

# Draft: No Net Loss Indicators

Shorelands and Environmental Assistance Program  
Washington Department of Ecology

## Indicator Assumptions

- Data are available
- Variables can be readily measured
- Indicator will provide a measure of condition within shoreline jurisdiction

## Criteria used to pick indicators

- What will indicator tell you?
  - Is the indicator relevant to policies and goals?
- Are data available and easy to obtain?
- Are data reliable and consistent?
- Can data show change over relatively short time period (7 years)?

## Some caveats

- Activities outside shoreline jurisdiction affect shoreline
- Indicators only part of NNL story
- Limitations for each indicator
- How capture positive impacts – e.g. bulkhead removal

## Ones we kept

1. Loss of forest cover (acres converted)
2. Shoreline stabilization (linear feet)
3. Riparian vegetation (linear feet/width)
4. Protected areas (acres)
5. Overwater structures (square feet)
6. Road lengths (feet within 200 ft of shoreline)
7. Road crossings (number)
8. Water quality
  1. 303 (d) listing
  2. Shellfish closures
9. Flood control structures (linear feet)
10. Connected floodplain area (acres)

## Discussion on some indicators

Indicator (all in shoreline jurisdiction)	Functions affected - key categories - water quality, water quantity and habitat	Type of Impairment**	Limitations of indicator	Is data available or reasonable to obtain
<p><b>Shoreline stabilization:</b> <b><u>Linear length of bulkheads, revetments, bioengineering, seawalls, groins, retaining walls, gabions.</u></b> <b>(Includes decrease in length, change to soft structure.)</b></p>	<p>Habitat-Riparian and aquatic habitat, sediment supply. Input of organics &amp; LWM. Structure for habitat life needs.</p>	<p>Interrupts habitat forming processes, such as beaches &amp; channel migration. Loss of nesting sites, rearing, refuge &amp; foraging areas.</p>	<p>Combines different types of stabilization measures into one general category; impacts may vary.</p>	<p>Is data available from local government, including permits &amp; SDP exempt projects? Can locals track over time? Use HPA-only projects?</p>

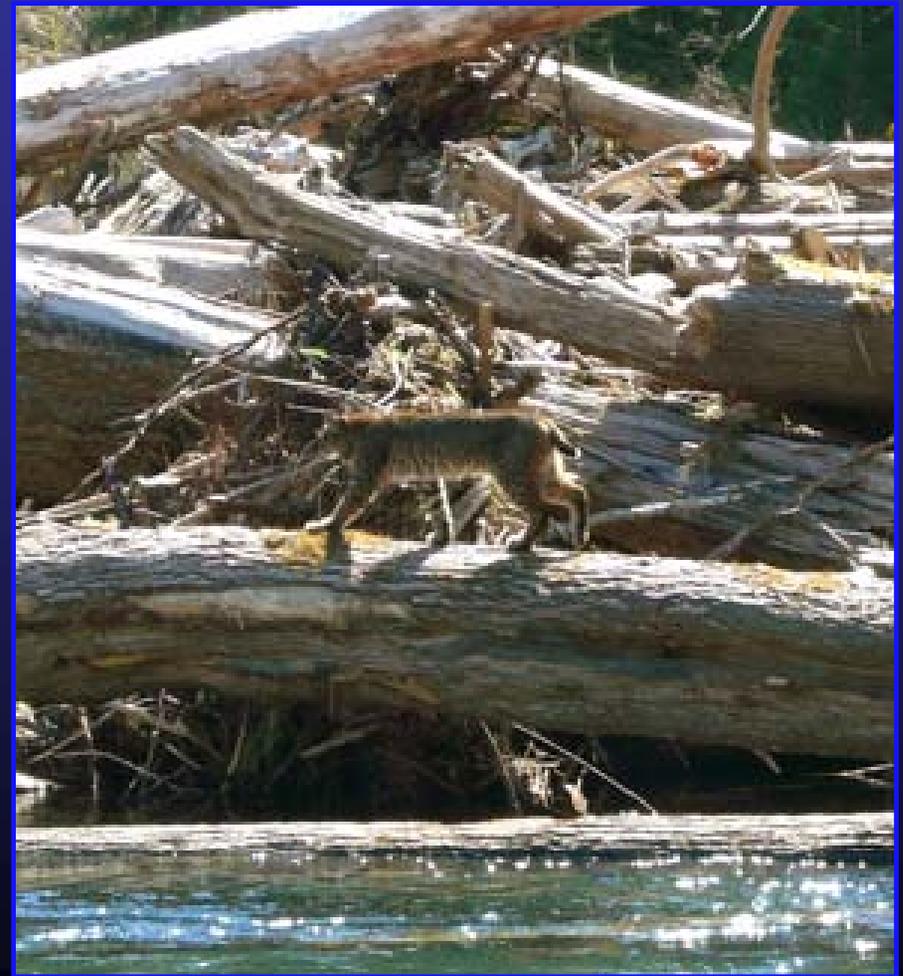
Indicator (all in shoreline jurisdiction)	Functions affected - key categories - water quality, water quantity and habitat	Type of Impairment**	Limitations of indicator	Is data available or reasonable to obtain
<b>Road lengths (<u>feet</u>) within 200 feet of water body</b>	Water quantity Water quality Habitat-connectivity	Intercepts and changes timing of flows to aquatic habitat. Increases sediment and toxics.	Is there much new road development in shoreline jurisdiction?	Who permits and has data?
<b><u>Number</u> of road crossings of water bodies (bridges, culverts)</b>	Habitat - Instream functions Water quality	Simplifies stream habitat structure, increases channel confinement and interrupts habitat forming processes. Increases delivery of pollutants.	Is there much new road development in shoreline jurisdiction? Distinguishing between fish friendly crossings and others. Combining broad range of activities.	Who permits and has data?

## *Some we eliminated....*

- Flood control applications
- Number of wells
- Population growth
- Construction permits

## Suggestions?

- Bald eagle nests in shoreline
- Eelgrass beds
- Other biologic indicators?
  - Species that can be tracked in short time periods



## Using indicators

- Decide which to use as part of SMP update
- Project how indicators help to achieve NNL
  - How offset impacts?
- Track during 7 years prior to next update
- Measure and analyze
- Creates awareness

## Review Process

- Comments to me by November 6
- Technical team reviews again
- State agencies review
- All Washington shoreline planners in January
- Recommended indicators early next year

