



Managing Stormwater – Protecting Rivers and Streams

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Transportation projects contribute to cleaner water

WSDOT installs stormwater facilities as part of highway construction projects to address problems associated with stormwater runoff and to protect water quality in rivers and streams. Problems related to stormwater runoff include water pollution, erosion, and flooding.

We evaluated expenditures for stormwater improvements as part of highway improvement projects funded by the Nickel and Transportation Partnership Account (TPA) programs. We examined costs in 2003, 2006 and 2009 for 35 projects that represent the wide range of project size, complexity and type in WSDOT's construction program. We looked at all design and construction costs related to stormwater mitigation.

The average spent on projects that required stormwater infrastructure in the \$15.5 billion Nickel and TPA programs is nine percent of total project cost, or an estimated \$1.2 billion. Costs varied substantially by project, depending on specifics including location and real estate values of the project area. Generally, costs increased from 2003 to 2009 due to new regulatory requirements. We expect to invest at least 10 percent of the total project cost, on average, for future stormwater facilities.

In addition to construction-related projects, as part of the Nickel and TPA programs, WSDOT will invest \$6.1 million on stand-alone projects, adding stormwater facilities in areas where stormwater has been untreated.



Maintenance equipment.



Testing equipment.

WSDOT's stormwater investments go beyond projects

WSDOT has invested funds in maintaining stormwater infrastructure. Between 2003 and 2011, WSDOT spent approximately \$106.6 million on stormwater maintenance. These activities include maintaining ditches, culverts, catch basins, and shoulder sweeping. In the same timeframe, WSDOT spent an additional \$11.7 million on non-maintenance regulatory compliance activities, such as testing stormwater.

Environmental results

Stormwater runoff contains a number of pollutants like metals and petroleum products that are harmful to aquatic life. Our stormwater facilities are designed to remove these pollutants to acceptable levels. Also, these facilities are designed so that the highway will not contribute to downstream flood and erosion, a major problem in urban areas.

Summary of stormwater investments, biennia 2003-2011

- Project-related improvements: \$1.2 billion (estimated)*
- Maintenance: \$106.6 million
- Regulatory compliance: \$11.7 million
- Stand-alone improvements: \$5.1 million

**NOTE: These costs are for the entire Nickel and TPA program.*

Our stormwater cost evaluation included costs of:

- excavation and embankments
- conveyance of stormwater beyond edge of pavement
- treatment facilities
- pipes, inlets, catch basins and manholes
- flow spreaders and flow control structures
- maintenance access roads to facilities
- compost, topsoil and seeding
- quarry spalls for outfall protection
- fencing as required
- right-of-way purchase costs needed for managing stormwater