

Point No Point Stormwater Management Analysis Project

Vaughn Collins, PE, CFM – NHC Principal

Chad Drake, PE, PhD – NHC Project Manager

Evan Heitman, EIT – NHC Hydraulic Engineer

June 2, 2026 | Greater Hansville Community Center

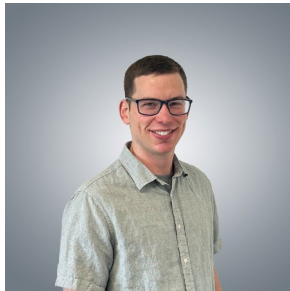
Outline

- Project team
- Past projects
- Current project
 - Conceptual flood model
 - Flooding observations



About NHC

- Vaughn Collins, PE, CFM
 - Principal in Charge
 - 35 years of experience
- Chad Drake, PE, PhD
 - Project Manager, Hydrologist
 - 14 years of experience
- Evan Heitman, EIT
 - Hydraulic Engineer
 - 12 years of experience



Devils Lake Flood Analysis,
Lincoln City, OR, 2026



Greenbank Marsh
Restoration Analysis,
Whidbey Island, 2020

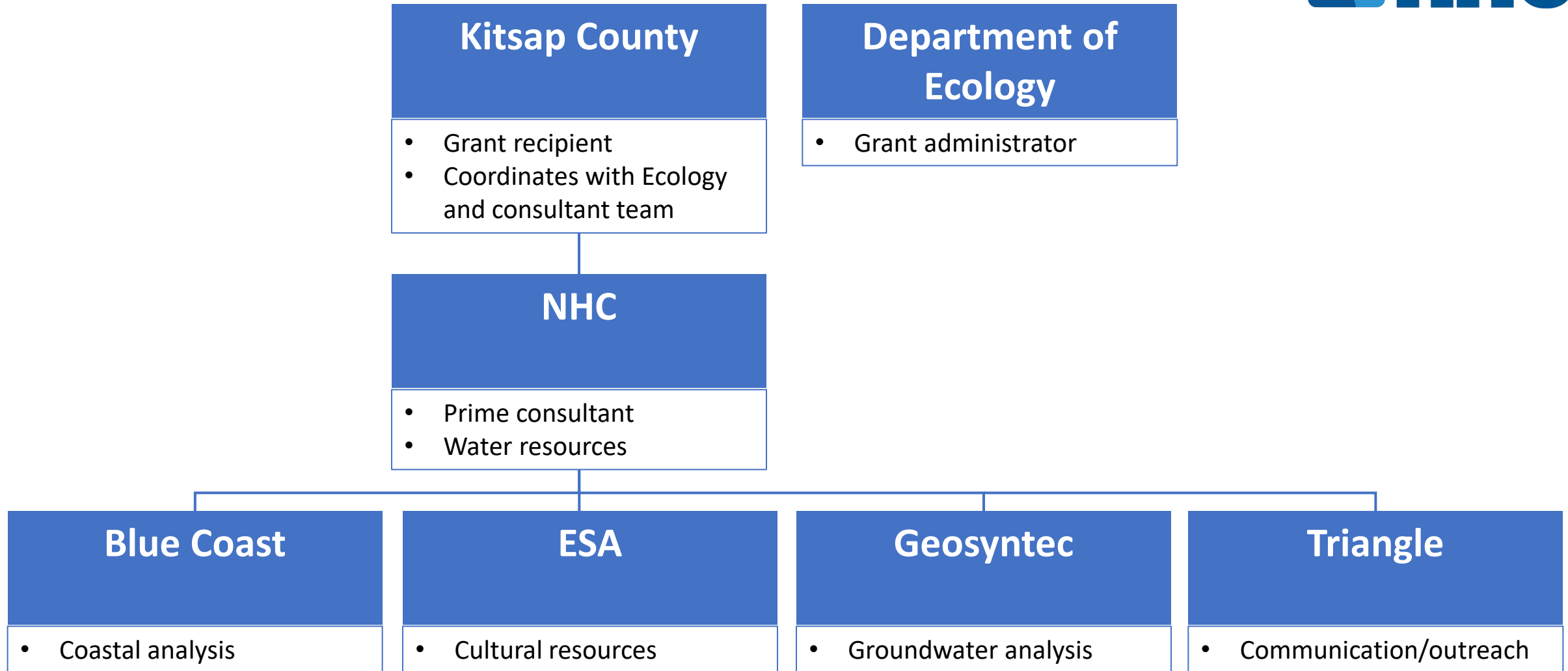


Fornsby Slough Hydraulic
Analysis, Skagit County,
2017

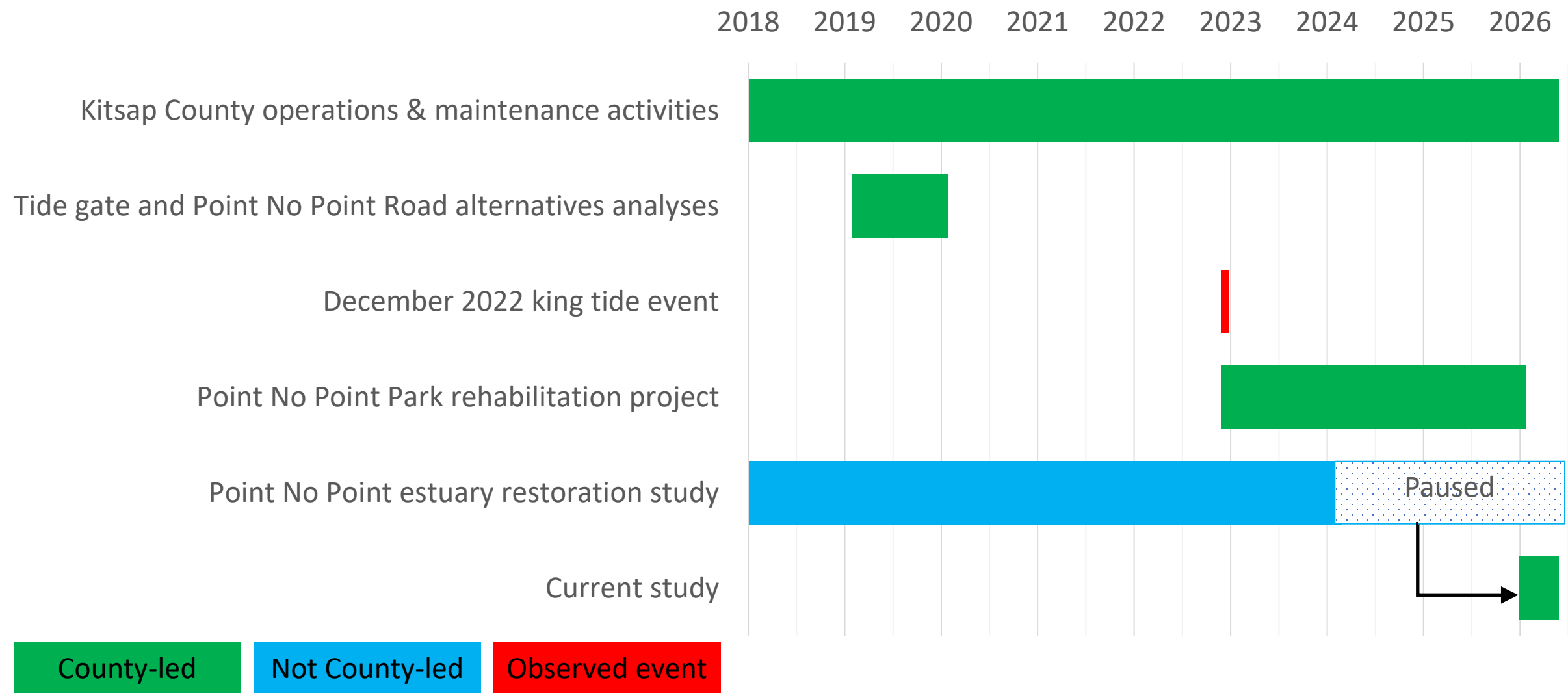


Smugglers Slough Habitat
Restoration, Whatcom County,
2012

Project team



Project timeline



Kitsap County operations & maintenance activities



- Public Works and Parks departments share management of Point No Point area
- Public Works (two divisions)
 - Roadside stormwater ditches
 - Tide gate culvert
 - Beaver management in road right-of-way
- Parks
 - Beaver management in existing marsh
 - Park lands and facilities



County-led

Tide gate and Point No Point Road drainage improvement alternatives analyses



County-led

December 2022 king tide event



Observed event

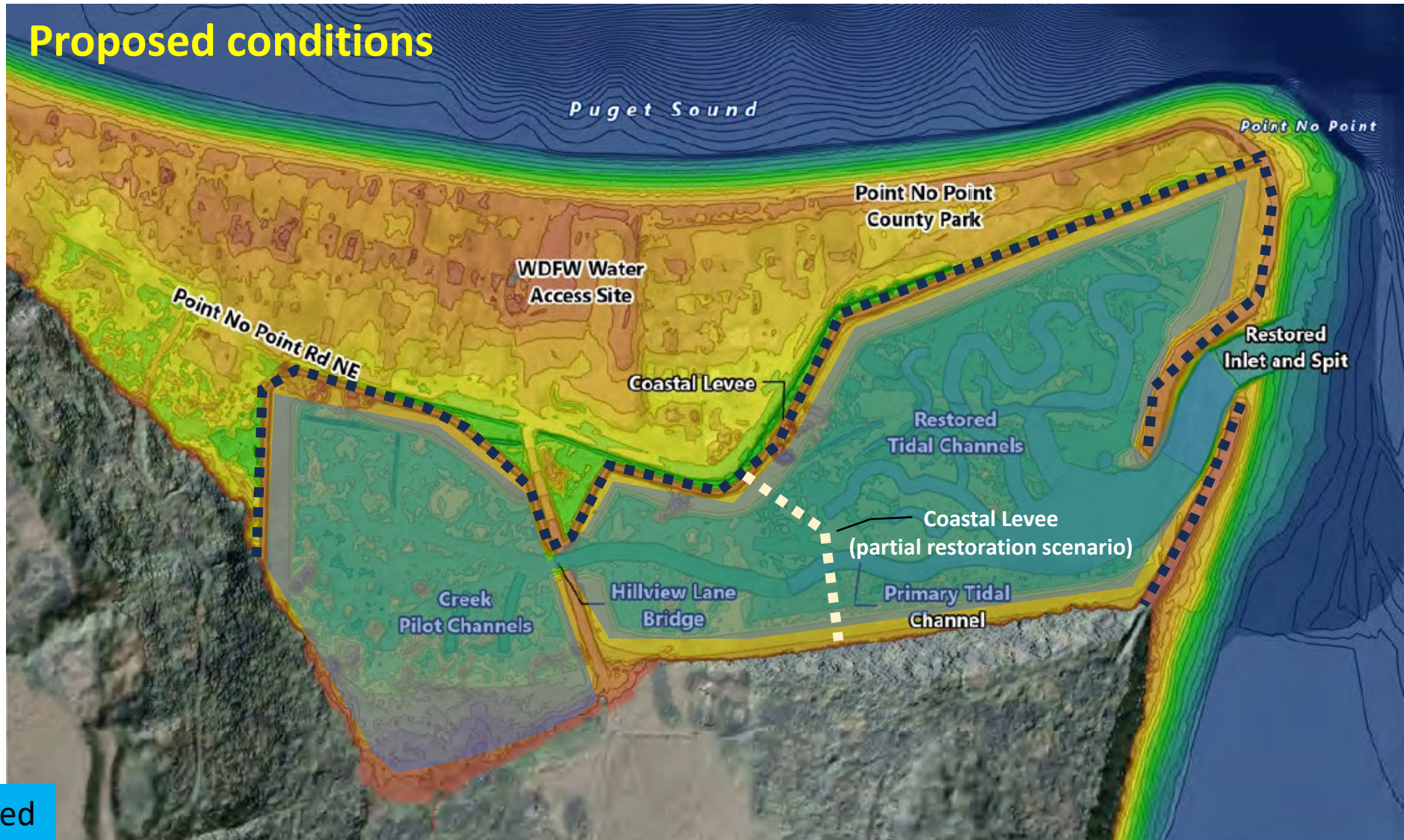
Courtesy Darren Gurnee Drone Footage. <https://www.youtube.com/watch?v=2mleYsuHgSk>

Point No Point Park rehabilitation project



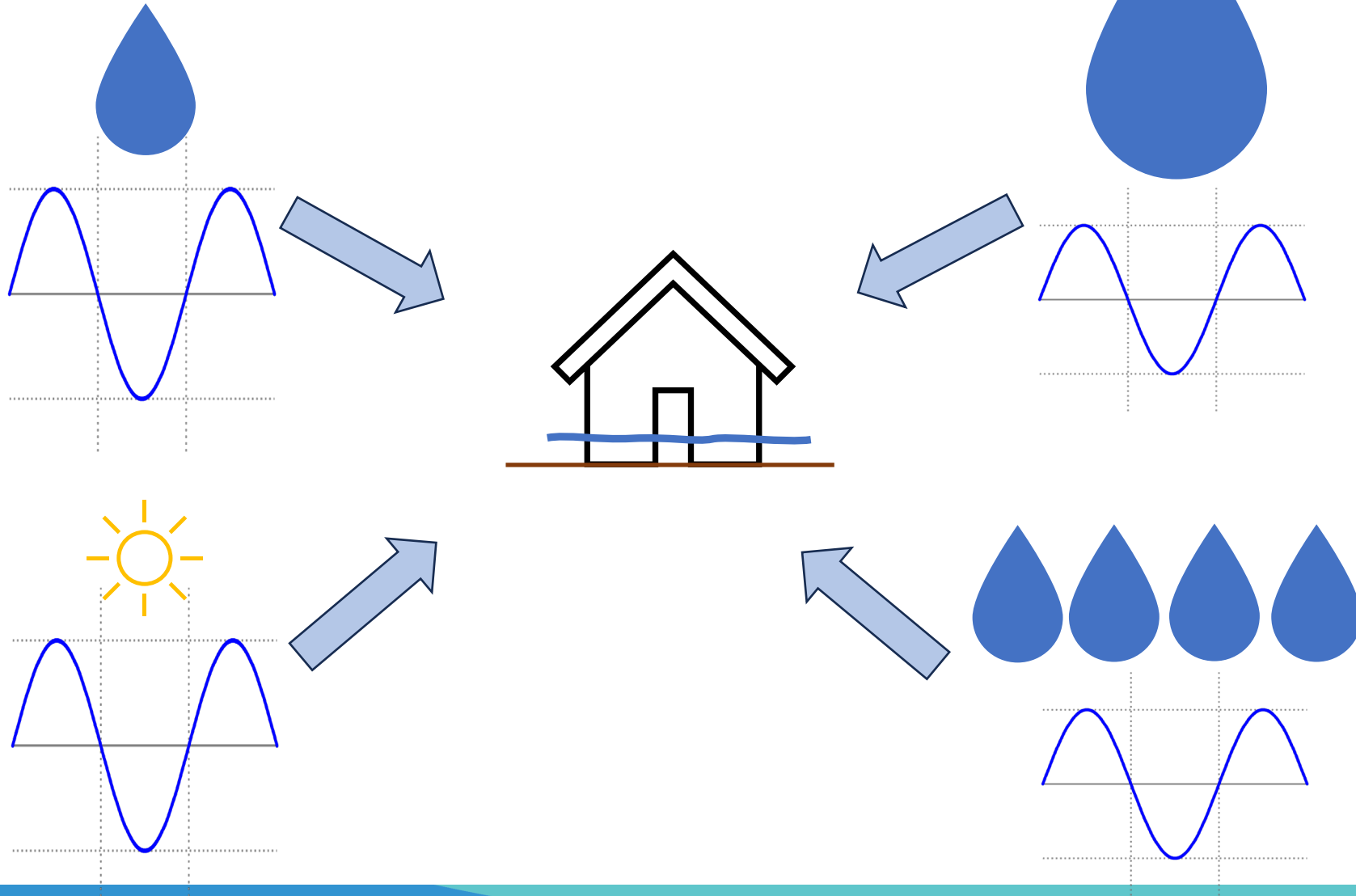
County-led

Point No Point estuary restoration study



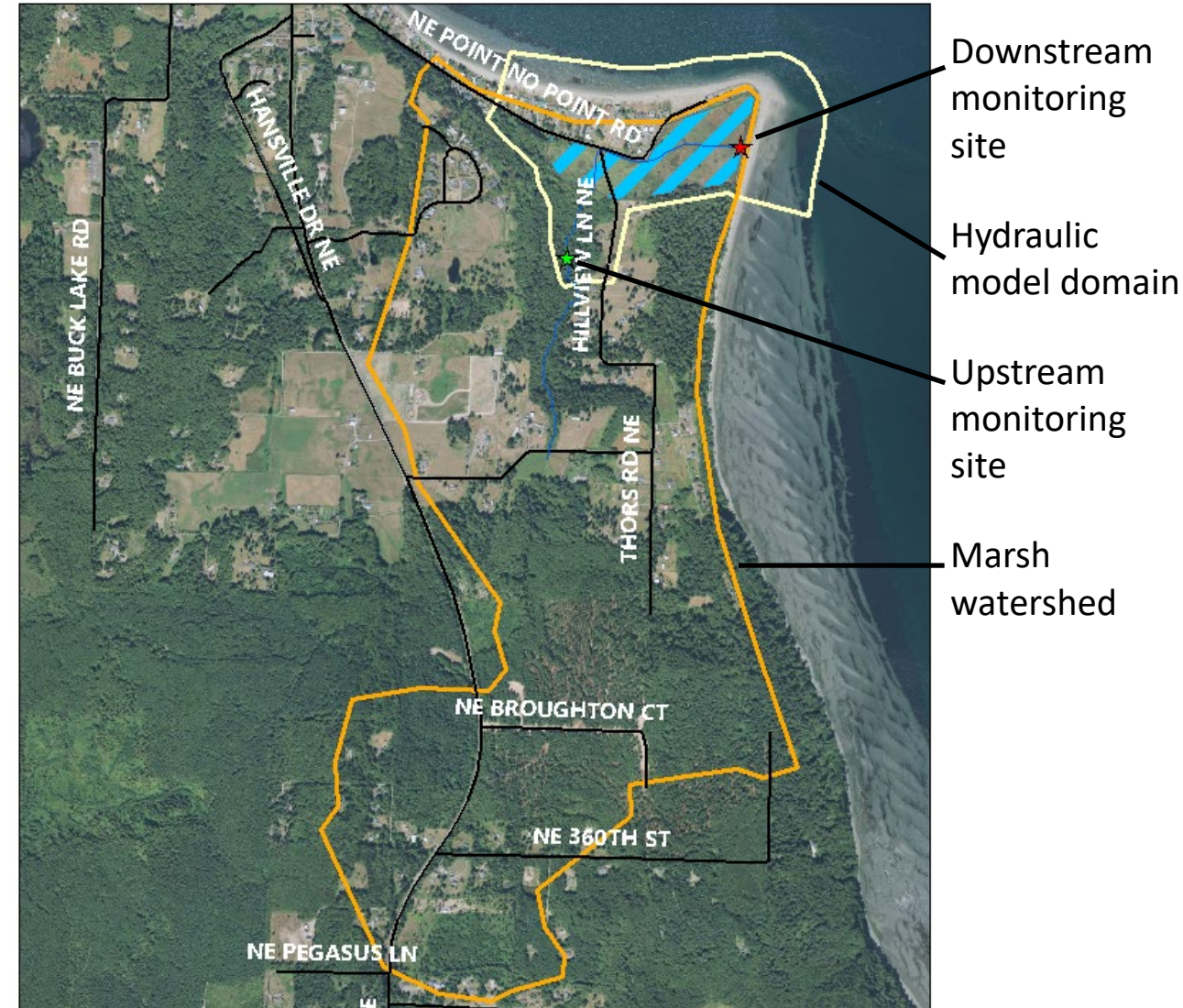
Not County-led

Causes of Compound Flooding



Current study

- Goal:
 - Characterize stormwater and flooding
 - Develop 3 mitigation alternatives
 - With and without proposed estuary restoration
- Analyses:
 - Streamflow monitoring
 - Hydrologic & hydraulic modeling
 - Stormwater alternatives analysis
- Deliverables:
 - Three conceptual climate resilient stormwater improvement alternatives
 - One preferred alternative design
 - Final report



Next steps in 2026



June 2

- Community meeting
- Project overview
- Local input on flooding

Summer

- Streamflow monitoring
- Hydrologic & hydraulic modeling
- Stormwater alternatives analysis

Early Fall

- Community meeting
- Present results and alternatives
- Local input on alternatives

Fall

- Preferred alternative selection and design

December

- Final report
- Project closeout

Conceptual flood model

Inflows

Groundwater
inflow (upland)



Creek inflow and
surface runoff



Direct
precipitation



Groundwater
inflow (coastal)

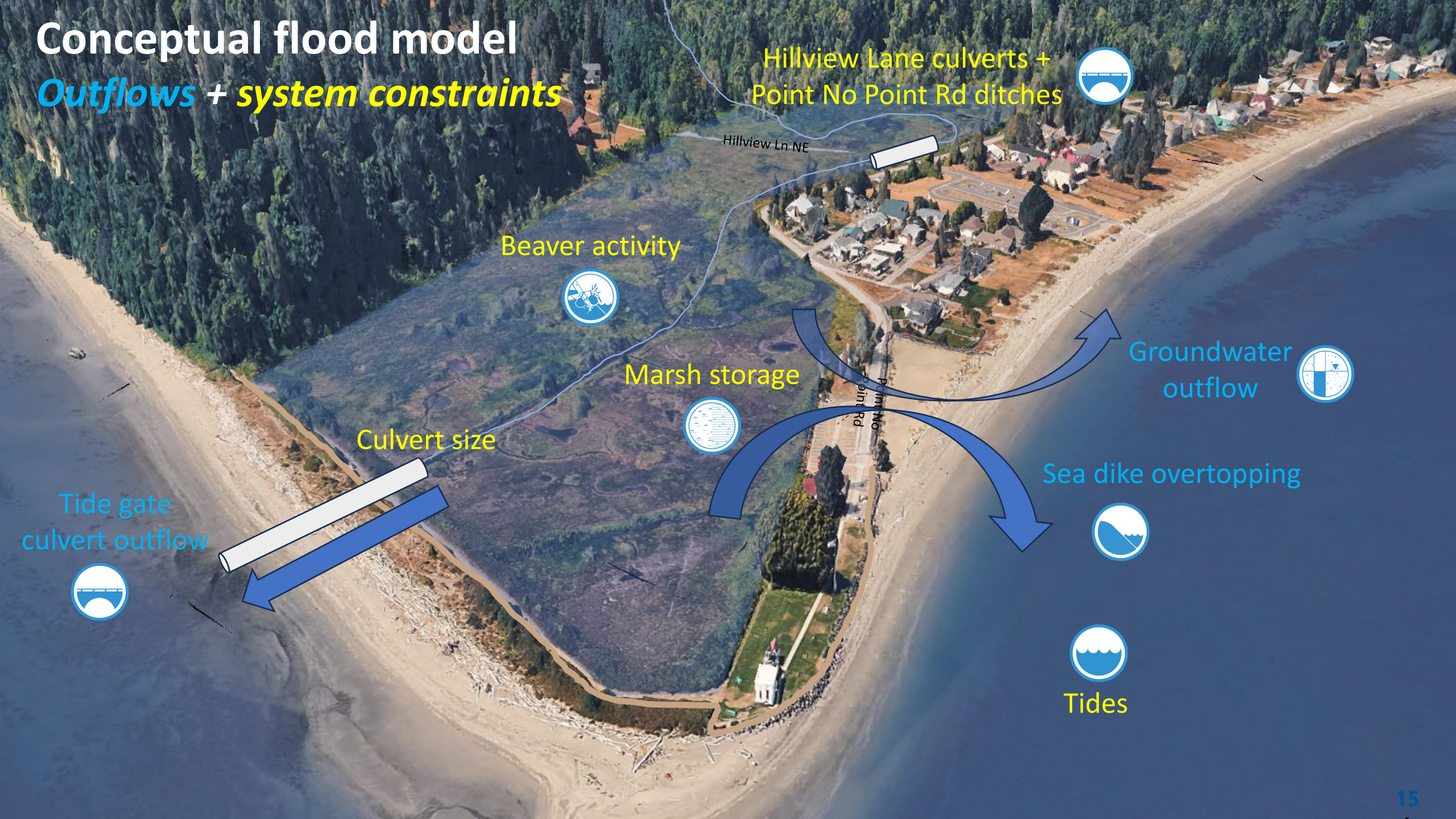


Sea dike
overtopping



Conceptual flood model

Outflows + system constraints



Flooding observations



- We want and value your input!
- Printed maps available for markup
- Questions to think about:
 - Where have you observed drainage issues or flooding?
 - When did it occur?
 - How frequent, severe, and long was the flooding?
 - Why do you think it occurred?



Questions?



Thank you!

NHC contact information:

Chad Drake: cdrake @nhcwater.com

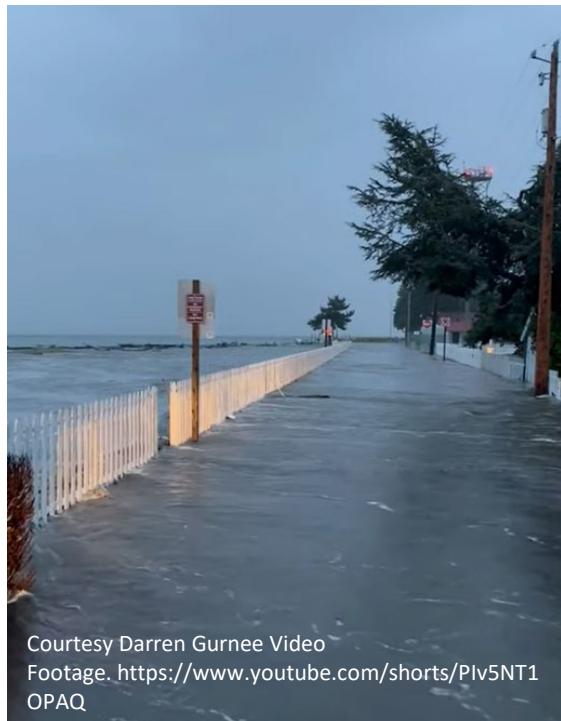
Vaughn Collins: vcollins at nhcwater.com

Kitsap County contact information for drainage or flooding problems:

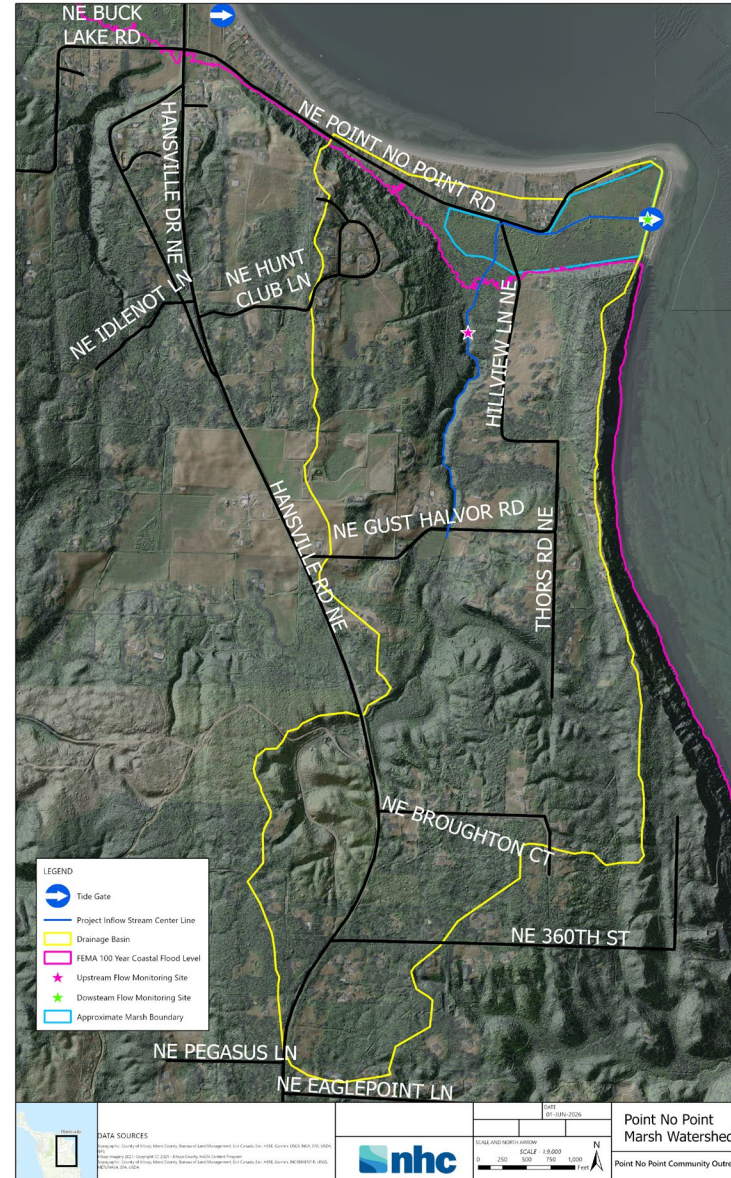
360.337.5777

help@kitsap1.com

<https://www.kitsap.gov/pw/managing-my-rainwater>



Supplementary information



Supplementary information



- Darren Gurnee videos:
 - December 2022 drone video: <https://www.youtube.com/watch?v=2mleYsuHgSk>
 - December 2022 in-person video: <https://www.youtube.com/shorts/Plv5NT1OPAQ>

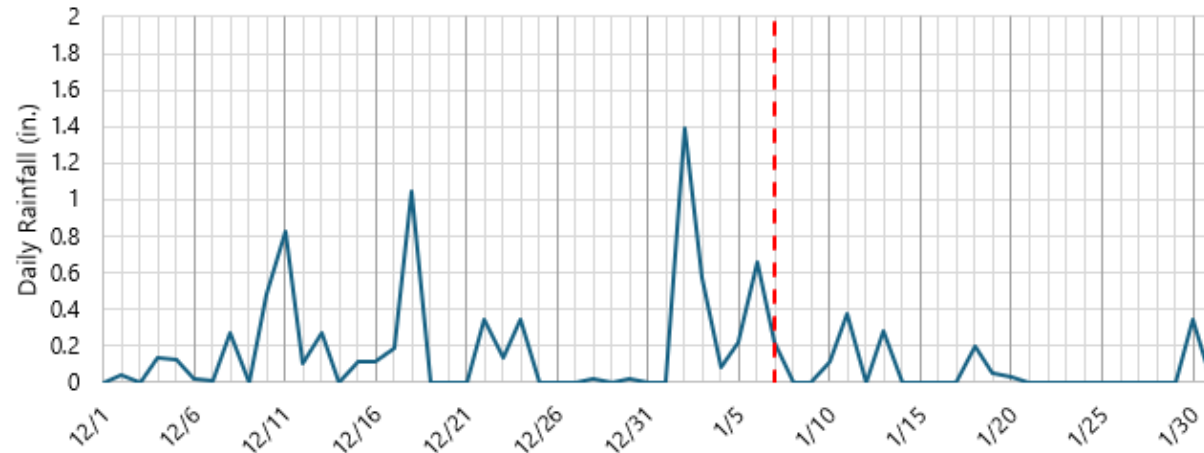
Supplementary information



Parameter (Point No Point area unless noted otherwise)	Value
2-yr 24-hr storm precipitation	2.5 inches
25-yr 24-hr storm precipitation	3.25 inches
100-yr 24-hr storm precipitation	4.0 inches
January 2 – 7, 2022 Daily Rainfall (KC Hansville Rain Gage #24)	1.39 inches, 0.57 inches, 0.08 inches, 0.22 inches, 0.66 inches, 0.22 inches
December 24 – 27, 2022 Daily Rainfall (KC Hansville Rain Gage #24)	1.32 inches, 0.63 inches, 1.59 inches, 1.66 inches
FEMA BFE (1% AE) includes wave effects	13.0 ft NAVD88
FEMA SWL (1% AEP), coastal transect 18	12.3 ft NAVD88
January 7, 2022 (observed)	11.0 ft NAVD88
December 27, 2022 (estimated from Seattle)	11.8 ft NAVD88
100-year water level (1% AEP)	11.6 ft NAVD88
10-year water level (10% AEP)	11.3 ft NAVD88
2-year water level (50% AEP)	10.8 ft NAVD88
High Tide Line	10.2 ft NAVD88
Mean High Water	7.8 ft NAVD88
Mean Tide Level	4.4 ft NAVD88
Seattle Record Tides: #1	12.78 ft NAVD88, 12/27/2022
Seattle Record Tides: #2	12.18 ft NAVD88, 1/7/2022
Seattle Record Tides: #3	12.14 ft NAVD88, 1/27/1983

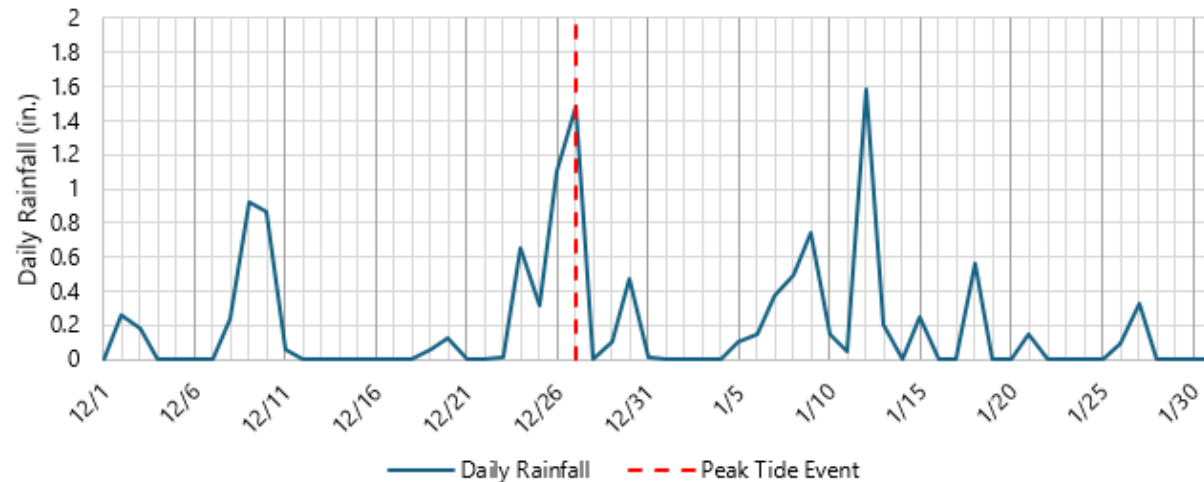
Supplementary information

January 2022 High Tide Event



1/2: 1.39"
1/3: 0.57"
1/4: 0.08"
1/5: 0.22"
1/6: 0.66"
1/7: 0.22", 11.0 ft NAVD88

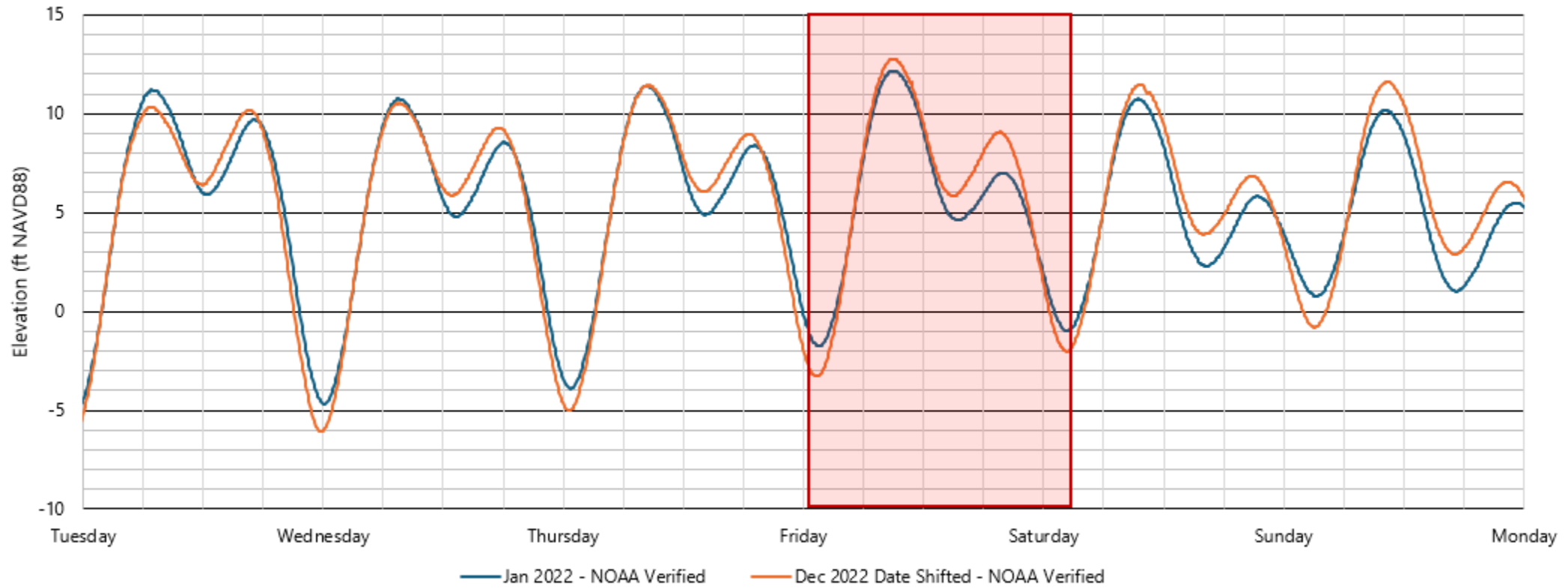
December 2022 High Tide Event



12/24: 1.32"
12/25: 0.63"
12/26: 1.59"
12/27: 1.66", 11.8 ft NAVD88

Supplementary information

Jan and Dec High Tide Events
Date Shifted to Overlap Peak



About NHC



- Water Resource Specialists
- Founded in 1972
- 250 employees
 - 70% with advance degrees
- Offices
 - 15 offices in North America
 - Project offices overseas
- Experience throughout Canada, US, Asia, South America



Areas of Expertise



River Engineering
& Geomorphology



Dams, Spillways
and Outlet Works



Physical & Numerical
Modelling



Coastal
Engineering



Flood Hazard
Assessments



Hydrology &
Climate Change



Hydrometrics and
Field Services



Habitat and
Fisheries
Engineering

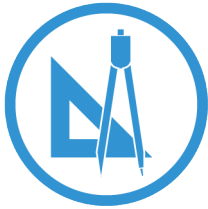


Stream
Restoration

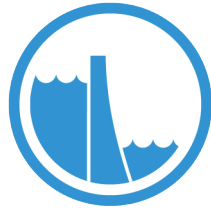
NHC Icons – Light Blue



Ecology Manual



Design



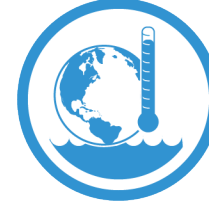
Dams, Spillways,
Reservoirs



Construction
Support



Communications



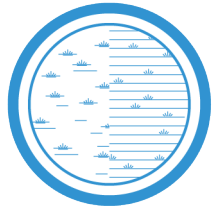
Climate Change
Hydrology



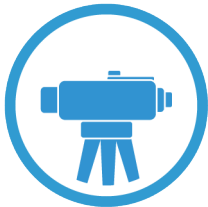
Capacity to
Perform



Bridges, Culverts,
Pipelines



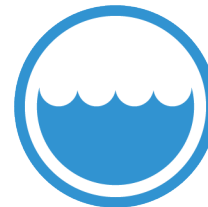
Estuarine



Field Services



Fisheries
Engineering



Flood Plains,
Flood Hazards



Fluvial
Geomorphology
Sediment Transport



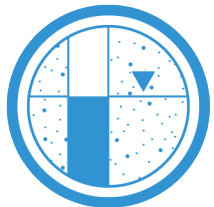
Forensic
Engineering



Funding



Hydraulics



Hydrogeology



Levees,
Revetments



Hydrology



Local
Knowledge



Mapping, GIS



Monitoring

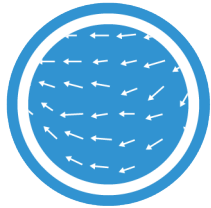


Municipal
Engineering



NHC Team

NHC Icons – Light Blue



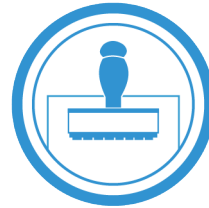
Numerical
Modelling



Native Plants



Permitting



Permitting



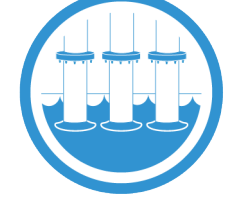
Physical
Modelling



Private
Development



Public
Involvement



Pumps, Intakes



River Restoration



Technical Approach



Urban Hydrology,
Stormwater