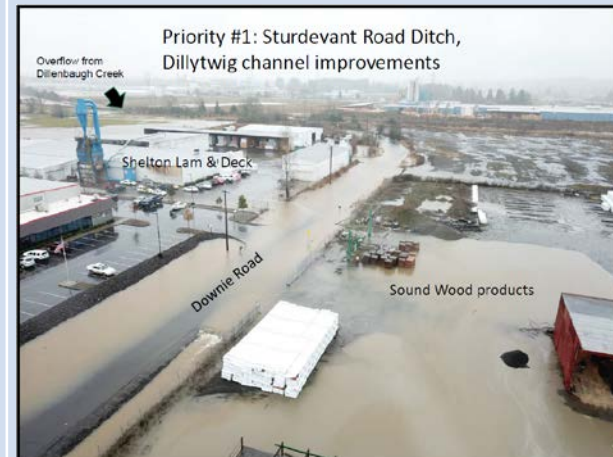
**Benefit:**

- ✓ 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:** Working to modify project scope to (1) address immediate priority flood impact needs, and (2) assess larger drainage system with County, City, and other partners and set/sequence future investment priorities.





# Flood and Fish Project

Total request = \$1,561,405

Grays Harbor County -- Lower Satsop Restoration & Protection Program,  
Phase II (Habitat Connectivity and Reach-Scale Aquatic, Riparian and Floodplain Restoration)  
\$1,561,405

**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

