

# A Benefit-Cost Analysis of the Meadowdale Beach Park and Estuary Restoration Project

**The community will receive more than \$4 in public benefits for every \$1 invested in park restoration.<sup>1</sup>**

Meadowdale Beach Park is a 108 acre park located in unincorporated Snohomish County and Edmonds, Washington. Situated in an urban forest, the park's hike-in only access trail winds through a ravine alongside Lund's Gulch Creek to an open meadow and paths leading to the ultimate destination, Puget Sound. As one of three Snohomish County Parks with public beach access, the park draws in roughly 65,000 visitors per year.

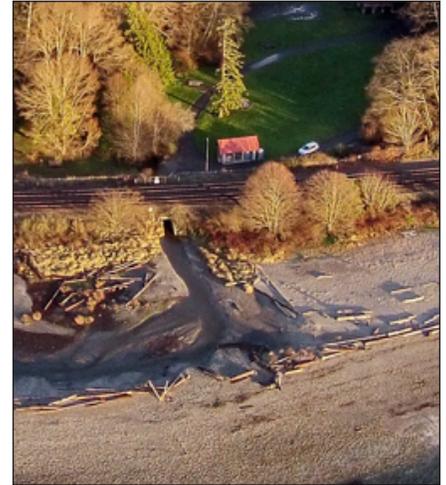
Park visitors access the beach by way of a six-foot-wide concrete box culvert under the railroad berm. This culvert also conveys the year-round flow of Lund's Gulch Creek, a salmon-bearing stream. Due to the narrow opening of the culvert and increased creek flows, sediments



carried by the creek deposit at the culvert entrance, blocking fish passage below pedestrian grating and restricting nourishing sediments from reaching the beach. Flooding of the culvert and surrounding areas has increased over the last decade, impacting public beach access, stranding fish, and eroding the streambank.

In 2014, Snohomish County Parks and Recreation partnered with Snohomish County Surface Water Management Division, Snohomish County Marine Resources Committee, and Anchor QEA, to conduct a feasibility study to develop design alternatives that would improve beach access, enhance public safety, and restore habitat critical for native salmon species. After soliciting feedback from the local community, local organizations, and Tribes, design commenced on the preferred alternative park design, the Meadowdale Beach Park and Estuary Restoration Project (MBPERP).

Because of the significant investment needed to initiate the MBPERP, Snohomish County contracted with Earth Economics to perform a holistic benefit-cost analysis (BCA) of the project. The BCA reveals that the MBPERP would unlock \$249 million worth of public benefits (recreational, environmental, educational, and economic), far outweighing anticipated project costs.<sup>2</sup> In fact, for every dollar it invests in the MBPERP, Snohomish County can expect \$4.35 worth of public benefits in return.<sup>1</sup>



## The Meadowdale Beach Park and Estuary Restoration Project

Improvements include:

- Five-span railroad bridge to replace the six-foot culvert, enhancing park and shoreline connectivity and accessibility.
- American Disability Act accessible pedestrian beach trail and other park amenities, enhancing the experience for 65,000 visitors and hundreds of students annually.
- Widened creek meander, transporting nourishing sediment to Puget Sound nearshore areas and reducing park flooding.
- Two acres of pocket estuary and riparian habitat, restoring critical habitat for juvenile Chinook salmon, listed as threatened under the Endangered Species Act (ESA), and a primary food source for the ESA endangered Southern Resident orca whales.

# The Public Benefits of Meadowdale Beach Park

A holistic BCA is key to understanding the broad range of benefits that will be provided by Meadowdale Beach Park, following the completion of the MBPERP. To that end, Earth Economics' BCA values a variety of benefits that will be provided by the park, including:



## Environmental Benefits

Earth Economics' valuation of the ecosystem services provided by the park estimates that \$11.1 million to \$41.2 million worth of ecosystem services will be generated over the next 100 years, following the completion of the MBPERP.<sup>1</sup> This valuation includes the significant addition of a pocket estuary, restored by the MBPERP, that will provide critical habitat for native salmon species, including Chinook salmon.



## Recreational Benefits

As a regional park, Meadowdale Beach Park draws visitors from across Snohomish County. By improving beach access, and preventing frequent flooding, the MBPERP is expected to increase recreation visits to the park. In fact, recreation visits to the park over the next 100 years will be worth \$239 million following the completion of the MBPERP.<sup>1</sup>



## Educational Benefits

Currently, 16 different educational programs, ranging in size from 4 to 200 students, use Meadowdale Beach Park for educational purposes. Improvements made under the MBPERP are expected to increase the park's utilization as an outdoor classroom and provide over \$2.9 million worth of education benefits over the next 100 years.



## Economic Benefits

Studies suggest that consumers are willing to pay more for homes that are near a park.<sup>2</sup> Moreover, as the quality of a park improves, so does a consumer's willingness to pay for a home in the area.<sup>2</sup> The MBPERP is expected to raise the value of homes near Meadowdale Beach Park by 6.2%. Higher property values mean Snohomish County can expect an additional \$20.1 million in real estate tax over the next 100 years.

## Benefit-Cost Analysis Results

Earth Economics' BCA looks at the benefits unlocked by the MBPERP, as well as the dollar values associated with those benefits. **When compared to a "no action" scenario, the MBPERP will unlock an additional \$249 million worth of benefits which far outweigh the project's costs.**<sup>1</sup> When considering a 100 year timeline, the MBPERP has a benefit-cost ratio of 4.35.<sup>3</sup> In other words, Snohomish County can expect about \$4.35 in public benefits for every dollar it invests in the MBPERP.



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<sup>1</sup> Benefits valued over 100 years using a 0% discount rate

<sup>2</sup> Bark, R., Osgood, D., Colby, B., Katz, G., & Stromberg, J. (2009). Habitat preservation and restoration: Do homebuyers have preferences for quality habitat? *Ecological Economics*, 68(5), 1465-1475. doi:10.1016/j.ecolecon.2008.10.005

<sup>3</sup> Benefit-cost ratio is calculated over a 100 year timeline using a 2.5% discount rate