



Stormwater and Economic Development

Balancing Economic Development, Impaired Water Bodies, and Stormwater

Jobs, water pollution, and stormwater: These three subjects are among the most controversial issues in planning our communities today. By understanding the connections and delicate balance among economic development; water quality impairment; and stormwater, and incorporating this into comprehensive planning, we can help to create a sustainable future for Washington's communities.

Economic development means construction and land development. Most construction practices today create significant amounts of impervious surface that collects pollutants and, during storms, deposits them straight into our lakes, rivers, and streams. Therefore, increasing development can directly cause decreased water quality and loss of fish habitat.

Development is, for all practical purposes, irreversible:

- We never “unbuild” urban environments.
- Stream restoration tools cannot re-create functioning stream systems and watersheds.

The minimum requirements and best management practices (BMPs) in the 2001 *Stormwater Management Manual for Western Washington* are the best controls available for moderating the impacts of site-specific development. However, site-by-site controls cannot control the impact from multiple sources. They must be combined with watershed-wide land use management that seeks to protect natural hydrologic functions and biological habitat.

Some development is now incorporating more pervious (porous) surfaces and various low-impact development (LID) techniques to reduce disruptions in stream flows and pollutants generated by development. Most of these techniques are somewhat effective, but not as effective as preserving the natural soil and forest cover. LID techniques, combined with conservation-oriented, site-level development regulations, can help manage the effects of development.

Get to know your local water bodies

The vitality of a community is based on sustainable economic development. The water bodies that run through and surround your community are affected by the activities within it. Stormwater runoff is an important factor in the health of streams, lakes, wetlands, and marine waters located in and around your community.



Federal and state laws require the quality of the water to be protected against any degradation that threatens beneficial uses of the water. The United States Environmental Protection Agency has delegated authority to the Washington Department of Ecology to carry out the following mandate of the Clean Water Act (CWA): “To restore and maintain the chemical, physical and biological integrity of the Nation’s waters.” Under Washington State law, Ecology is also required “to maintain the highest possible standards to insure the purity of all waters of the state.” (Chapter 90.48 WAC)

Approximately 650 water bodies are documented as polluted in Washington State. Communities and industries continue to discharge to these water bodies. Growth is important, but a balance between the needs of communities and businesses and protection of the waters of the state is essential. In order for a community to properly manage growth and help ensure a high quality of life for its citizens, we must learn how to protect the water bodies in our communities.

Liability for failure to protect water quality

Failure to protect water bodies from degradation is more than breaking a law and possibly suffering a monetary fine. It means the eventual loss of swimmable, fishable, drinkable waters. In other words, polluted water is of less value to a community than clean water. Its value can also be measured in the loss of a community's ability to attract and keep businesses and families. It is more cost effective for a business to locate in an area where water bodies are not impaired.

Washington’s water bodies are monitored and evaluated. Those that are not meeting standards are considered “impaired” and are placed on EPA's 303(d) list under the CWA. A water cleanup plan (“total maximum daily load” or TMDL) is then required. This determines how much pollution needs to be reduced from identified sources to ensure that the water quality standard is met and the health of the water body is restored. TMDLs may result in more stringent requirements for businesses and developers locating on or near a water body.

Here's a link to 303(d) listed water bodies:

<http://www.ecy.wa.gov/programs/wq/stormwater/index.html#303>

How protecting water quality aids economic growth

Protecting existing beneficial uses from future stormwater impacts is the most cost-effective means of meeting Clean Water Act requirements and maintaining a high quality of life. It is especially important to focus on areas of new development where high-quality habitat still exists. If effective protection measures are not taken, restoration will have to occur later on. An attempt to restore beneficial uses impaired by stormwater is a long-term, expensive process that has no guarantee of success.

A new or relocating business can be confident that the quality of life in a community with healthy water bodies is higher than in a community where salmon do not exist, shellfish beds are closed, and water-related recreational opportunities are limited. New businesses bring new families and new housing to communities, adding economic stability.

To help maintain quality of life, many communities are exploring the use of low-impact development, or LID. Developments that include open spaces and use natural approaches to control stormwater create attractive landscapes and are assets to communities.

Including a stormwater program in your comprehensive plan.

Under the state Growth Management Act (GMA), six elements are required in a comprehensive plan, including a land use element that must provide for protection of water quality. Plans must review drainage, flooding, and stormwater run-off within the county or city and in nearby jurisdictions. They must also provide guidance for corrective actions to mitigate or cleanse discharges that pollute waters of the state. (RCW 36.70A.070(1))

Implementing an effective stormwater program as part of your comprehensive plan is an effective way to partially meet the needs of this requirement. Here are some points to consider.

1. Does the plan demonstrate close coordination and consistency with stormwater management requirements of the National Pollutant Discharge Elimination System (NPDES) permit program?
2. Does the plan consider drainage, flooding, and stormwater run-off in the planning area and attempt to locate development in ways that minimize impacts to natural hydrology? Does it seek to provide for corrective action for discharges that pollute waters of the state or does it reference other policies, plans, and tools that do?
3. Does the stormwater program offer a coordinated and compatible level of water quality protection, consistent with neighboring jurisdictions?
4. Does the stormwater program appear adequate to protect beneficial uses (including salmonids and shellfish), meet effluent limitations, and meet other requirements of any applicable NPDES or state waste discharge permit? (Consider stormwater system design, construction, operation, and maintenance capabilities.)
5. Does the stormwater program appear adequate to support urban growth area population and development projections?
6. Does the comprehensive plan provide for adequate stormwater facilities at the time development is available for occupancy and use, without decreasing current service levels below locally established minimum standards or endangering surface water or groundwater quality?
7. Does the comprehensive plan ensure urban density development is located within urban growth areas where adequate stormwater infrastructure facilities and capacity exist or can be provided in an efficient manner?
8. Does the stormwater program clearly identify a responsible party as the provider and maintainer of stormwater infrastructure and services (specific city or municipal organizations, regional providers, inter-local agreements, etc.)?
9. Does the capital facilities plan identify how stormwater facilities and services are to be constructed, maintained, and financed for the next seven years?
10. Does the comprehensive plan require adequate stormwater facilities and services at the time development is available for occupancy?

Using Best Available Stormwater Science to protect critical areas

The most important tool in the Growth Management Act for protecting aquatic resources is the requirement to identify and protect critical areas. Even with the implementation of a comprehensive stormwater management program, continued degradation of the aquatic environment and loss of beneficial uses will occur without fundamental changes in land development policies and practices. That is because our toolbox of common stormwater management practices cannot fully mitigate the impacts of common land development practices.

One of the GMA's core mandates is that "environmentally critical areas must be designated and protected." (RCW 36.70A.020(10), -060, -170, -172, -175) Critical areas include waters providing fish and wildlife habitat and shellfish areas. In designating and protecting critical areas, cities and counties must comply with three requirements:

- They must use the best available science in developing policies and development regulations.
- They must give "special consideration" to conservation or protection measures necessary to preserve or enhance habitat for migratory fish species.
- They must adopt development regulations that protect the function and values of critical areas.

The Office of Community Development has adopted rules to assist local governments in identifying, assembling, and including scientific information in their development and adoption of critical areas regulations. In addition, they have published a guidance document identifying sources of best available science. These sources provide cities and counties with the justification for changing their critical areas ordinances and development regulations to achieve protection of the aquatic natural environment through streamside preservation, watershed-wide forest protection, minimizing impervious surfaces, and adoption of stormwater programs that include use of the latest engineering BMPs for stormwater management.

The following guidance is available:

Natural Approaches to Stormwater Management; Puget Sound Water Quality Management Plan: http://www.psat.wa.gov/Publications/LID_studies/LID_approaches.htm

Stormwater Management Manual for Western Washington, 2001 and Stormwater Management Manual for Eastern Washington, and Model Program (currently in draft):
<http://www.ecy.wa.gov/programs/wq/stormwater/index.html>

Citations of Recommended Sources of Best Available Science for Designating and Protecting Critical Areas: <http://www.oecd.wa.gov/info/lgd/growth/>

If you need this information in an alternate format, please call the Water Quality Program at 360-407-6401. If you are a person with a speech or hearing impairment, call 711 or 800-833-6388 for TTY.