Why Control Stormwater Flow Rates?

"Stormwater flow rate" is the combined volume and speed at which stormwater runoff enters our rivers, lakes, and streams. Controlling this flow rate from newly developed or redeveloped sites helps reduce the force that stormwater runoff exerts on the streambeds and stream banks.

Too much water, too fast, can cause significant disruptions to riverbanks, streambeds, and river habitats and undermines the recovery of our threatened and endangered salmon.

Healthy streams require clean water and stable stream channels. Stormwater runoff from developed areas enters streams at higher flow rates—and for longer periods—than from undeveloped areas. Local research shows that even a small amount of development affects stream channels and adds pollution. Although stream channels change as land cover changes, once the area of developed land stays relatively constant, stream channels may stabilize.

Flow controls protect stream channels and habitat from damage. High flow rates damage stream channels and habitat by increasing the rate of erosion. The flow control requirements in the western Washington municipal stormwater permits help keep large woody debris from washing away and pools from filling with sediment. Fish and other aquatic life need these diverse features to feed, spawn, and protect themselves from predators. Extreme high flows do not meet the federal Clean Water Act standard of protecting the "beneficial uses" of Washington's waters.

Stormwater flows can cause problems in already developed areas. In many areas of western Washington, stormwater systems serving existing development do not prevent impacts from stormwater runoff. They discharge high stormwater flows from impervious surfaces—eroding stream banks and damaging habitat.

High stormwater flows threaten property and public safety. Some cities and counties are already using the current flow control requirement Ecology's *Stormwater Management Manual for Western Washington.* This helps to protect public and

WHY IT MATTERS

Controlling stormwater flow rates protects ...

...clean water,

property,

public safety, and

stream habitat.

Contact information:
Ed O'Brien, P.E.
360-407-6438
eobr461@ecy.wa.gov

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private property and stream health. It improves public safety by protecting people from floods. Some people refer to the state's flow control requirements as "forested" or "natural" conditions. In reality, state requirements simply replicate nature's way of handling stormwater runoff.

Why does Ecology require flow control at newly developed and redeveloped sites in western Washington?

Pollution and damage from stormwater is already a major problem in many developed areas. As growth continues, we need to prevent the problem from getting worse. In addition, we need to make progress on the stormwater coming from already developed land.

In developing permit conditions for redevelopment, Ecology considered the following three options for controlling stormwater flows:

- Allow runoff flows to remain the same as those on the existing site. This would maintain the status quo, which already contributes to ongoing stream channel and habitat damage in many areas of the state.
- Require basin plans or stormwater system upgrades to correct high flows. Local governments may develop strategies for individual watersheds to establish flow controls. Local governments may also control high flows from existing development through a program to retrofit and upgrade public stormwater systems. This approach can have a high price tag for taxpayers.
- Take a gradual approach to controlling flows by requiring sites to reduce their high stormwater flows as redevelopment occurs. This option helps stop harm and corrects high stormwater flows over time. The flow control requirements apply to new paved areas and to replaced impervious areas at certain thresholds of cost and scale — similar to using a remodel project to bring an old building up to current health, fire, safety, and building codes.

Ecology selected this third option for the western Washington municipal permits because from a public safety and environmental standpoint, the status quo is just not acceptable. Retrofits are very expensive, and this approach makes gradual improvements over time in places construction work will be going on anyway.

What flexibility do Ecology permits include for flow controls?

- Flow control requirements apply to replaced impervious surfaces only when they meet specific cost and scale thresholds. For example, flow controls are not necessary for redevelopment projects that involve only interior remodeling of a building or repairing or replacing the building's parking lot without expanding it.
- The new flow control requirements do not apply to projects that are 'vested' under older flow control standards.
- Local governments do not have to require reductions in the existing stormwater flows at development sites in highly urbanized areas. This applies to drainage basins that have had more than 40 percent of their land covered in impervious surfaces for more than 20 years.
- The permits do not require flow controls for some sites that discharge directly to large water bodies or salt water.
- A local government may grant exceptions to the flow control requirement for instances of undue hardship based on cost and specific site conditions.
- Local governments may develop a strategy for controlling flows in individual watersheds for existing and new development.
- Local governments may use an alternative flow control requirement in areas with regional stormwater facilities that control flows.

Ecology permits give local governments time to phase in the flow controls:

- Phase I jurisdictions (King, Snohomish, Pierce, and Clark counties and the cities of Seattle and Tacoma) have until August 2008—18 months from the effective date of the permit.
- Phase II jurisdictions (81 cities and 5 counties in western Washington) have until August 2009—30 months from the effective date of the permit.

Protecting streams by reducing high stormwater flows will play a key role in recovering salmon and protecting our rivers, lakes, streams, and Puget Sound.