



# *Municipal Pollution Prevention Planning*



## Stormwater Fact Sheet No. 8

This fact sheet is No. 8 of an eight-part series focused on stormwater runoff problems and control strategies. The series covers:

- 1) Stormwater Impacts
- 2) Human Health Impacts
- 3) How Citizens Can Help
- 4) Prevention and Control
- 5) Control for Development
- 6) Rules and Regulations
- 7) "How to" for Local Officials
- 8) Municipal Prevention



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## Managing Stormwater Impacts

Managing stormwater runoff and its impacts has become an increasing challenge for growing communities in North Carolina. As communities grow there is an increase in impervious surfaces from buildings, roads and parking lots. This causes an increase in the rate and volume of runoff when it rains. The result is more stream bank erosion, streambed scouring and flooding. Stormwater runoff is also a significant source of water pollution. Pollutants include sediment, oil and grease, fertilizers and pesticides, heavy metals and other toxic materials that wash off streets, parking lots, lawns and commercial and industrial areas.

Some communities have already developed stormwater programs to manage the flooding and water quantity impacts of runoff. Communities which do not have such plans are now encouraged to develop local programs to address the water quality impacts of stormwater. Residential, commercial, institutional and industrial land uses all contribute to urban water quality problems and must be addressed in your comprehensive stormwater quality management program.

## Setting A Good Example

Remember to include municipal facilities and activities as you develop a local stormwater quality management program. A few municipal facilities, like airports, are required to obtain federal stormwater discharge permits from the state; but most municipal facilities do not require permits at this time. However, these municipal facilities and activities can be significant sources of stormwater pollutants. Part of your community's stormwater management program should be the development of Stormwater Pollution Prevention Plans (SPPP) for appropriate city or county facilities and activities. By doing this you are setting a good example for others in your community.

There are many resources to help you in your work. For example the Center for Watershed Protection has a series of Pollution Prevention Fact Sheets. These fact sheets provide general information on a variety of stormwater management practices that municipalities and institutions can apply across the community as a whole. The primary goal of each pollution prevention practice is to reduce the amount of pollutants in stormwater runoff. To the extent practicable, the fact sheets address pollution prevention measures that can easily be incorporated into existing municipal programs and routine institutional maintenance activities such as street sweeping and catch basin cleaning. see <http://www.stormwatercenter.net/Assorted%20Fact%20Sheets/Tool8-Steward.ship/municipal.htm> for details.

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## 2 - Municipal Pollution Prevention Planning

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### **Develop a Municipal Stormwater Pollution Prevention Plan**

#### **Establish a Pollution Prevention Team**

Appoint a municipal Stormwater Pollution Prevention Team to develop and implement your plan and program. This multidisciplinary group could include staff familiar with municipal operations and those with some knowledge of water or environmental management, such as your public works director, engineers, planners, and water and sewer system operators.

#### **Identify Facilities/Activities**

The Team's first task is to identify all municipal facilities and operations that could impact stormwater quality and receiving waters. Examples include:

- Airports
- Water and Sewer Treatment Plants
- Vehicle Fueling, Storage and Maintenance Facilities
- Land Disturbing Activities
- Chemical Storage and Application Sites
- Solid and Hazardous Waste Management Facilities
- Salt and Sand Storage Areas



Photo Courtesy of Cooperative Extension Service

*Cover Potential Pollutants Such As Sand And Salt If Possible.*

#### **Identify Pollution Sources**

Identify potential pollution sources at each site or for each activity (for example leaking valves on storage tanks, previous spill sites, fueling areas exposed to rainfall, non-stormwater discharges to streams or storm sewers such as floor drains receiving vehicle wash waters). Identify, map, and inspect each facility's stormwater drainage system to help identify pollutant sources. Sampling the quality of runoff from the site can also identify problem pollutants and sources.

#### **Minimize Use of Potential Pollutants**

Examine your use of all chemicals and other potential pollutants and identify methods of reducing or eliminating their use in municipal operations. Also review procedures for applying chemicals on parks, golf courses, roadsides and other landscaped areas for opportunities to minimize impacts on water quality.

#### **Reduce Pollutant Exposure**

Where possible, eliminate or reduce the exposure of potential pollutant sources to rainfall and stormwater runoff. It is more cost effective to prevent contamination than to treat stormwater once it is contaminated. Quickly establish a vegetative cover on disturbed areas to prevent erosion and sedimentation. If possible, move machinery and chemical storage areas inside, or provide a cover, such as a tarp or shed to eliminate exposure. If areas cannot be covered, divert runoff away from waterways using diversions or dikes to prevent runoff contamination.

## **Plan For Spills**

Develop a spill prevention and response plan for all facilities that use or store chemicals. Provide secondary containment for chemical storage tanks. Properly equip the facility to handle any size spill and assign a responsible person or team to coordinate spill response activities.

## **Practice Preventive Maintenance and Good Housekeeping**

Regularly inspect machinery, pipes, and chemical storage tanks for leaks or worn or damaged parts. Use drip pans, absorbent pads and other devices to contain minor leaks and spills. Use dry cleanup methods rather than washing contaminants into storm drains. Stencil “Don’t Dump – Drains to Stream” messages on storm drains to warn employees and others that storm sewers drain to waterways without treatment.

## **Train and Reward Employees**

Train all employees to be conscious of stormwater pollution sources and prevention practices. Tell them whom to contact when they observe a problem. Seek their ideas on methods to prevent stormwater pollution and reward those who participate in your program.

## **Plan for New Facilities and Activities**

Plan all new municipal facilities and activities with stormwater pollution prevention in mind, site new facilities away from sensitive waterways. Incorporate stormwater pollution prevention and control measures into the design and construction of new facilities and operations. For example, minimize impervious surfaces, maintain stream buffers, use erosion and sedimentation control practices, infiltrate runoff within vegetated areas, eliminate pollutant exposure, and provide spill containment measures and structural stormwater management practices as necessary.

## **Conclusion**

Stormwater runoff is a major source of stream pollution in urbanized areas. City and county governments carry out many operations that have the potential to impact water quality. Some communities may not have the resources to completely implement a comprehensive stormwater quality management program. However, your community can begin by examining their own facilities and operations for stormwater pollution prevention opportunities.

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## 4 - Municipal Pollution Prevention Planning

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### For more information

- Appropriate Local Government Officials [www.seris.info/RiverLink/techinfo.shtml](http://www.seris.info/RiverLink/techinfo.shtml)
- Land of Sky Regional Council 251-6622.
  
- Center for Watershed Protection. [www.cwp.org](http://www.cwp.org).
- North Carolina Division of Water Quality Stormwater Unit: Manuals and Factsheets
- [www.h2o.enr.state.nc.us/su](http://www.h2o.enr.state.nc.us/su)
- North Carolina Division of Water Quality Stormwater Permitting Unit: Stormwater Permitting Unit Home [h2o.enr.state.nc.us/su/stormwater.html](http://h2o.enr.state.nc.us/su/stormwater.html)
- North Carolina Phase II Stormwater [www.ncphase2sw.org/](http://www.ncphase2sw.org/)
- North Carolina State University [www.bae.ncsu.edu/stormwater/](http://www.bae.ncsu.edu/stormwater/)
- RiverLink [www.seris.info/RiverLink/techinfo.shtml](http://www.seris.info/RiverLink/techinfo.shtml) or [www.riverlink.org](http://www.riverlink.org)