Navy Environmental Quality Fact Sheet

Do you discharge non-point source pollution to water supplies?

Would you like to improve this process in the following areas?

- ***Meet environmental compliance regulations***. Provide compliance with federal, state or local regulations regarding storm water runoff and non-point source (NPS) pollution. Media area is storm water.

- ***Improve workers' safety and health***. No change to current operations.

- ***Increase productivity***. Reduce maintenance hours compared to conventional treatment systems.

- ***Save money***. Reduce operation and maintenance costs compared to conventional treatment systems. Reduce waste disposal costs.

Constructed Wetland

Many Navy installations are located adjacent to environmentally sensitive areas such as estuaries, lakes, rivers, and oceans where water quality is easily impaired by contaminated runoff and wastewater from urban, industrial, and agricultural areas. Constructed wetlands are proving to be an effective treatment alternative for pollution from NPS discharges. Wetlands remove contaminants such as pesticides, metals, oils, nutrients, and sediments from water through many naturally occurring biological, chemical, and physical mechanisms. Wetlands have significantly lower total costs and often times lower capital costs than conventional treatment systems, low operation and maintenance costs, ability to tolerate fluctuations in flow and pollutant concentrations, flood protection, facilitation of water reuse and recycling, creation of habitats for organisms and wildlife, enhancing the aesthetics of open spaces, and creation of recreational and education opportunities. An innovative tidal wetland has been constructed at the Naval Amphibious Base, Little Creek, Virginia.

How can you achieve these improvements?

Use a constructed stormwater wetland.

How does this technology work?

The constructed stormwater wetland removes pollutants naturally before they reach critical habitats.

How will this technology save you money?

The constructed stormwater wetland provides cost effective treatment of NPS pollution and reduced maintenance costs compared to conventional water treatment plants. The cost to construct a wetland is approximately $300,000 but will vary with volume and flowrate requirements.

How can this P2 method eliminate or reduce pollution?

Constructed wetlands use all natural treatment mechanisms and are environmentally friendly pollution reduction systems. Implementation will result in the following pollution reductions:

- Eliminate environmentally damaging contaminants from point and non-point sources.
- Eliminate sediments and suspended solids in surface water through settling and erosion control.
- Eliminate the noise and energy pollution found in the operation of conventional wastewater treatment plants.

Which shops can benefit most from this P2 method?

The Department of the Navy has a large number of sites and treatment needs with the potential for constructed wetland technology. Applications include:

- Stormwater Runoff
- Industrial Wastewater Sources
- Federally Owned Treatment Works
- Landfill Leachate Treatment
- Municipal Wastewaters
- Agricultural Wastewaters

How can this P2 method reduce regulatory compliance concerns?

Unlike most technologies, constructed wetlands can assist in achieving water quality compliance while conserving and enhancing natural resources. This technology can benefit a facility by:

- Enhancing community relations through favorable land use policy.
- Complying with federal, state, and local regulations regarding stormwater runoff and NPS pollution.
- Helping navy bases meet required "Best Management Practices" in applying Stormwater Pollution Prevention Plans.

Achieving Environmental Compliance Through Pollution Prevention

Every day the Navy faces the challenge of operating and maintaining the fleet while complying with environmental regulations. This burden can be reduced by using pollution prevention technologies and methods to reduce compliance requirements. This fact sheet is one in a series designed to encourage activities to use pollution prevention technologies and methods. The overall goal of this series is to promote sustained environmental compliance at the lowest life-cycle cost.

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