WASHINGTON PUBLIC PORTS ASSOCIATION ENVIRONMENTAL SEMINAR

Port Calculator

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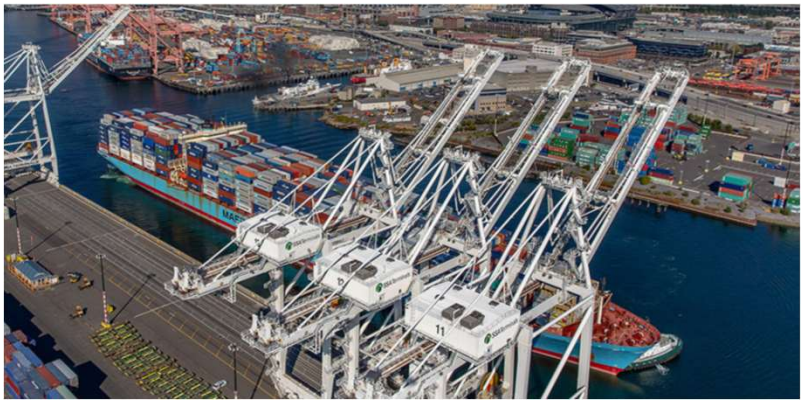
Puget Sound Nearshore Habitat Conservation Calculator

- NMFS developed the Puget Sound Nearshore Habitat Conservation Calculator to determine the enduring effect of certain activities.

Assumes maintenance of existing structures prevents this…



…from becoming this.

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Need for an Alternative Calculator

- The Nearshore Calculator does not work for Port infrastructure.

If we don't maintain this…

…it will end up like this.

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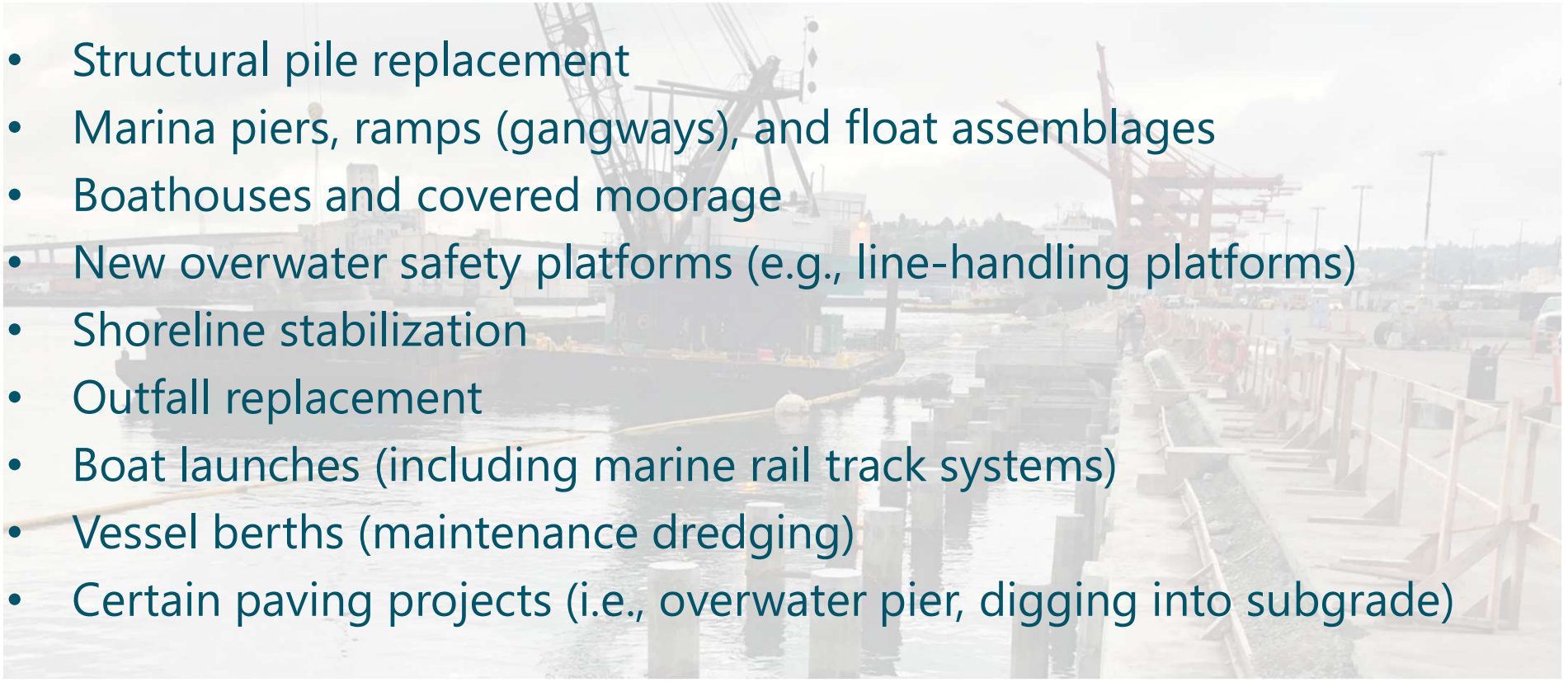
R&M Activities that Require the Port Calculator



- Structural pile replacement
- Marina piers, ramps (gangways), and float assemblages
- Boathouses and covered moorage
- New overwater safety platforms (e.g., line-handling platforms)
- Shoreline stabilization
- Outfall replacement
- Boat launches (including marine rail track systems)
- Vessel berths (maintenance dredging)
- Certain paving projects (i.e., overwater pier, digging into subgrade)

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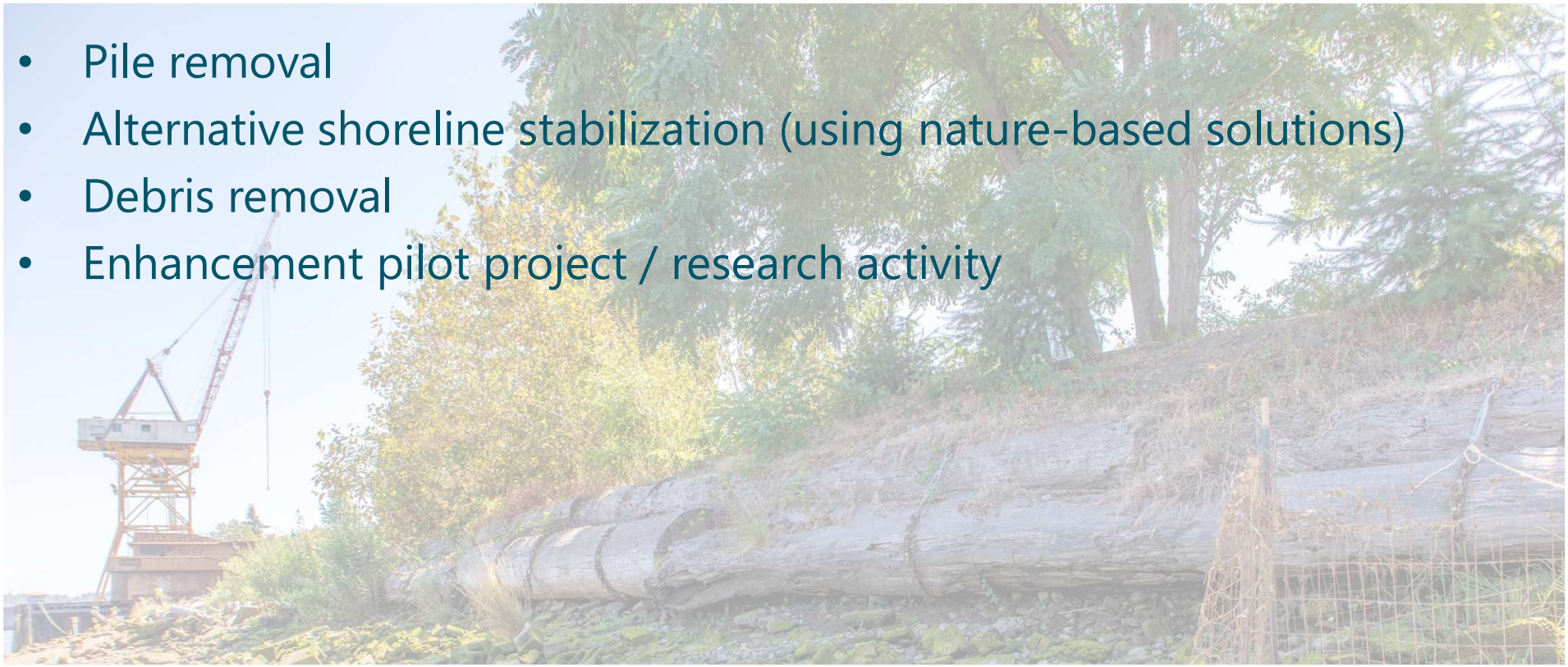
Beneficial Activities that Require the Port Calculator



- Pile removal
- Alternative shoreline stabilization (using nature-based solutions)
- Debris removal
- Enhancement pilot project / research activity

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General Similarities

Both calculators have:

- Lots of acronyms
- Habitat Equivalency Analysis (HEA)
  - Microsoft Excel spreadsheets
- Debits and credits (discounted service acre years; DSAYs)
- Physical and biological features (PBFs)
- Buffers
- Rationale / user guide

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We weren't kidding about the acronyms!

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General Differences

Port Calculator	Nearshore Calculator
Calculates project effects for three species	Calculates project effects for one species
Uses existing condition as environmental baseline	Uses pristine condition as environmental baseline
Includes additional habitat zones to account for changes in habitat productivity	Incorporates all deeper elevations into the Deep Shore Zone (>-10 feet MLLW)
Acknowledges Port environment will not return to pristine without active restoration	Assumes environment will return to pristine with no restoration actions
Accounts for durability of Port infrastructure	Assumes residential structure lifespan of 40 years
Calculates credits for projects that result in a net ecological gain	Zeros out credits for projects that result in a net ecological gain

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Components of the Port Calculator

- Area and habitat condition
- Duration and discounting
- Adjustment factors
- Project / structure type
- Species
- Habitat zone and relative habitat value

- Three major project types:
  - Enduring effect
  - Expansion
  - Credit-generating

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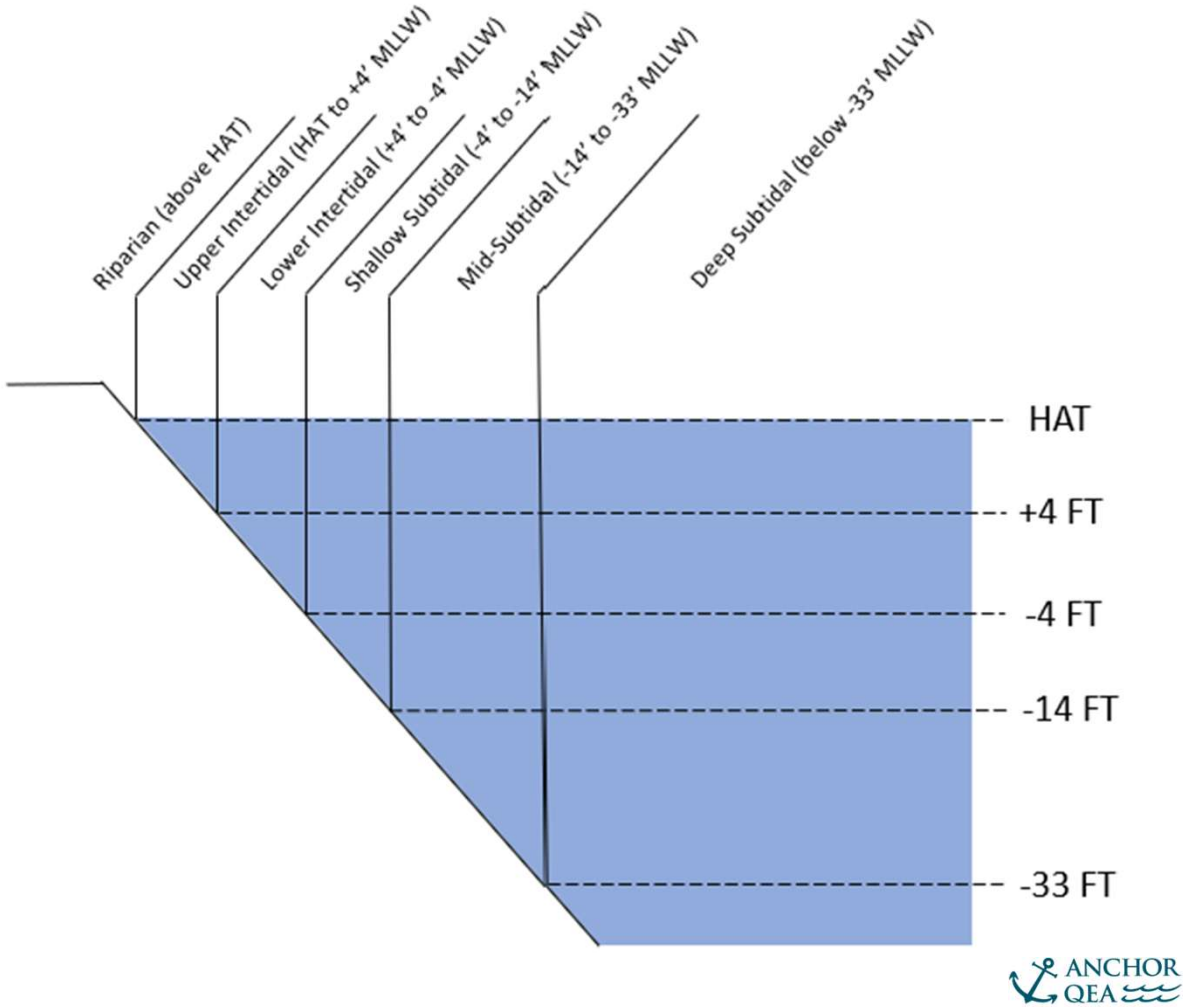
Habitat Zones of the Port Calculator



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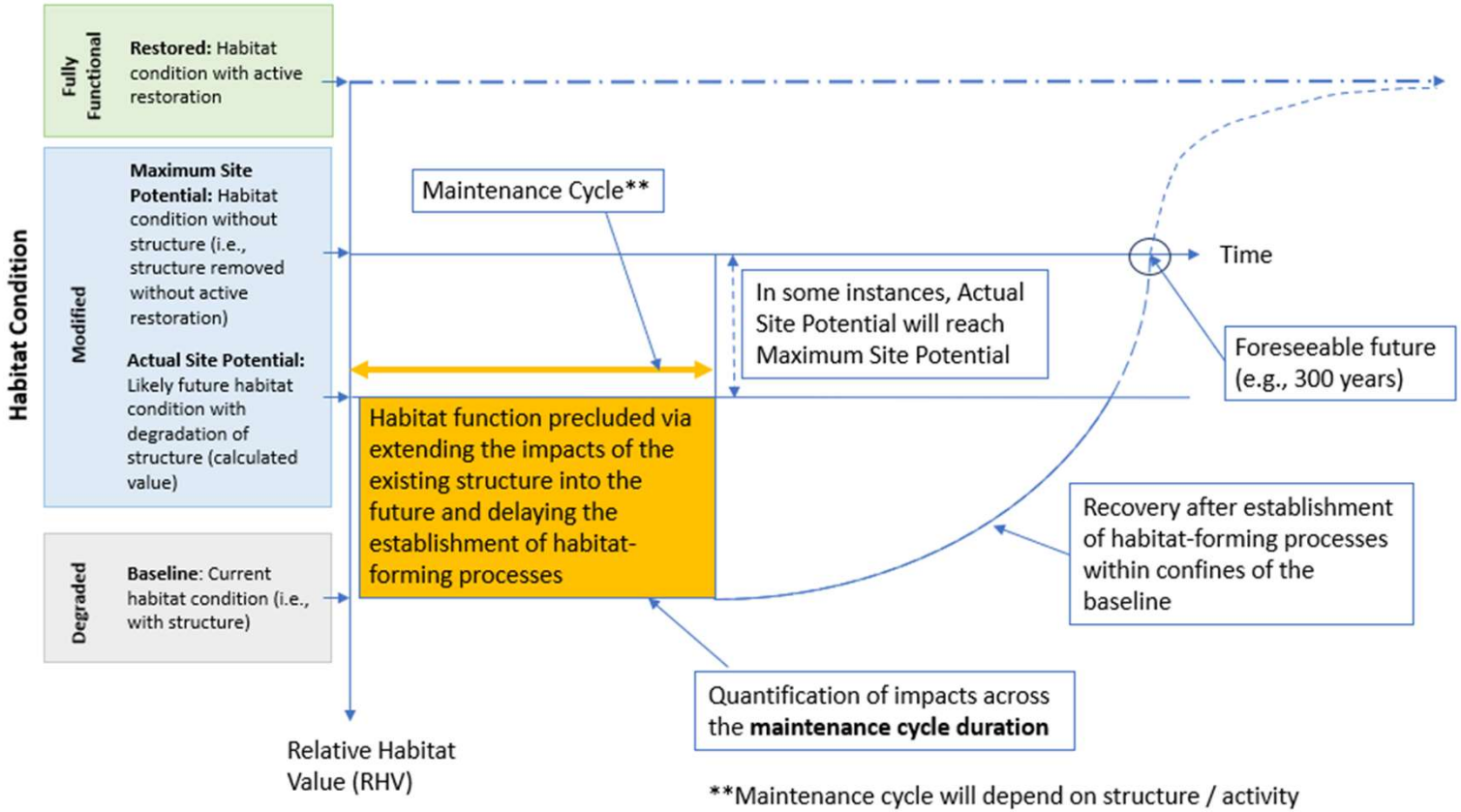
Enduring Effect Framework



**Maintenance cycle will depend on structure / activity type

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Solutions

- Early communication
- Collaboration
- Relationships
- Investment

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Port of Bellingham

- Cruise Terminal
- Pile jacketing
- Bulkhead coating
- Two phase project – total cost of $6.3M
- 1,096 credits @$800/credit – total cost of $872K

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Questions/ Discussion

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Duwamish River People's Park

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