

# PUGET SOUND

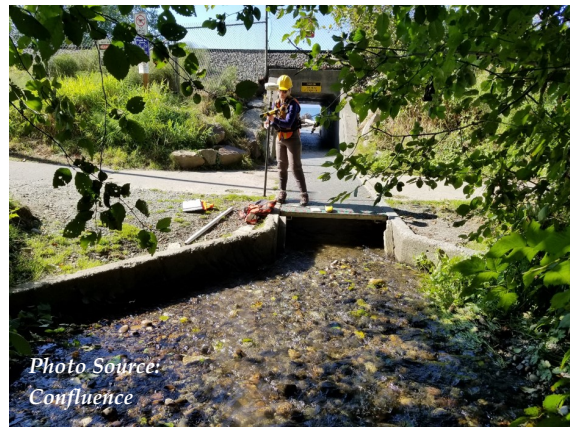
## National Estuary Program

### PRIORITIZING COASTAL STREAMS AND EMBAYMENTS ALONG PUGET SOUND SHORES WITH A RAILROAD

This project provides a systematic identification and rating of all streams and embayments along the marine shoreline component of the railroad operated by BNSF Railway. The outcomes improve understanding of the stream characteristics and stream crossing structures between Olympia and Canada. Because these stream crossing structures occur at the mouths of regional streams, they may affect the potential restoration value of upstream projects. In addition, the railroad affects long contiguous lengths of shoreline and, therefore, these sites represent a large fraction of non-natal stream habitats available to juvenile salmonids for rearing.

#### Project outcomes

- The project team identified all locations where streams cross the BNSF Railway along the Salish Sea shoreline between Olympia and Canada.
- Field data were collected to characterize stream, crossing structure, and habitat conditions for 196 stream crossing structures.
- Field and regional data were compiled to evaluate 13 embayments.
- The project team created and applied a site prioritization framework that identifies stream or embayment habitat priorities for Chinook salmon.



#### Major Accomplishments

- Created GIS database containing new spatial data, field inventory information, and prioritization scores for stream crossings and embayments.
- Delivered technical report describing field methods, prioritization framework, and outcomes.

#### Future Opportunities

Future restoration will require funding to help partner with BNSF to improve fish habitat along the railroad. Future work evaluating high-priority stream or embayment sites should evaluate upstream conditions to identify the full scope of opportunities. Developing preliminary design and costs for high-priority sites would be an important step towards implementing restoration.

#### About the Project Team

Confluence Environmental Company led a team that includes representatives from Environmental Science Associates, the Tulalip Tribes, and Coastal Geologic Services. BNSF provided important strategic, safety guidance, and access to sites.

#### FOR MORE INFORMATION

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