

Stormwater Rulemaking

National Tribal Water Council

December 15, 2010

US Environmental Protection Agency

Office of Water



Purpose of Today's Meeting

EPA has initiated a rulemaking to improve its stormwater program. Today's session offers an opportunity to learn about EPA's stormwater rulemaking considerations and for EPA to solicit feedback from tribes.

- Impetus for Stormwater Rule
- Rulemaking Considerations
- Potential Effect on the Tribes

Water Quality Impacts: Pollutant Sources

Construction



Urban Development



Residential

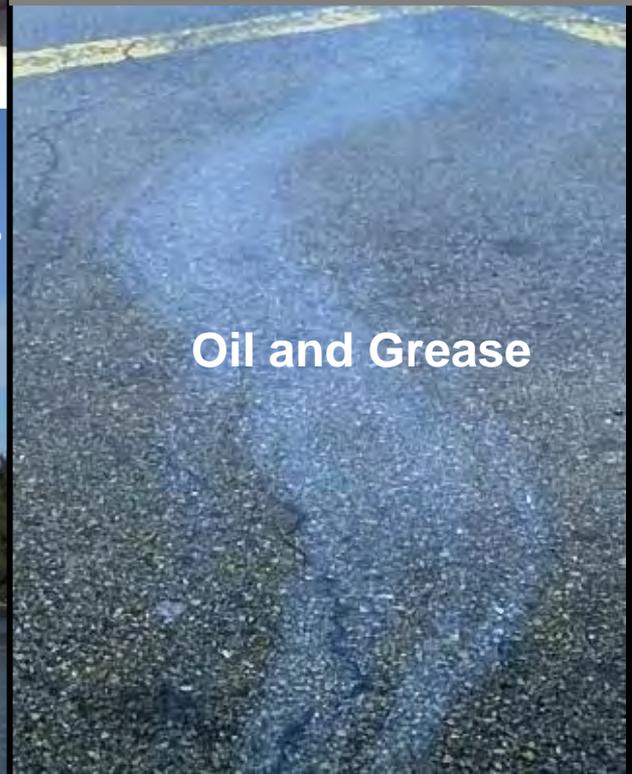
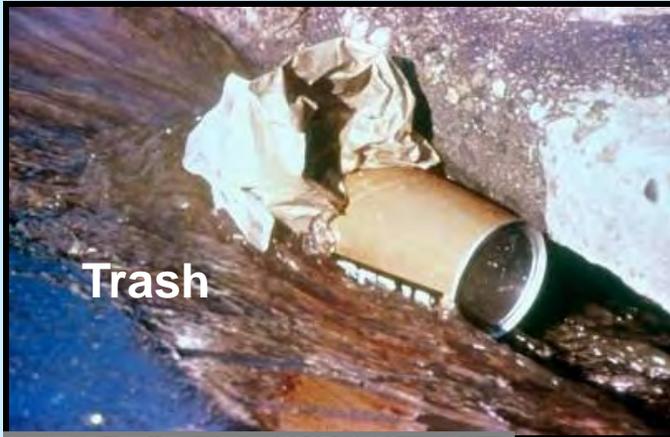


Industrial/Commercial



09/23/2007

Water Quality Impacts: Pollutants



Stormwater Challenges

Much progress has been made, however, significant challenges remain to protect water bodies from impact of stormwater discharges



- According to EPA's 2004 Water Quality Inventory, urban stormwater discharge is the source of impairment in:
 - 9.2% of all impaired rivers and streams
 - 6.7% of all impaired lakes
 - 11.3% of all impaired estuaries
- Region 10 Tribal Caucus – Stormwater contributing factor to water quality impairments in important fishing areas, affecting salmon, steelhead and other fisheries in Alaska, Idaho, Washington, Oregon

Water Quality Impacts from Greater Volume/Velocity Of Stormwater

- Development and the creation of impervious surfaces have resulted in increased discharge of volume and velocity of stormwater causing erosion of receiving waters and increased pollutant loading
- Traditional stormwater practices (collecting and piping stormwater directly to streams) have proven inadequate in protecting receiving waters in terms of channel stability and the biotic integrity of the waterbody



New Approach: Preserve and Restore Hydrology

Use green infrastructure practices to manage stormwater on-site: infiltration, evapotranspiration, or harvest/use



Permeable Pavements



Olympia, WA



Wilsonville, OR



Emeryville, CA



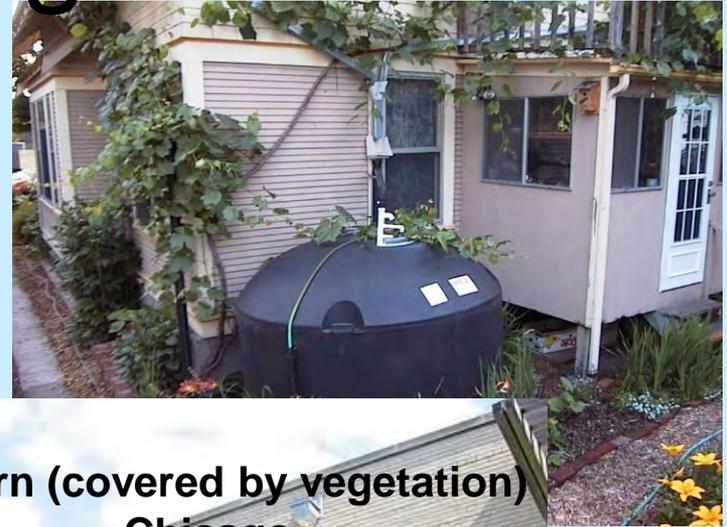
Chicago, IL



Rainwater Harvesting & Use



Rainwater Cisterns – Santa Fe Rail yard Plaza



**Cistern (covered by vegetation)
Chicago**



Current Stormwater Regulations

- Phase I Regulation (1990)
 - Covers medium and large municipal separate storm sewer system (MS4) (over 100,000 people)
 - Covers industrial activity (11 categories; construction over 5 acres)
- Phase II Regulation (1999)
 - Covers smaller MS4s in “urbanized areas” (50,000 people and density of at least 1,000 people/ sq. mile)
 - Covers construction sites (1-5 acres)

Tribes Currently Located in Urbanized Area

- EPA Region 5 –
 - Shakopee Mdewakanton Sioux Community, MN (permitted)
 - Oneida Tribe of Indians of Wisconsin (permit under development)
- EPA Region 6 – Some tribes in urbanized area but none permitted
- EPA Region 9 – Ten tribes in urbanized area; one is permitted (may be waived)
 - Agua Caliente Tribe, CA
- EPA Region 10 – Three tribes in urbanized area but none are permitted
- No tribes in urbanized area in the other regions

National Research Council (NRC) Report

- In 2006 EPA commissioned the National Research Council (NRC) to study EPA's stormwater program
- In October 2008 NRC released *Urban Stormwater Management in the United States*, available at: www.epa.gov/npdes/stormwater
- Key Findings
 - Current approach is unlikely to produce an accurate picture of the problem and unlikely to adequately control stormwater's contribution to waterbody impairment
 - Requirements leave a great deal of discretion to dischargers to set their own standards and ensure compliance, which results in inconsistency across the nation
 - Poor accountability and uncertain effectiveness

KEY NRC Report Findings (cont.)

- Flow and related parameters like impervious cover should be considered for use as proxies for stormwater pollutant loading
- Reducing stormwater flow would achieve reductions in pollutant loadings and direct flow impacts including the erosion of stream banks and sedimentation in streams
- Stormwater control measures that harvest, infiltrate, and evapotranspire stormwater are critical to reducing the volume and pollutant loading of small storms

Main Goals of Stormwater Rulemaking

1. Prevent further degradation – require that discharges from new and redevelopment must mimic natural hydrology
2. Restore waterbodies - address discharges from existing development through retrofits
3. Expand coverage of the program
 - Only covers 2% of total U.S. land area, much development occurs outside of the Census defined urbanized area

Benefits of Stormwater Rule

- Proactively Protects Local Water Quality
 - Development and sprawl are increasing at a rate faster than population growth. Increased impervious cover associated with this development impacts water quality by increasing pollutant loadings and stormwater discharges that cause stream erosion.
 - EPA's rule seeks protect water quality from these adverse water quality impacts.
- Helps to Restore Impaired Waters
 - Stormwater discharges are a primary cause of water quality impairment.
 - One goal of EPA's rule is to restore these impaired waters by establishing standards that must be met as redevelopment occurs and by promoting retrofits of stormwater practices that have not been effective in protecting streams from stream erosion and pollutant loading.
- Green infrastructure provides a cost-effective means of protecting water quality from stormwater discharges

Benefits of Stormwater Rule

- ▶ Cities should also realize other benefits from a rule that promotes green infrastructure. Green Infrastructure:
 - Reduces the amount of rainwater that enters sewer systems, thereby reducing overflows of raw or partially treated wastewater
 - Increases job diversity by creating a demand for certified installers, operations and maintenance staff, and landscape architects
 - Creates more livable communities by providing more trees, vegetation and open space
 - Mitigates urban heat Island effects
 - Reduces energy usage
 - Recharges groundwater and restores depleting groundwater supplies
 - Creates more habitat for wildlife
 - Improves air quality

- ▶ Green infrastructure offers cities a holistic approach to solve many problems.

- ▶ EPA's stormwater rule aims to provide standards with appropriate flexibility so that states and cities can tailor solutions and take advantage of the benefits of green infrastructure in a way that best meets their needs.

Possible Requirements for Discharges from New Development

- Natural hydrology with regard to discharge volume, rate and duration must be maintained or restored for discharges from newly developed sites using practices that infiltrate, evapotranspire, or harvest and use the discharge volume.
- This could be based on the hydrology of the land before construction (e.g., forest, prairie, meadow).

Exceptions for Standard for New Development

- For all options, there could be exceptions if the numeric standard cannot be met. For example,
 - groundwater pollution concern for source water protection
 - conflict with water rights
 - site constraints, especially for new transportation projects
- Permitting authority could develop offsite mitigation or payment in lieu programs, develop an alternative standard or develop another mitigation measure

Possible Requirements for Discharges from Redevelopment

1. Redevelopment standard is the same as the standard for new development, however additional exceptions are provided
2. Same as Option 1, except that credits are given for developing in certain areas (e.g., brownfields)
3. Redeveloped sites must be designed and constructed to reduce by 20% (or other percent reduction) the impervious cover from the preconstruction condition
4. Combination of (1) and (3) – some states already have this

Exceptions for Standard for Redevelopment

- Groundwater pollution concern for source water protection, conflict with water rights, site constraints, especially for new transportation projects
- Support Infill Development
 - Brownfield Development
 - High density (>7 units of acre)
 - Vertical Density
 - Mixed use and transit oriented development
- Permitting authority could develop offsite mitigation or payment in lieu programs, develop an alternative standard or develop another mitigation measure

How a Standard for New Development and Redevelopment Could Affect Tribes

- Property owners, builders, and developers (residential, commercial, industrial, and municipal), including the tribe:
 - Could be subject to numeric standards for new and redevelopment
 - Could require incorporation of best management practices (BMPs) to address post construction stormwater
 - Could require resulting owner/operator to effectively operate and maintain the BMPs

How a Standard for New Development and Redevelopment Could Affect Tribes

- As MS4 permit holders, tribes:
 - Could be required to implement the post construction standard through an MS4 permit
 - Could be required to implement the standard through site plan review for all developers
 - Could become responsible for operation and maintenance of post construction stormwater BMPs

MS4 Expansion



- About 6,675 Phase II MS4s
- Urbanized areas cover 2% of total U.S. land area

MS4 Expansion Regulatory Options

- ▶ No change – 2010 Urbanized Area defined by Census.
- ▶ Extend coverage to jurisdiction boundaries of the MS4 rather than urbanized area boundary
- ▶ Extend coverage to urbanized clusters (Census)
- ▶ Extend coverage to Metropolitan Statistical Areas (Census)
- ▶ Extend coverage to Metropolitan Planning Areas (FHA)
- ▶ Regulate based on a population or impervious cover threshold
- ▶ Extend coverage to watershed boundaries (using HUC defined watershed)
- ▶ Regulate all MS4s and allow States to exclude areas
- ▶ Require states to designate additional regulated MS4s

How a Regulated MS4 Expansion Could Affect Tribes

- More Tribes could be covered by MS4 regulations.
- This could require Tribes that own and operate a MS4 to comply with all stormwater requirements.
- However, regulations that allow for waivers for MS4s, including Tribes, would still apply

Possible Regulatory Approach for Municipal Retrofits

- Requirement – MS4s must develop and implement a retrofit plan
 - ▶ What could a municipal retrofit plan look like?
 - Identification of sensitive waters
 - Identification of stormwater contribution to degradation or impairment
 - Development of goals and milestones for reducing stormwater contributions
 - Identification of priority projects and initiatives to meet permit-term milestones including retrofits for public sites undergoing redevelopment or routine repair and maintenance
 - Development of incentives for retrofits on private property

How a Municipal Retrofit Requirement Could Affect Tribes

- EPA is considering which MS4s should be required to develop retrofit plans
- Current thinking is that this requirement be limited to:
 - Regulated Phase I MS4s
 - Regulated Phase I&II MS4s
 - Regulated Phase I & II MS4 that have waters impaired for stormwater

Transportation and Chesapeake Bay Standards

- Specific standards for transportation
 - Roads and parking lots constitute as much as 70 percent of total impervious cover in ultra-urban landscapes, and as much as 80 percent of the directly connected impervious cover (*NRC Report, 2008*).
 - Tribes that own and operate roadways, could be required to meet new regulations
- Specific standards for Chesapeake Bay
 - Executive Order, May 12, 2009
 - Currently, there are no tribes located in the Chesapeake Bay Watershed



Stormwater Rulemaking Schedule

Completed Activities:

- Federal Register (FR) Notices for public comment (Oct. 2009 & May 2010) on Information Collection Request (ICR) questionnaires seeking data to inform the rulemaking from three groups:
 - Owners, operators, developers, and contractors of developed sites
 - Owners of Municipal Separate Storm Sewer Systems (MS4s)
 - States and territories
- Stakeholder Input – Preliminary Rulemaking Considerations (FR Notice published Dec. 28, 2009)
- January – March 2010: Held 6 Listening Sessions and a Webcast to get input on preliminary rulemaking considerations

Stormwater Rulemaking Schedule (Cont'd)

Current and Upcoming Activities:

- October – December: Held 6 Listening Sessions and a Webcast to get input on preliminary rulemaking considerations for the Chesapeake Bay portion of the stormwater rule
- September 2011: Propose rule
- November 2012: Take final action

www.epa.gov/npdes/stormwater/rulemaking