

# ShoreZone Uses in Washington State

or... *What have we been up to for the past 15 years?*



Helen Berry

Some major contributors:

John Harper (CORI), Mary Morris (Archipelago), Megan Dethier (UW), Carl Schoch (CORI), Ken Warheit (WDFW), John Carleton (WDFW), etc.

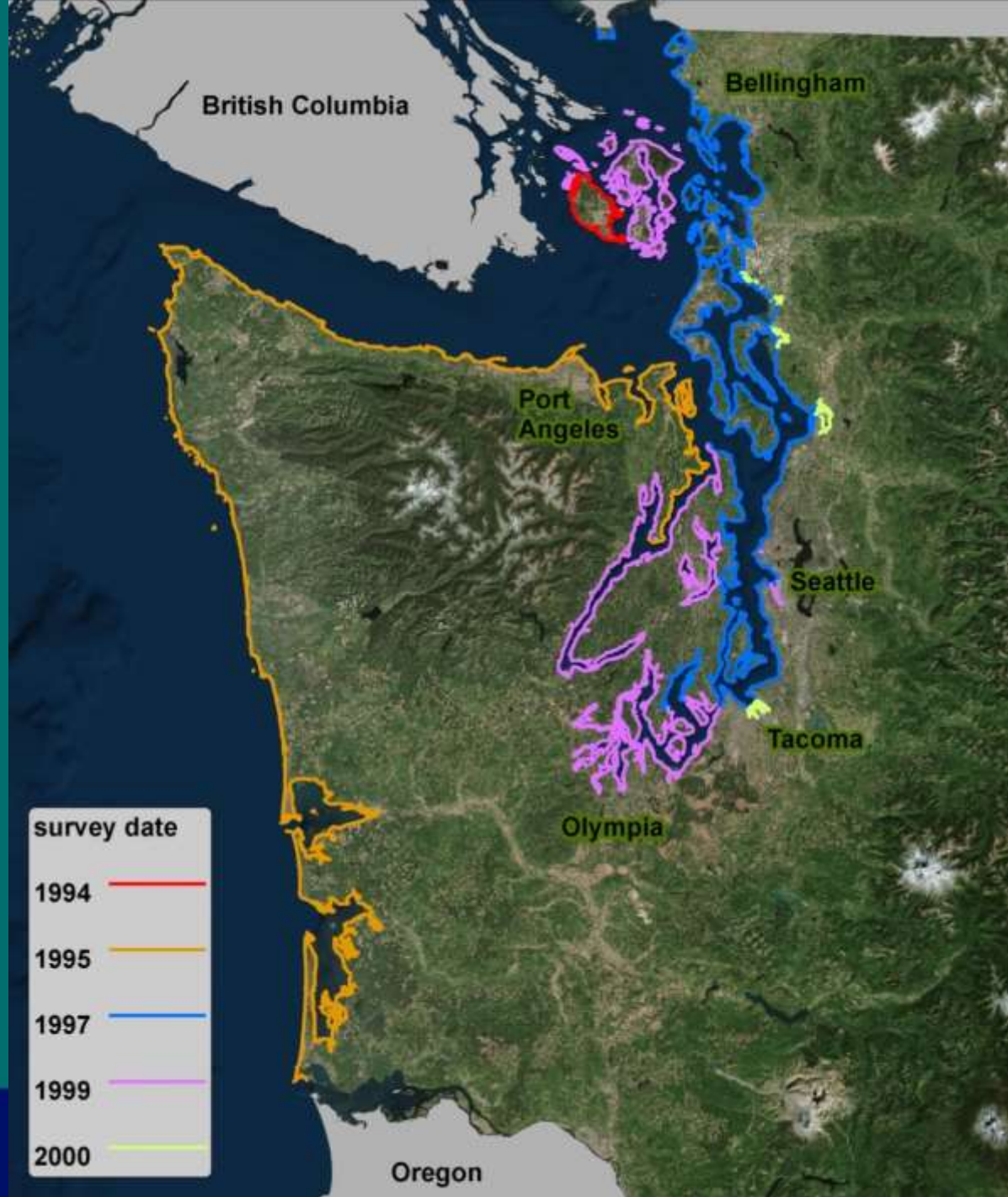


# ShoreZone in Washington

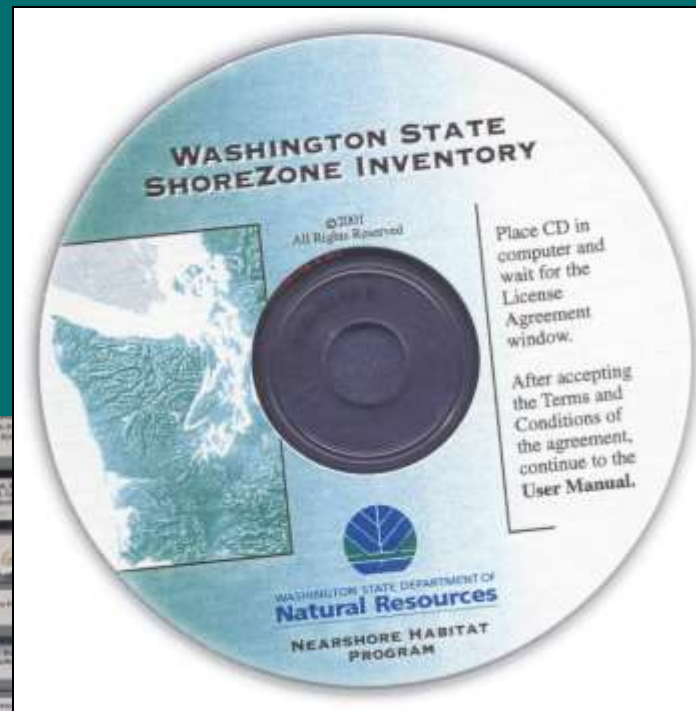
3,000 miles  
(5,000 km)

Surveys 1994-  
2000.

Draft 2000,  
Final 2001.



# Distribution



## The Washington State ShoreZone Inventory User's Manual



By Helen D. Berry, John R. Harper, Tom F. Mumford, Jr.,  
Betty E. Beckheim, Amy T. Sewell, Linda J. Tamayo

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www.dnr.wa.gov

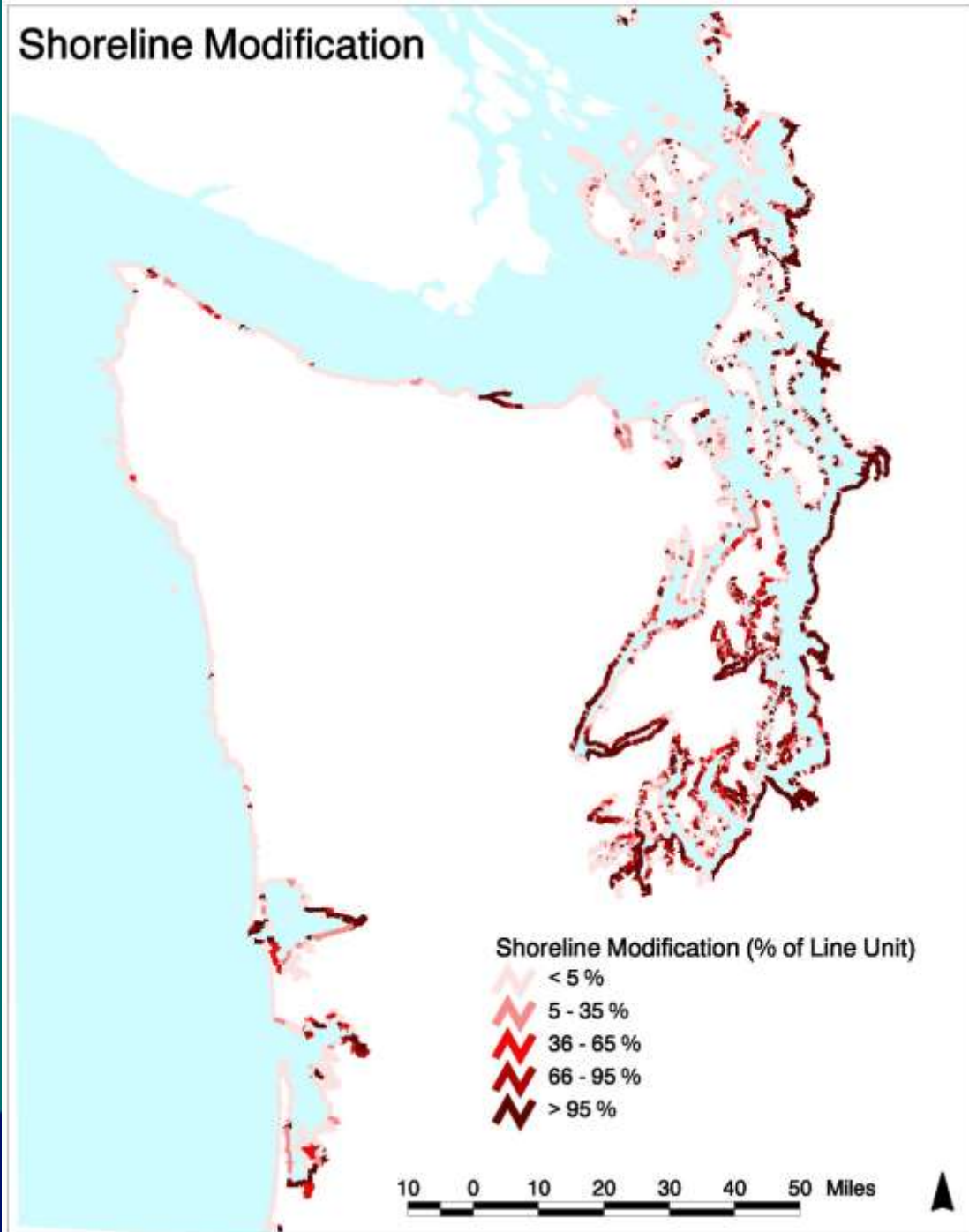
# Overall Assessment of ShoreZone: A staggering number of uses and derivative works



# Insights

- 30% of shoreline is armored (1 out of every 3 feet).
- 55% of armoring is associated with single family residences (exempt in some regulations).

## Shoreline Modification

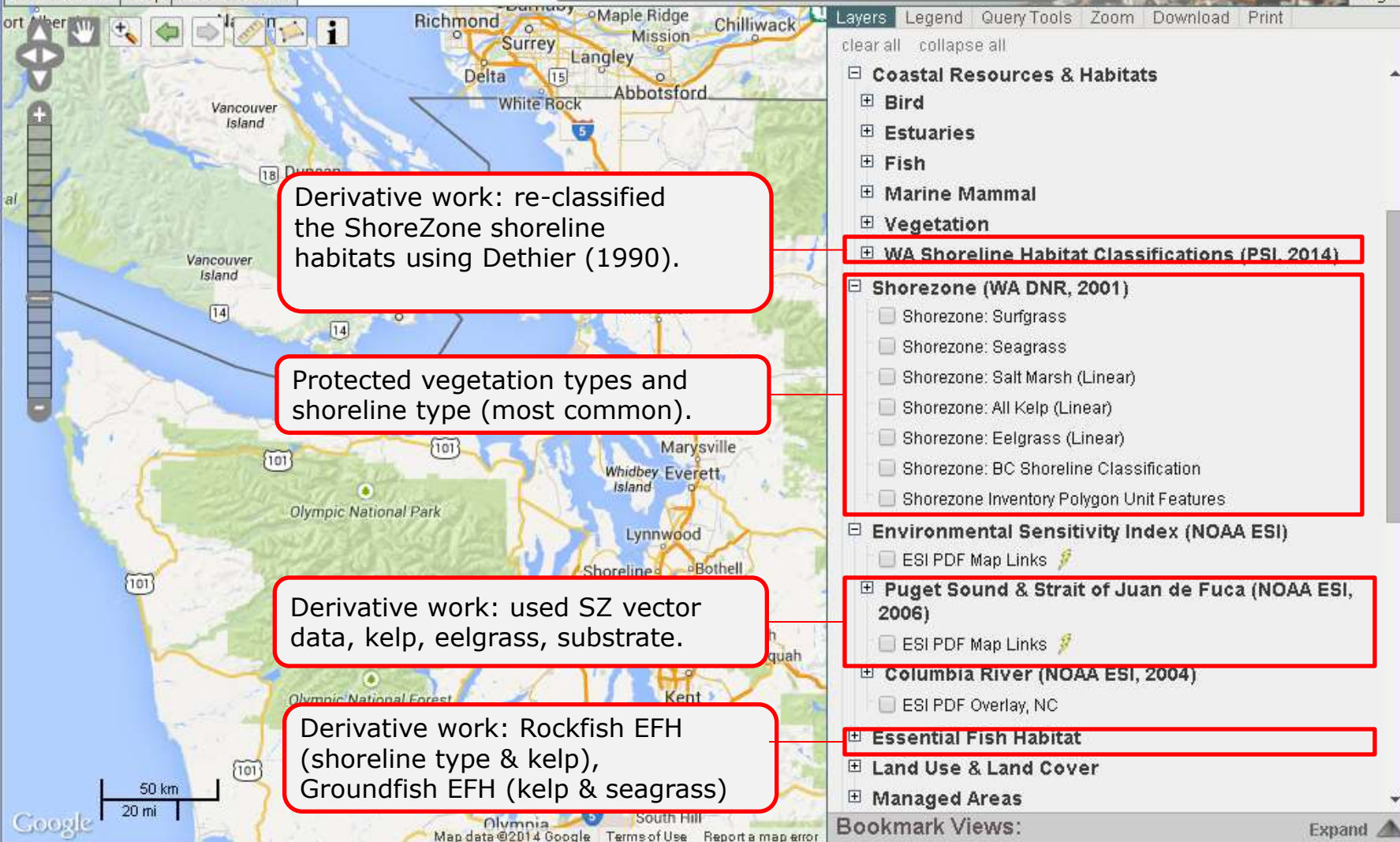


# ERMA | Environmental Response Management Application

## Pacific Northwest

Information Help Recent Data

Login



Scale: 1: 2M

Zoom Level: 8




Location: 48.47441°,-124.48307°

Expand



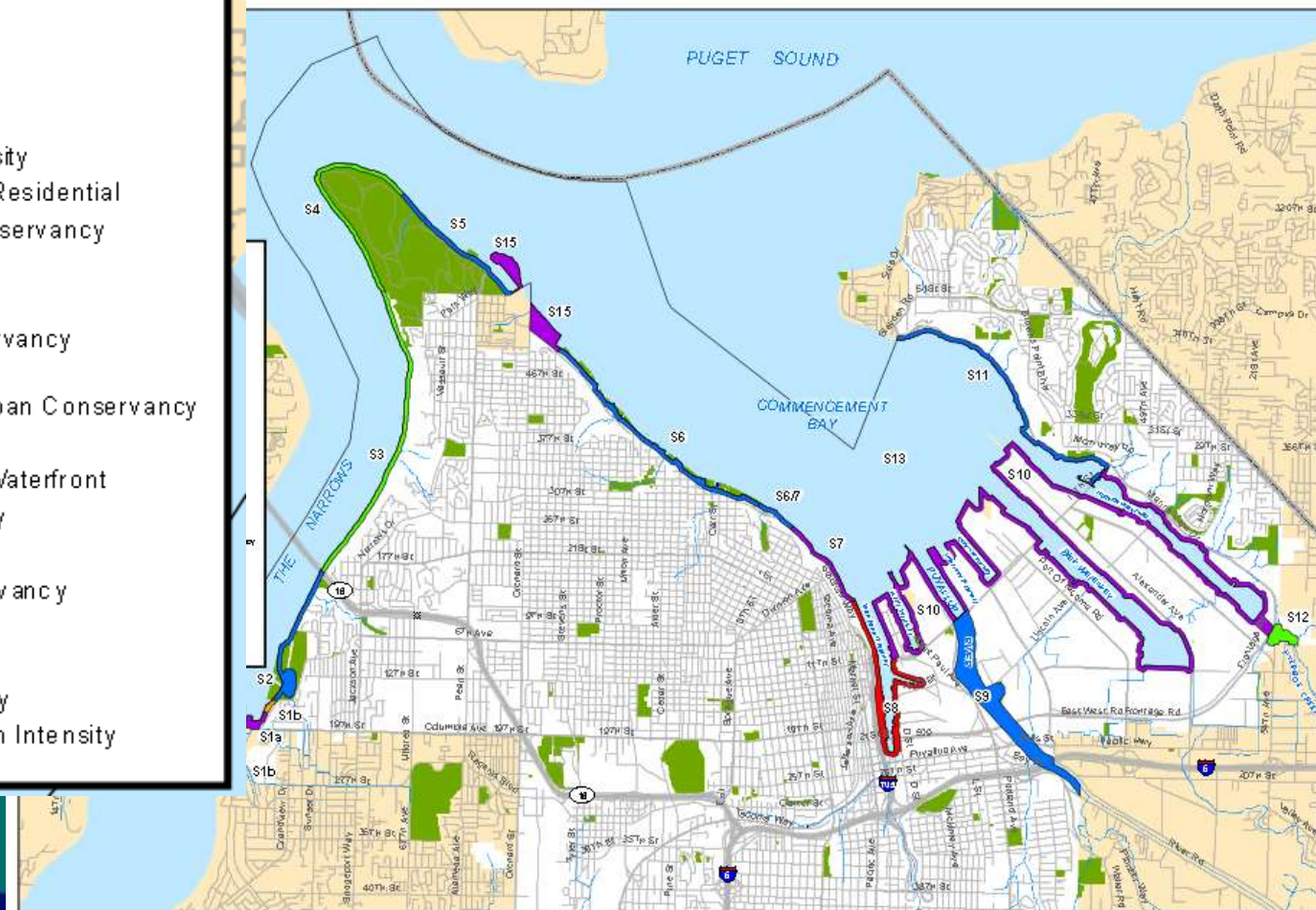
# ShoreZone & Shoreline Master Programs

## Legend

-  Roads
-  Streams
-  Parks/Public Open Space

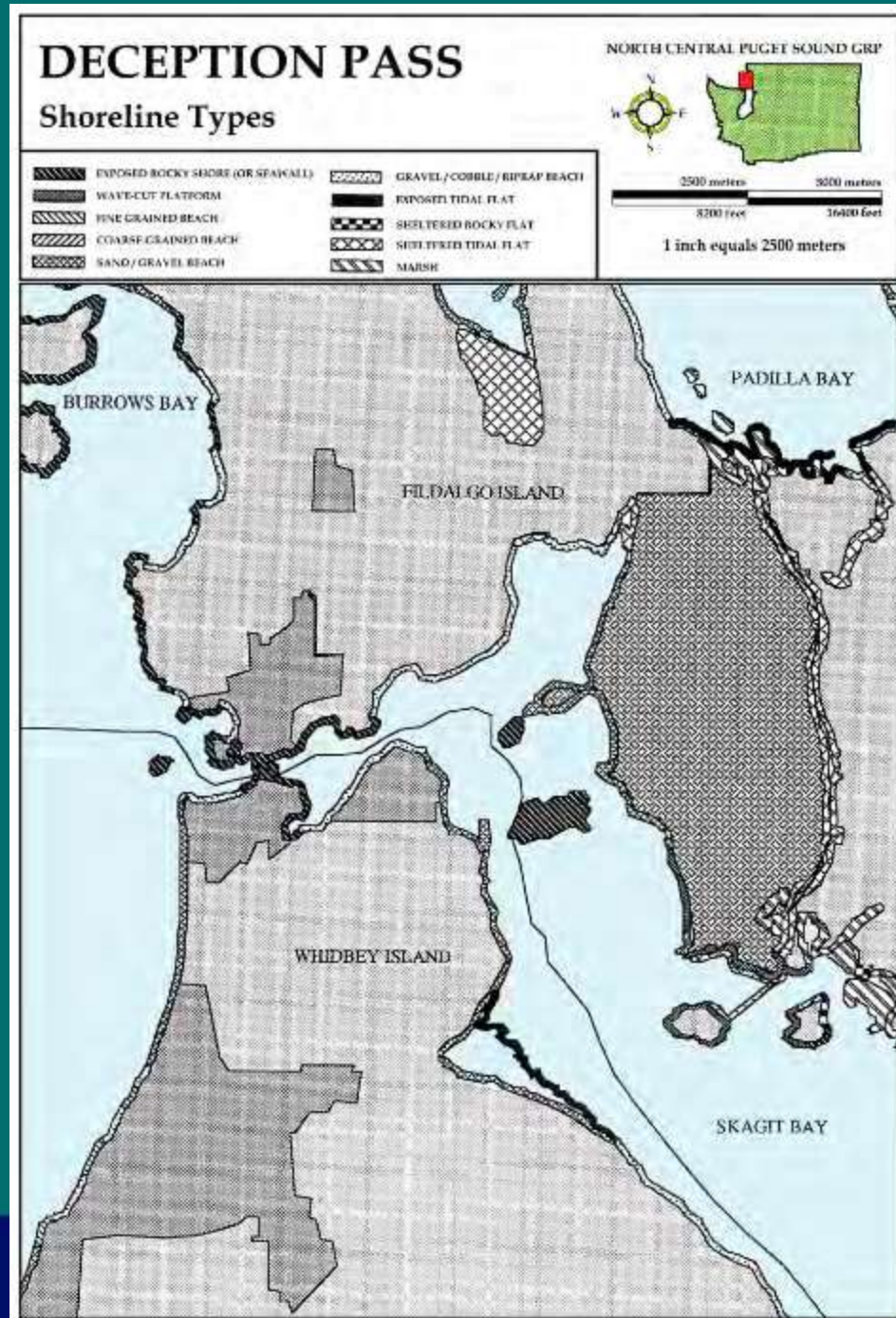
## Shoreline Districts

- S1a, Western Slope South, High Intensity
- S1b, Western Slope South, Shoreline Residential
- S2, Western Slope Central, Urban Conservancy
- S3, Western Slope North, Natural
- S4, Point Defiance Park, Natural
- S5, Point Defiance Park, Urban Conservancy
- S6, Ruston Way, Urban Conservancy
- S6/7, Schuster Parkway Transition, Urban Conservancy
- S7, Schuster Parkway, High Intensity
- S8, Thea Foss Waterway, Downtown Waterfront
- S9, Puyallup River, Urban Conservancy
- S10, Port Industrial, High Intensity
- S11, Marine View Drive, Urban Conservancy
- S12, Hylebos Creek, Natural
- S13, Waters of the State, Aquatic
- S14, Wapato Lake, Urban Conservancy
- S15, Point Ruston/Slag Peninsula, High Intensity

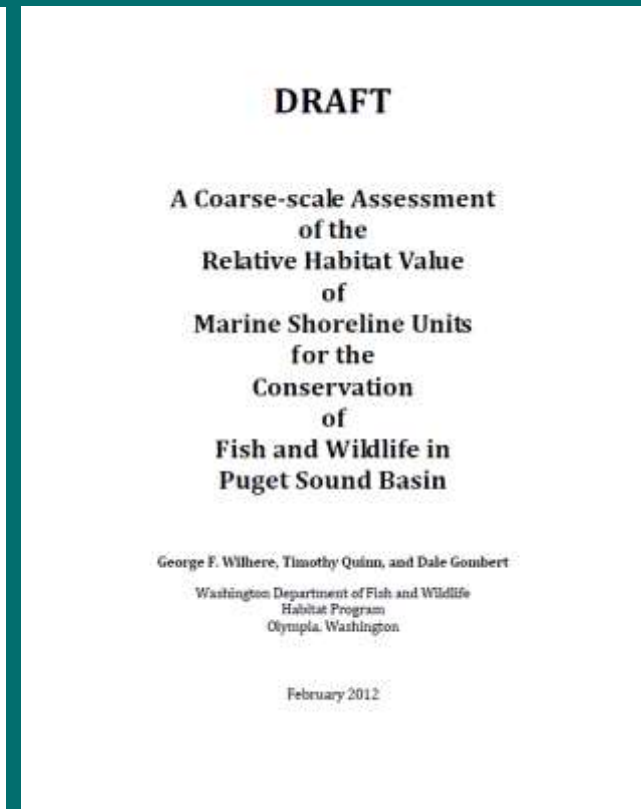
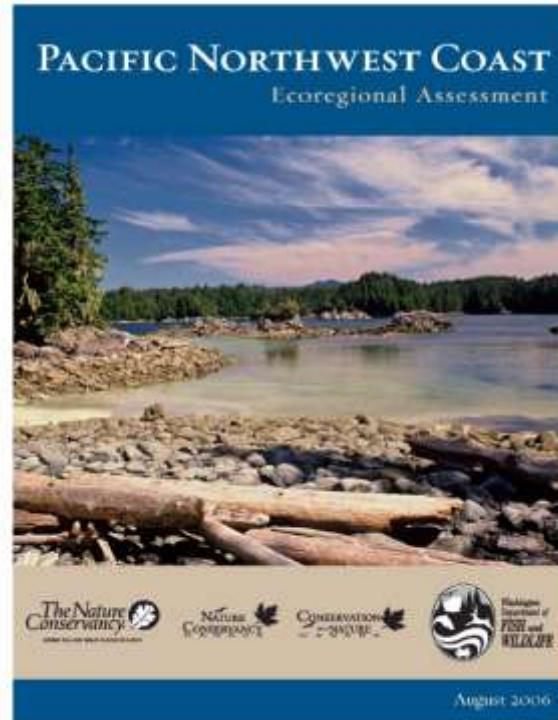
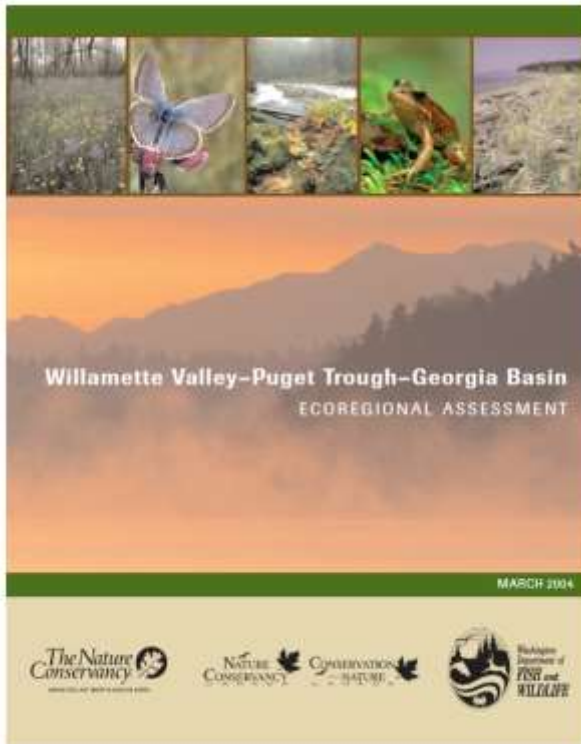


# Oil spills

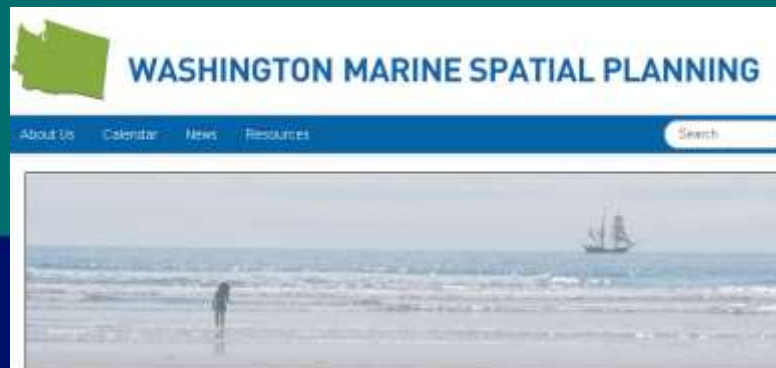
- Input data to ESI.
- For WDFW, preferred because more detailed.
- ShoreZone units will be basis of pre-segmentation in NWAC (OR & WA).



# Landscapes Planning Examples



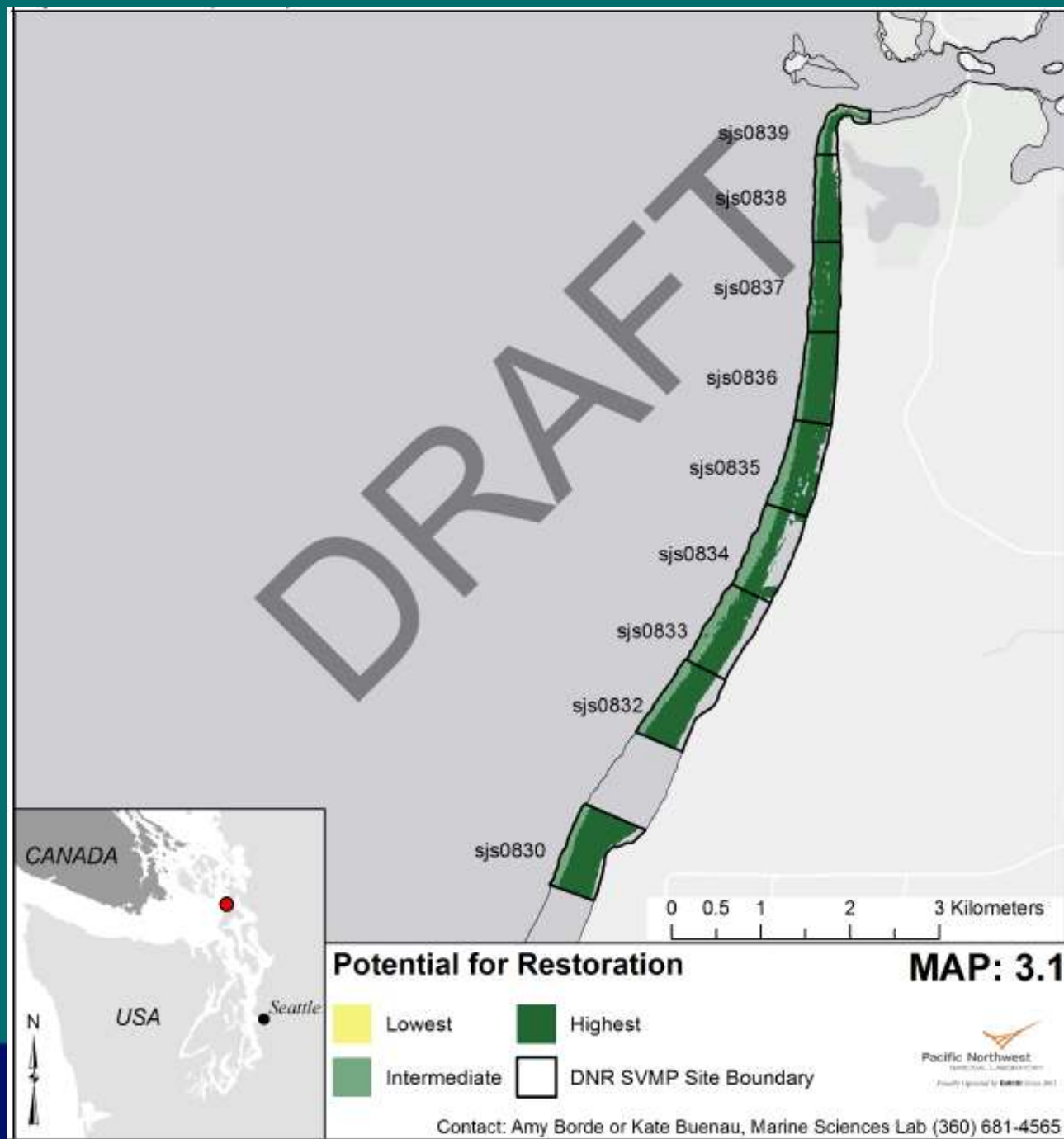
Next up...



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# Modelling

- Potential eelgrass restoration areas
- Leads: Jeff Gaeckle (DNR) and Ron Thom (PNNL)



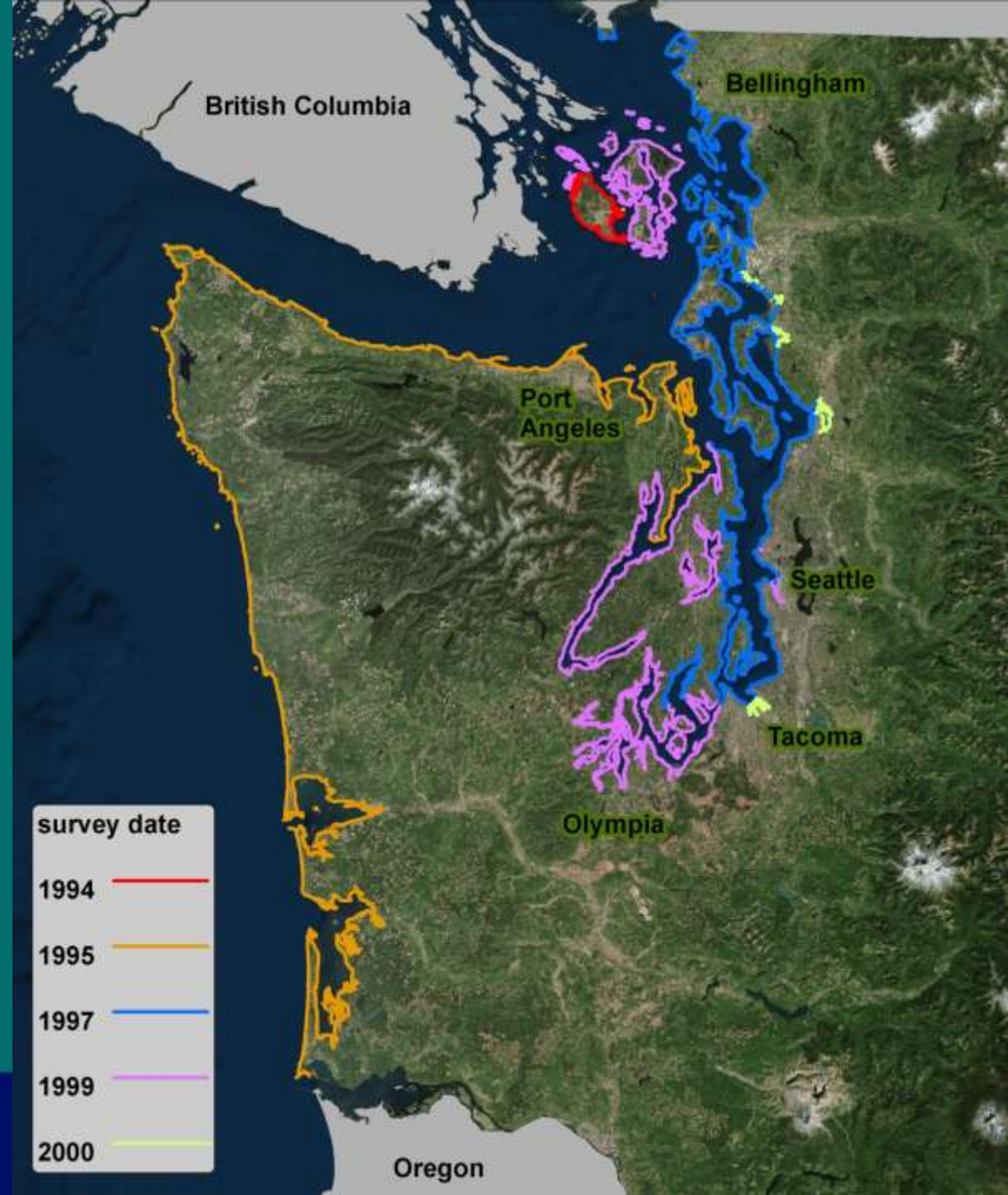
# Limitations

- Need polygons (area) for unit and features
- Seagrass in large flats=
  - 15% of shoreline with seagrass
  - 50% of total seagrass area



# Limitations

- Current enough?
- Change detection?

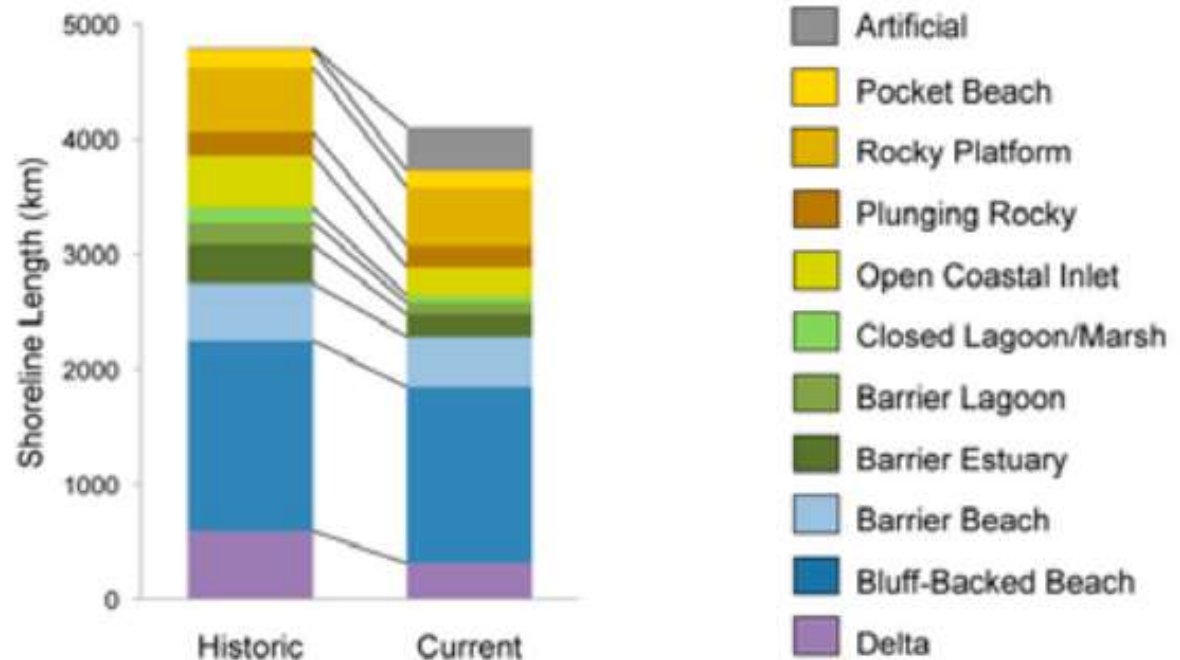


# Other Approaches

- PSNERP - polygon and line features that span nearshore, deltas, and adjacent uplands.

## Historical Change and Impairment of Puget Sound Shorelines

h. Puget Sound



P.<sup>3</sup>, Gertsel, WI.<sup>14</sup>, and MacLennan, A.<sup>15</sup>

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<sup>14</sup>National Park Service; <sup>15</sup>School of Oceanography, University of Washington;  
<sup>16</sup>Washington Department of Ecology; <sup>17</sup>US Fish and Wildlife Service;  
<sup>18</sup>The Nature Conservancy; <sup>19</sup>SoundGIS; <sup>20</sup>Washington Department of Transportation; <sup>21</sup>NOAA Northwest Fisheries Science Center;  
<sup>22</sup>US Army Corps of Engineers, Seattle District; <sup>23</sup>People for Puget Sound;  
<sup>24</sup>Anchor Environmental QEA; <sup>25</sup>Eva Data & Mapping;  
<sup>26</sup>Qwg Applied Geology; and <sup>27</sup>Coastal Geologic Services

ECOSYSTEM RESTORATION PROJECT



Seattle, Washington  
 and  
 Washington Department of  
 Fish and Wildlife  
 Olympia, Washington

September 2011

