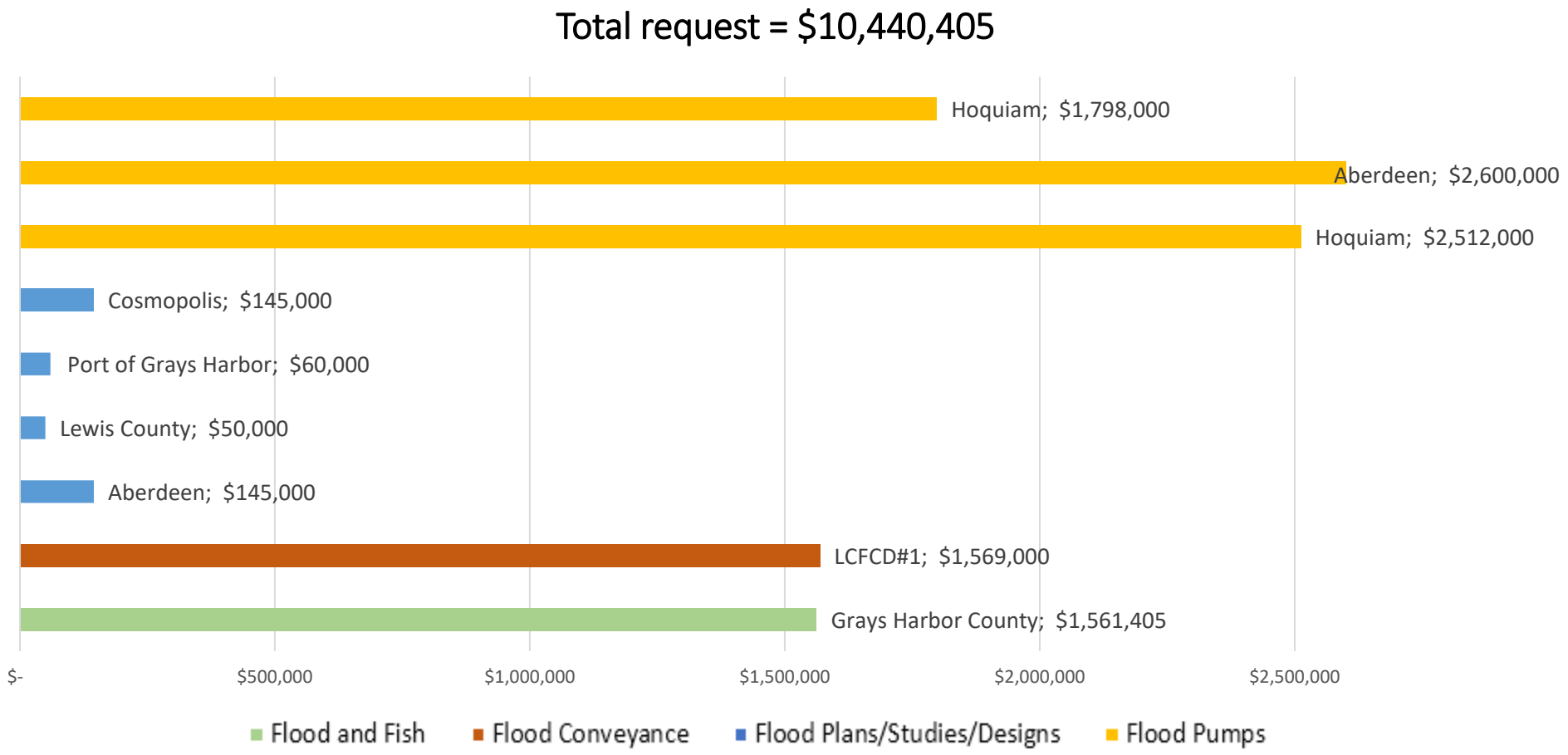
Flood Authority 2021-23 Local Project Submittals

1-20-2021

Updated 7-10-2021

Scott Boettcher, Staff
Chehalis River Basin Flood Authority

Originally - November 2020 - $10.4M



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

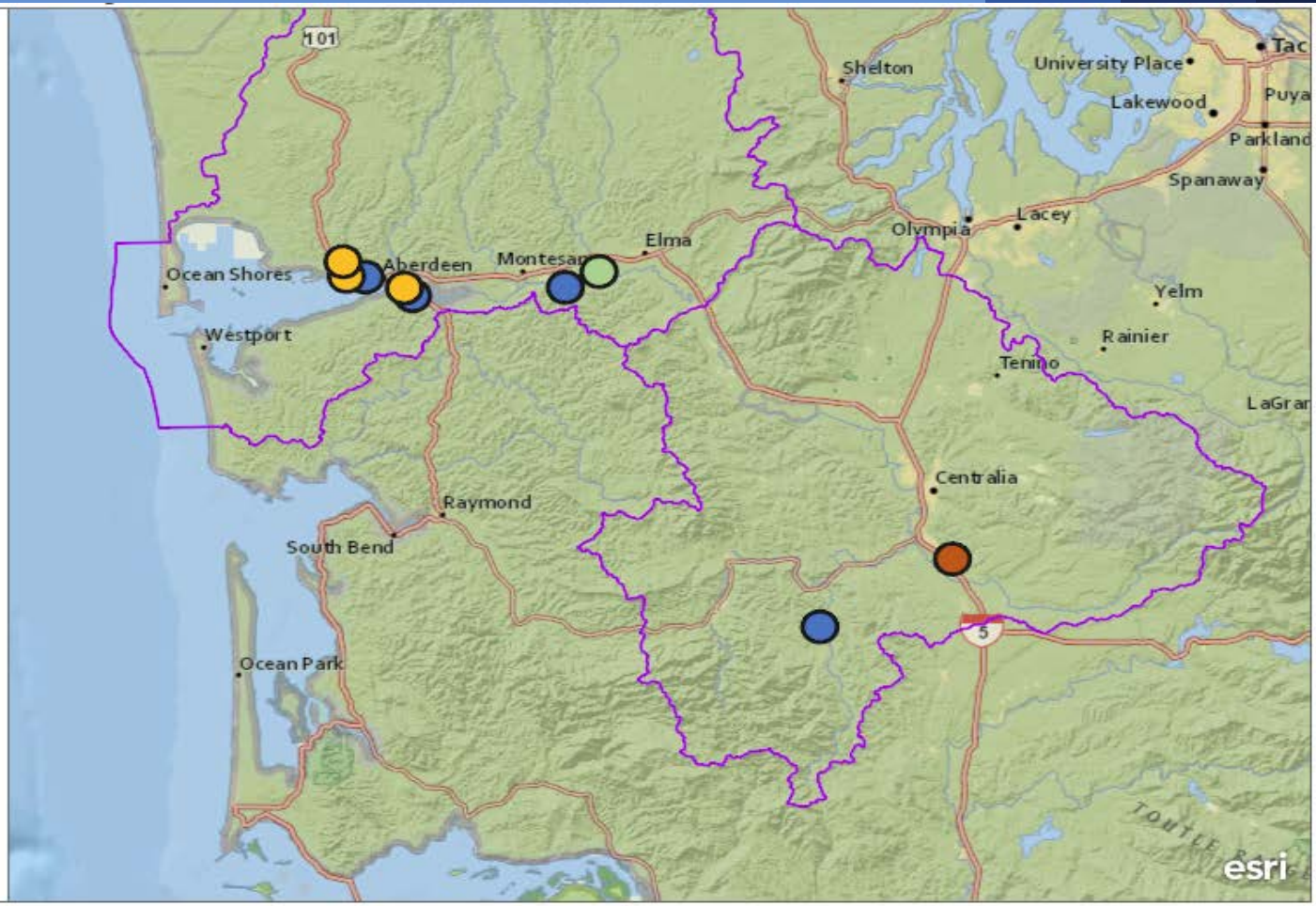
Originally - November 2020 - $10.4M

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/0rDTjr

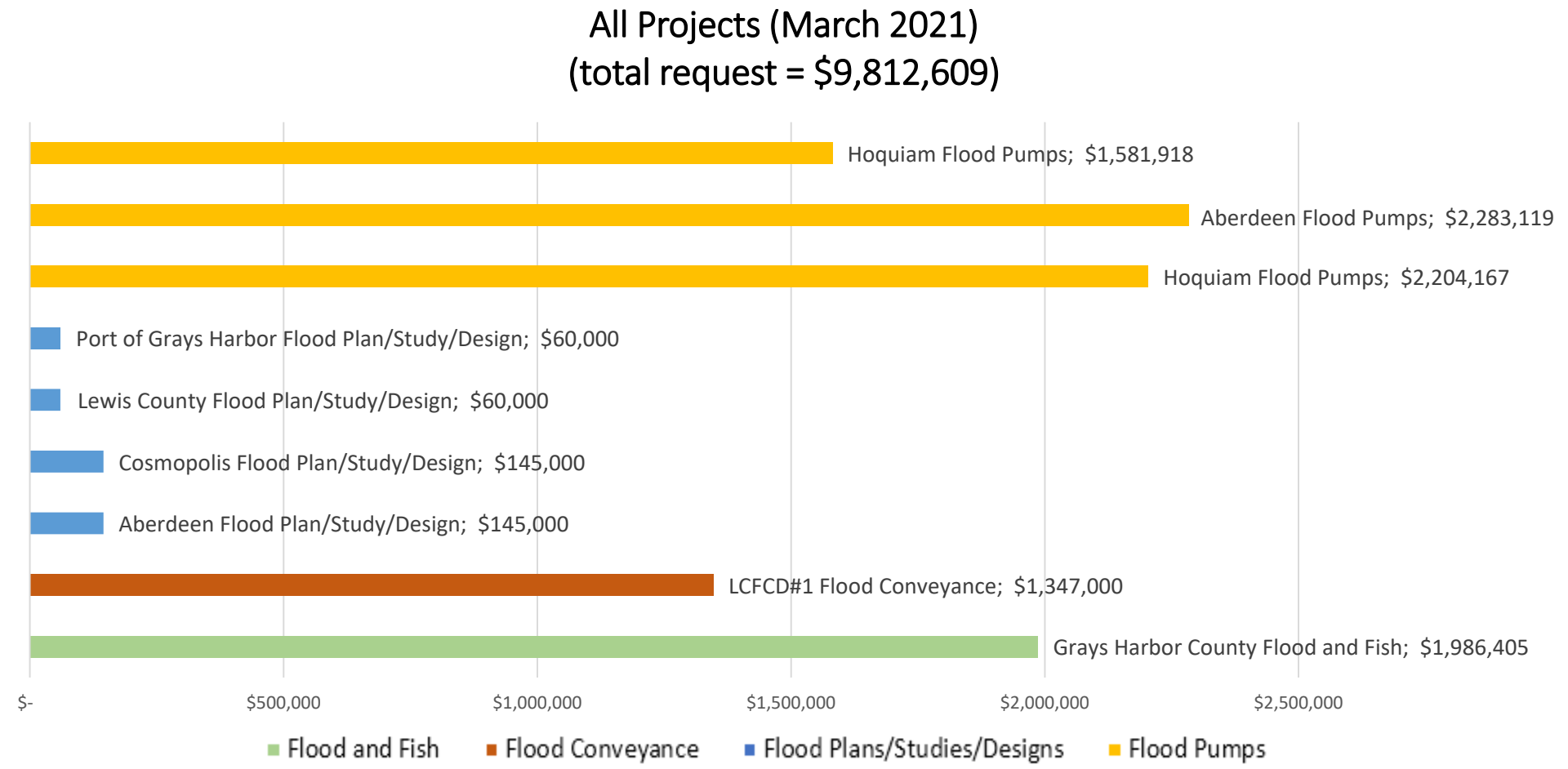




To Do: 1. Refine costs 2. Refine scopes of work 3. Chehalis Basin priorities
4. Future local project needs 5. Recommendation

1. Refine Costs (March 2021)

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



2. Refine Scopes (March 2021)

Scopes have been refined (to ensure do-ability, implementibility, 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)

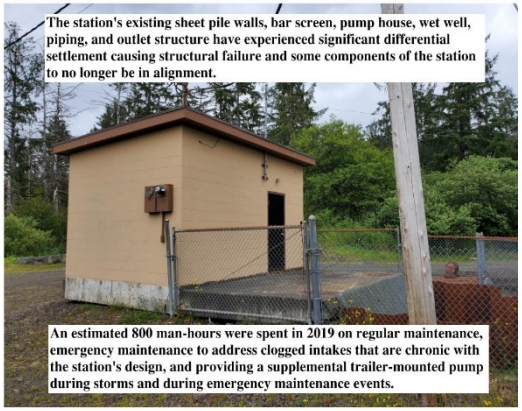
Priority Outcomes (CBB memo here)	Particularly Relevant Projects (2021-23)
1. Valuable structures protected.	• Aberdeen & Hoquiam Pumps • LCFCD#1 Flood Conveyance
2. Homes & businesses protected.	• Aberdeen & Hoquiam Pumps • LCFCD#1 Flood Conveyance
3. Lower basin properties & businesses protected from coastal storm surges.	• Aberdeen & Hoquiam Pumps
4. Farmland and rural structures protected.	• Grays Harbor County Lower Satsop Phase II Construction
5. Critical facilities protected.	• Aberdeen & Hoquiam Pumps • LCFCD#1 Flood Conveyance • Grays Harbor County Lower Satsop Phase II Construction
6. Transportation routes protected.	• Aberdeen & Hoquiam Pumps • LCFCD#1 Flood Conveyance • Grays Harbor County Lower Satsop Phase II Construction
7. Environmental justice advanced.	• 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

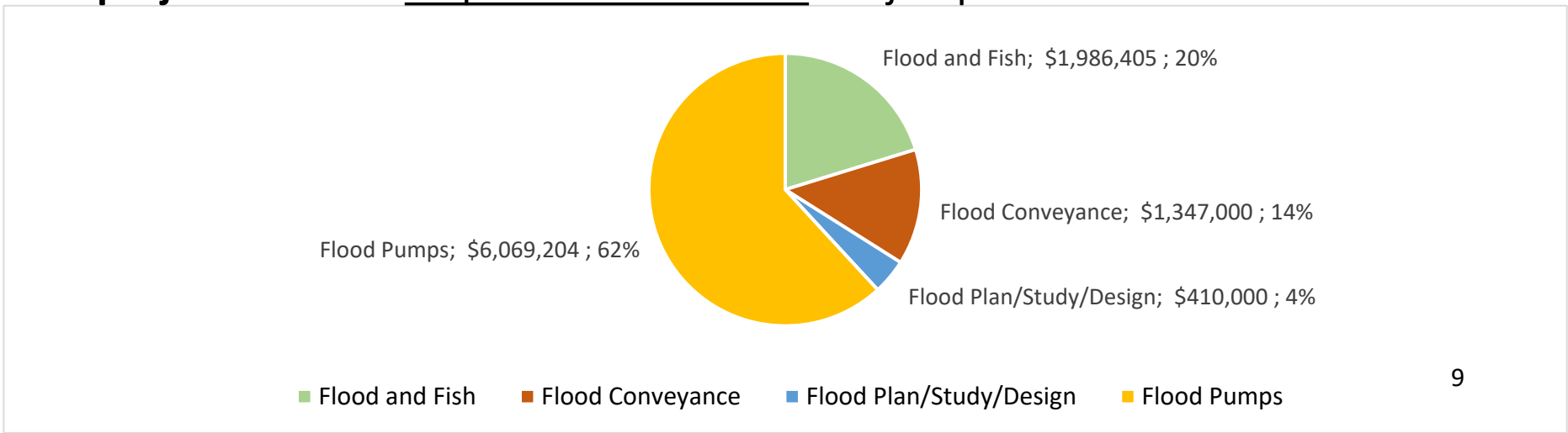
Flood and Fish Flood Conveyance Flood Plans/Studies/Designs Flood Pumps

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

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



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

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



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

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	Cosmopolis – Mill Creek Multi - Objective Implementation Plan $145,000	Lewis County – Lower Boistfort Valley Infrastructure Vulnerability Assessment $60,000	Port of Grays Harbor – Satsop Business Park Chehalis River Bank Stabilization Study $60,000
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	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	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	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 = $1,347,000

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.
  - o 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.

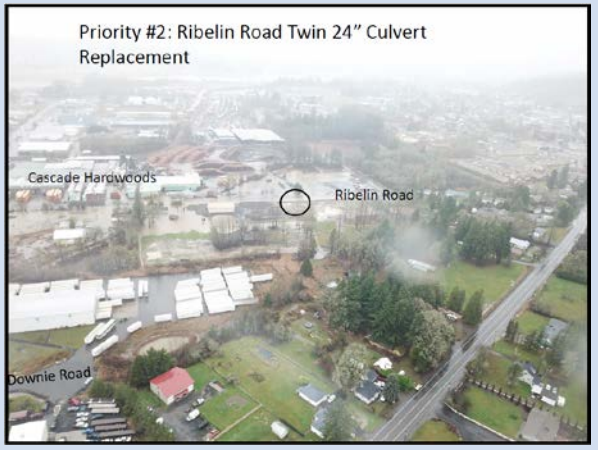
Doable: Yes**

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.

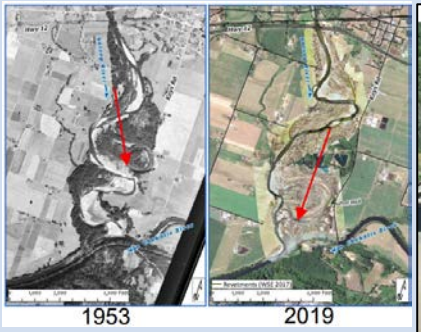
Benefit:

- ✓ Phase II (construction Summer 2022) -- flood relief through further river stabilization, erosion reduction, habitat restoration/enhancement.
  - o ~35 in-channel structures.
  - o ~130 acres riparian planting.
  - o ~10 acres invasive species control.

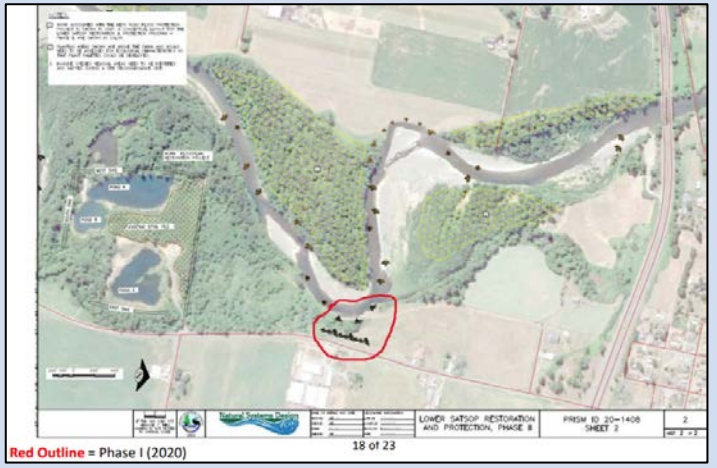
- ✓ Phase I (completed Summer 2020) -- flood relief through river stabilization, erosion reduction, and reestablishing river access to its floodplain (construction areas - A, B, C).
  - 42 in-channel structures.
  - Rock revetment removal.
  - Post-construction Drone footage (here and here)

Doable: Yes

Initial Ranking: 1







Questions / Discussion / Direction

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scottb@sbgh-partners.com

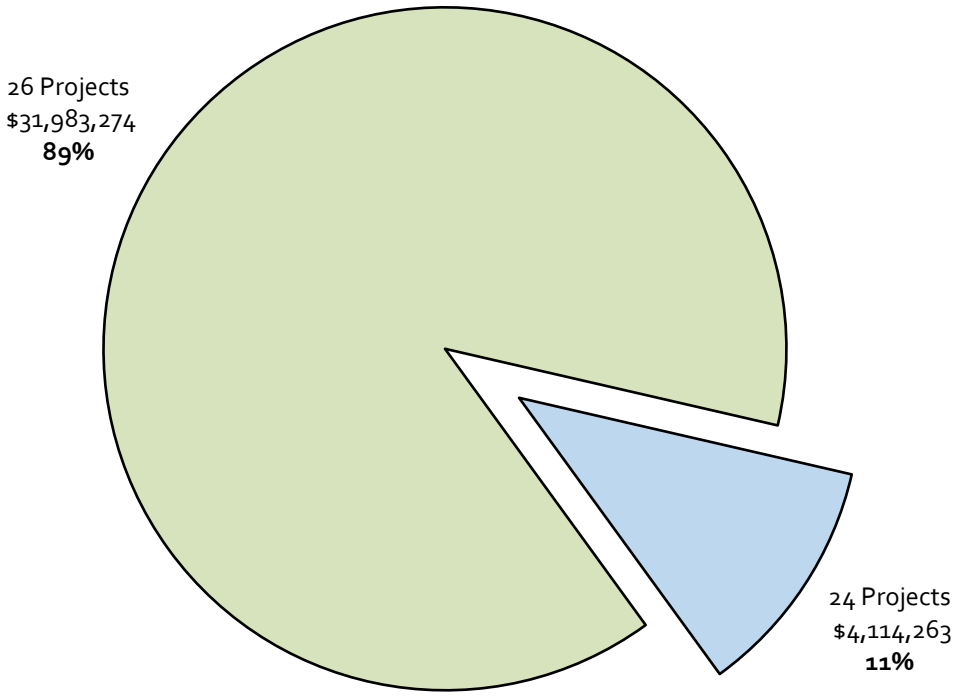


Background/Additional

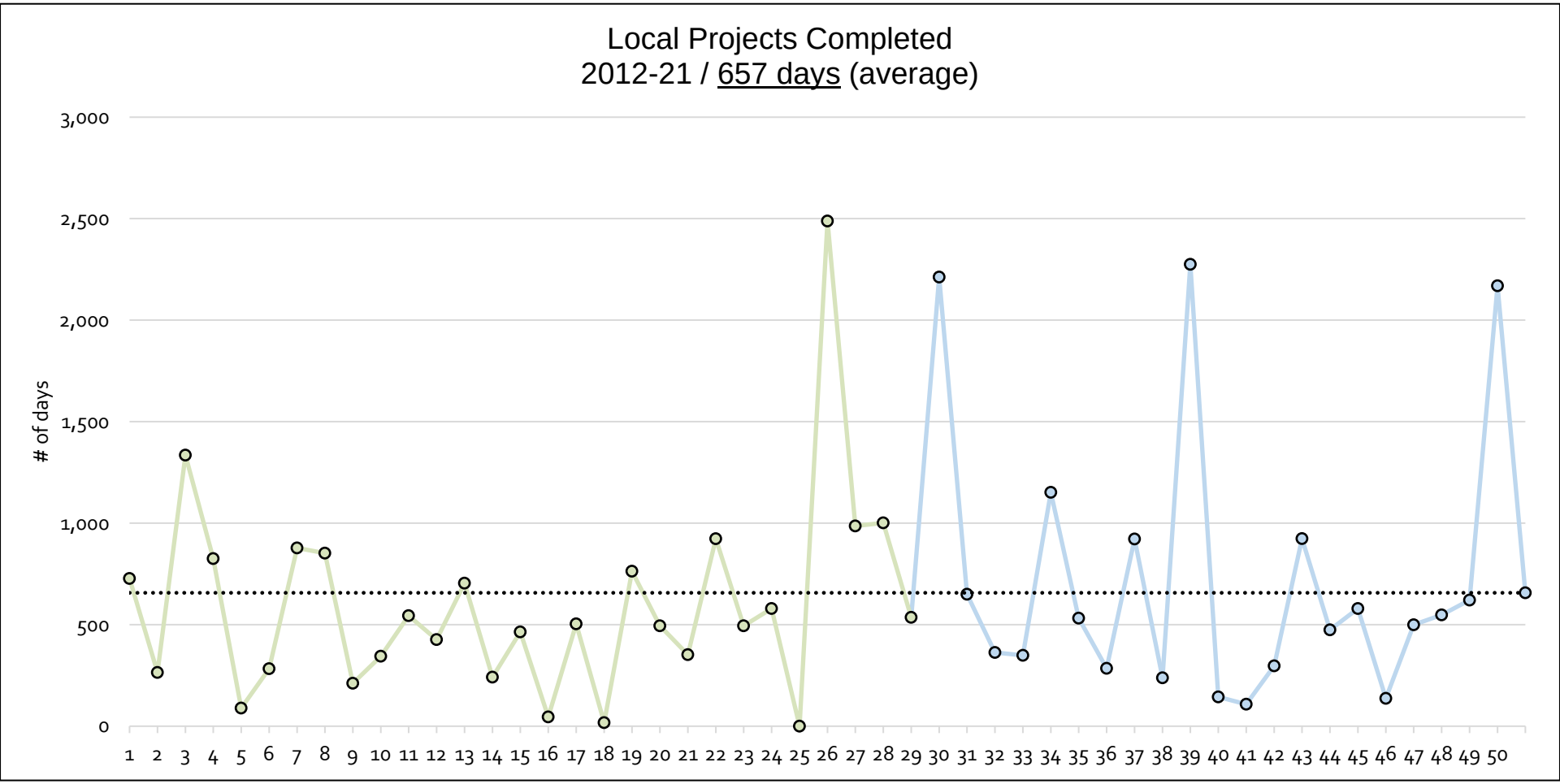
Background and Additional Information (if needed)

Background/Additional

Local Projects Completed
2012-21 / $36,097,537



Background/Additional



Background/Additional

