University of Washington

Study of Armoring Impacts on Puget Sound Shorelines

ARMORING consists of erosion control practices using hardened structures (e.g. concrete walls) that stabilize the shore. Below, the left picture shows the use of both a concrete wall and rip-rap for armoring.

WHY? The Puget Sound Partnership identifies armoring as a significant threat to the health of the Sound and a key feature in need of restoration. However, more local research is needed to 'pin down' impacts and discover under what circumstances armoring has negative effects. For example, we need to better identify major threats to shoreline habitat when the upper beach is covered by shoreline armoring and also understand the importance of sediment loss, because sediment is supplied only by unarmored, eroding bluffs.

The current seawall and riprap at the north end of Seahurst Park; some parts will be removed in the next few years.

The restored beach at the south end of Seahurst Park. The seawall was removed in 2004-2005.

WHERE?

1. We will examine changes in shoreline physical features and ecosystem functions resulting from removal of armoring in the northern half of Seahurst Park, which is expected to occur in Fall 2011. We will compare these with conditions at 'control' sites to the south (near Marine View Park).

2. We will conduct a broad survey of armored and unarmored beaches throughout King County to try to obtain data about large-scale and long-term changes associated with armoring, and how these might vary among locations.

How you can help: You may see strange objects on the beaches in the next few years; ***please do not disturb these***, and ask others to do the same. These include:

- Mesh cones embedded in the beach to quantify recruitment of tiny clams, marked by pink flagging tape
- Plastic tubes with mesh on the end on the high shore, to measure rates of decomposition of washed-up vegetation and how these rates are affected by 'beach hoppers'
- Tubs filled with water embedded in the sand in the high shore to quantify types and numbers of insects that fall into the ocean from the land; these are important food for juvenile salmon
- In the winter, scientific instruments that measure wave energy and amounts of sediment being transported by waves along the shore
- Scientists at work! Year-round, there will be teams of researchers measuring beach profiles, types of sediment, animals in the sediment, and other factors

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