

Protecting and Improving Estuaries with Smart Growth Tools

Lower Columbia River Estuary Partnership

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Part of the National Estuary Program since 1995, the Lower Columbia River Estuary Partnership (LCREP) works to protect and restore the nationally significant Lower Columbia River estuary with on-the-ground improvements and education and information programs. LCREP works within a 146-mile segment of the Columbia River and nearby acreage from the Bonneville Dam to the mouth of the Pacific Ocean.



The National Estuary Program (NEP) was established under the 1987 Clean Water Act Amendments. It is a unique voluntary program that operates through partnerships with EPA and other public and private sector entities. Each NEP operates via an inclusive, collaborative decision-making process to deliver on-the-ground results, making the NEP a leading model of watershed management.



Why Is Smart Growth Important For Estuary Protection And Improvement?

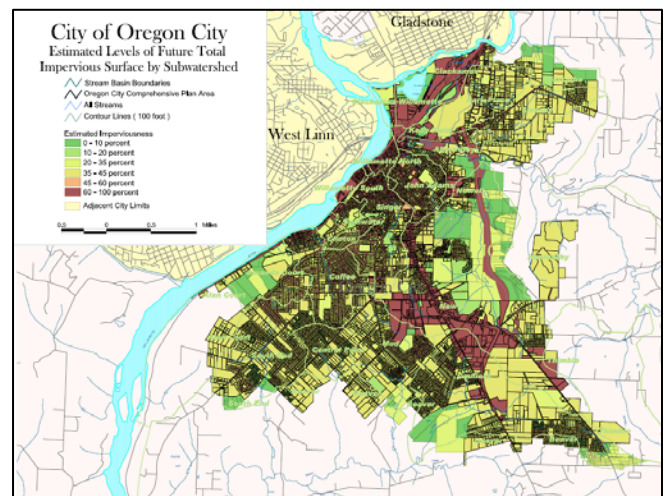
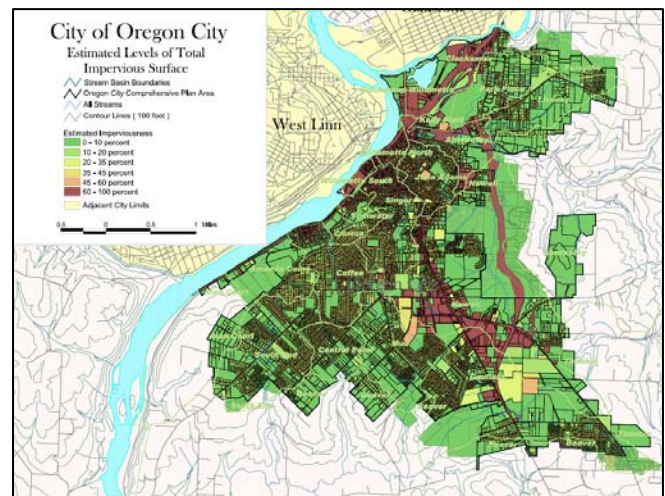
Runoff from developed areas often contains nutrients, pathogens, and metals. Nationally, runoff is the second most common source of water pollution for estuaries. Cumulative impacts from conventional development -- including increased stormwater volume and flow rates -- lead to erosion, estuary degradation, and habitat destruction. Conventional stormwater management practices address peak flows and suspended solids, but are only partially effective in managing cumulative impacts. Compact development paired with preservation of critical natural areas can help protect estuaries by (1) using land more efficiently, (2) reducing the amount of impervious surface per capita, and (3) allowing open lands to filter rainwater naturally, thus recharging local groundwater aquifers and supporting improved hydrologic function.

How Did The Lower Columbia River Estuary Partnership Use Smart Growth To Protect Its Estuary?

The Lower Columbia River Estuary Partnership (LCREP) protects and enhances a 4,300-square-mile area along a 146-mile segment of the tidally influenced Columbia River. Recognizing the detrimental effects of stormwater drainage from developed areas on estuaries, LCREP's 1999 Comprehensive Conservation and Management Plan (CCMP) names reduction of stormwater volume and improvement of stormwater quality a main goal. To address the wide geographic diversity of its study area, LCREP works both on prioritizing habitats to protect and working with local governments in developed areas.

Beginning in 2000, LCREP helped Oregon City, OR and Longview, WA better understand the cumulative impacts of their local codes and ordinances, especially the effects of impervious cover on water quality. The core of LCREP's multiple component strategy was based on the NEMO (NonPoint Education for Municipal Officials) Project (<http://nemo.uconn.edu/>).

As a first step in working with and educating government officials, LCREP analyzed impervious cover in Oregon City and Longview to produce two maps for each city: one tracking current impervious surfaces and another projecting future impervious surfaces based on similar



development patterns. After presenting these analyses to the officials, LCREP developed tools to help local government officials and other stakeholders address stormwater management issues:

- For Longview government officials, LCREP created alternative development schemes that illustrated on-site stormwater management techniques.

Principles of Smart Growth

- Create Range of Housing Opportunities and Choices
- Create Walkable Neighborhoods
- Encourage Community and Stakeholder Collaboration
- Foster Distinctive, Attractive Communities with a Strong Sense of Place
- Make Development Decisions Predictable, Fair and Cost Effective
- Mix Land Uses
- Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas
- Provide a Variety of Transportation Choices
- Strengthen and Direct Development Towards Existing Communities
- Take Advantage of Compact Building Design

For Additional Information:

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US EPA Smart Growth Program
Development, Community, and Environment Division (DCED)
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www.epa.gov/smartgrowth

- LCREP analyzed pollutant loading in Longview to quantify the impact of impervious surfaces on water quality and quantify the pollutant loading reductions associated with the alternative development schemes.
- LCREP evaluated Oregon City's and Longview's codes and suggested improvements to protect and enhance water quality. Where codes did not address water quality, LCREP proposed specific code language, a rationale for changing the code, and example codes from other jurisdictions.
- LCREP published a "Field Guide to Water Quality Friendly Development" for use by developers, citizens, and government officials. This practical guide provides technical information sheets and resources for communities, developers, and citizens who want to design their homes and neighborhoods with better water quality in mind.

How Did Smart Growth Tools Help LCREP Achieve Its Goals?

LCREP found it essential to obtain collaboration from government stakeholders. By performing impervious cover and code analyses, LCREP educated government officials about stormwater issues with practical examples and facts directly relevant to their jurisdictions. LCREP then went a step further by providing government officials with tools, such as proposed code language and a field guide, which could help them manage stormwater in their communities.

To drive home the link between land use, impervious surfaces, and water quality, LCREP gave a number of presentations to the city council, planning commission and city staff in Oregon City and Longview. LCREP involved the public by giving approximately 13 presentations to Oregon City neighborhood associations.

Within its stormwater management projects, LCREP worked to preserve open space by emphasizing protection of habitat and incorporation of stream buffers in the alternative development schemes developed for Longview. LCREP's alternative development schemes also emphasized more narrow roadways, shared driveways, and setbacks to increase the amount of vegetated area, and thus the amount of on-site filtration, in developments.

How Can Other NEPs Learn From The LCREP Experience?

LCREP used the goals in the CCMP as an opportunity to work with local government officials to protect the estuaries. Other NEPs can look for similar opportunities by asking themselves these questions:

- Can your NEP conduct build-out analyses of current zoning that will educate government officials and stakeholders about the impacts of future growth on estuary protection?
- Does your area have codes that could be revised to more effectively address the cumulative impacts of development by using smart growth principles?
- Can you create alternative ideas for developments in your area and share your ideas with government officials, developers, and other stakeholders?