LOWER SATSOP RESTORATION & PROTECTION PROGRAM

PROTECT, PRESERVE, RESTORE
FARMLAND • ESSENTIAL INFRASTRUCTURE • RIVER/FLOODPLAIN FUNCTIONS & HABITAT

Background:

1. Lower Satsop River is a dynamic system where riverbank erosion, channel migration, and regular flooding are seriously impacting essential public infrastructure, property, farmland and fish habitat.

2. Lower Satsop River is now outside its historic channel migration zone and eroding soils, property, and farmland in locations not accessed for thousands of years to the distress of local interests, authorities.

3. Since September 2017, Grays Harbor County has led an intensive emergency planning process to develop a community and regulatory agency supported design and engineering process to stabilize the Lower Satsop and protect essential public infrastructure, property, farmland and fish habitat.

4. Lower Satsop Restoration & Protection Program lays out a well-vetted, multi-phased sequence of immediate-term (Phase I, 2020) and medium-term (Phase II,2022) actions to protect (infrastructure, property, farmland), restore (fish habitat, natural river flow and functions) and resolve (community concerns regarding past river management practices).

   a. Reduce immediate erosion pressures on the heavily travelled Keys Road and Monte Elma Road Bridge and forestall the need for future costly and less habitat-friendly emergency repairs.

   b. Reduce immediate erosion pressure on Satsop Business Park's primary potable water supply.

   c. Stop further loss of irreplaceable, high-value cropping farmland key vital to local agricultural economy.

   d. Restore habitat and floodplain features, functions lost due to past river management practices to benefit fish, habitat, and commercial and recreational interests (fishing, guiding, birding).

   e. Sufficiently address immediate and imminent threats in order to provide local authorities and community members with demonstrable flood relief.

   f. Preserve existing local and state revenue generation from local agricultural sales and activities (crops, inputs, harvest, etc.), commercial and recreational fishing (gear, licenses, fees, etc.), tourism (fishing, bird watching, bicycling, etc.), Satsop Business Park (call center, vehicle storage, cannabis cultivation, compressed natural gas, truck driving school, forestry program, emergency training, etc.), and more.

5. Putting the Lower Satsop River back into balance with engineered log structures, revetment removal, and improved floodplain connectivity will ensure continuation of the economically-vital Satsop Business Park, regionally-significant agricultural community, and restoration and correction of fish habitat and riverine functions long-threatened by past river management decisions.

Possible MES research needs/opportunities:

Change Analysis/Documentation:

- Channel attributes.
  - Channel length (FT)
  - Number of pools (#)
  - Spawning gravels (SF)
  - Pieces of stable wood/mile (#)
  - Rate of bank erosion (ft/year)
- Recruitment of large woody material at new structures.
- Fish use.
  - Juvenile presence / use of structures.
  - Adult presence around structures.
- Vegetation recruitment in newly formed gravel bars.
- Other metrics that can be used as indicators of ecosystem health that can be measured, analyzed over time.

Mapping/GIS:

- 3d modeling of new structures and structure reaches.
  - Drone to map.
  - Esri FMV.

Public Administration:

- Case study.
- Scalability, adaptability (ASRP).
- Future vision, community engagement.

→ **Student-led, student-generated projects** are welcome!

→ Lower Satsop partners will be tapped to provide oversight, direction and input based on research topic.

More information:

Grays Harbor County leadership/coordination role (here).

Lower Satsop Restoration and Protection Program:

- Overview/Implementation website (here).
- Community meetings (here).
- Multi-Agency Advisory Group (here).
- Prioritized and sequenced Investment Plan (here).
- Reach-scale Conceptual Implementation Plan (here).
- Phase I final design drawings (here).

Phase I construction (Video1, here; Video2, here).

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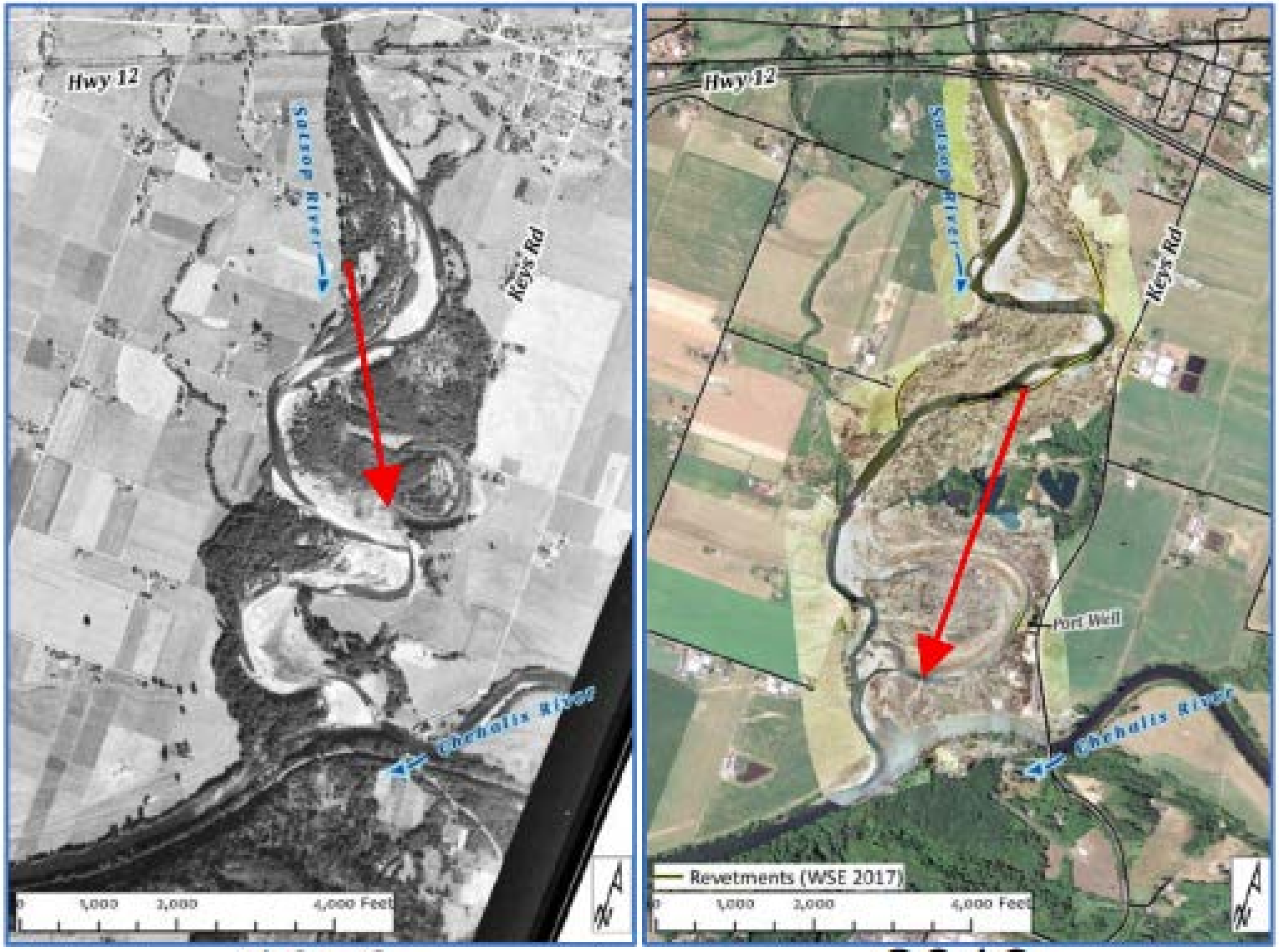
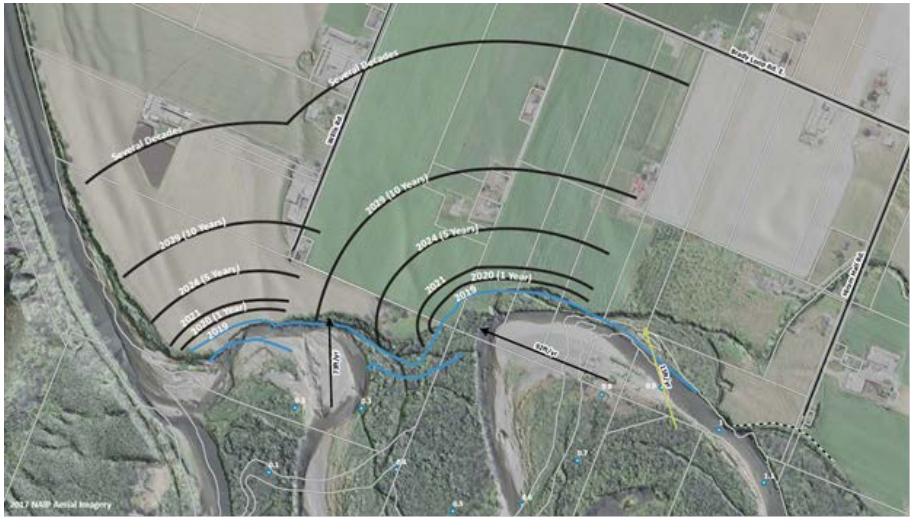
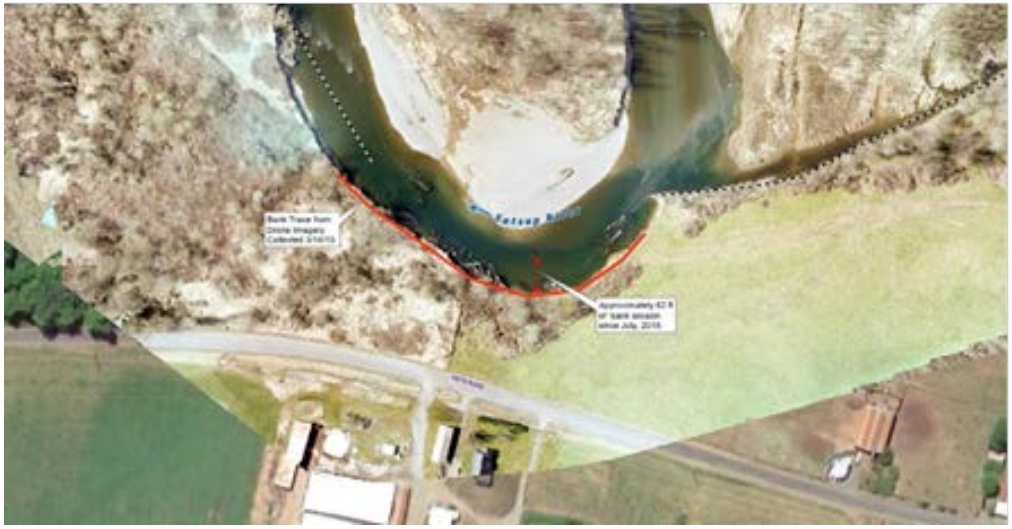
Attachment A
Lower Satsop River Orientation



1953 2019

Attachment B
Examples of Current Problems





Attachment C
Phase I (Summer/Fall 2020)

Attachment D
Phase I (red outline, 2020) and Phase II (2022)

Attachment E
Advisory Group/Partners