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Occasion: WESTCAS – TUCSON, ARIZONA

EPA's New Rulemaking, Will It Fit in My Large, Arid County?

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EPA's NEW RULEMAKING ANNOUNCED IN 2009

- **Background on Federal Stormwater Program**
- **Stormwater Challenges**
- **The National Research Council (NRC) Report**
- **Stormwater Rulemaking Schedule**
- **Preliminary Considerations for Rulemaking**



Stormwater Challenges:

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

Urban stormwater is the primary source of water quality impairment:

- 13% of all rivers and streams**
- 18% of all lakes**
- 32% of all estuaries” (EPA)**



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:

- 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 Recommendations

- “A straightforward way to regulate stormwater contributions to waterbody impairment would be to use flow or a surrogate, like impervious cover, as a measure of stormwater loading”
- “Efforts to reduce stormwater flow will automatically achieve reductions in pollutant loading. Moreover, flow is itself responsible for additional erosion and sedimentation that adversely impacts surface water quality.”
- “Stormwater control measures that harvest, infiltrate, and evapotranspire stormwater are critical to reducing the volume and pollutant loading of small storms.”



EPA INITIATED STORMWATER RULEMAKING

- Primary impetus – protect waterbodies from stormwater impact of urbanization
- Oct. 30, 2009 -Federal Register (FR) notice announcing EPA's intent to distribute questionnaires (Information Collection Request (ICR))seeking data to inform the rulemaking from the following groups:
 - Owners, operators, developers, and contractors of developed sites
 - Owners or operators of MS4s
 - States and territories
- Jan. – Mar. 2010 – Listening Sessions input on preliminary rulemaking considerations (FR Notice published Dec. 28, 2009)
- Spring 2010 – EPA published a final FR ICR notice with 30-day comment period and distributed questionnaires in August of 2010
- Late 2011 – EPA expects to propose a rule to be published in the FR for public comment
- Late 2012 – EPA expects to take final action



Five Preliminary Considerations for Rulemaking

1. Expand the universe of regulated discharges beyond urbanized area
2. Establish substantive post-construction requirements for new and redevelopment
3. Develop a single set of consistent requirements for all MS4s, in place of existing “Phase I” and “Phase II” rules
4. Address stormwater discharges from existing development through retrofitting
5. Consider additional requirements to further reduce stormwater impacts in the Chesapeake Bay



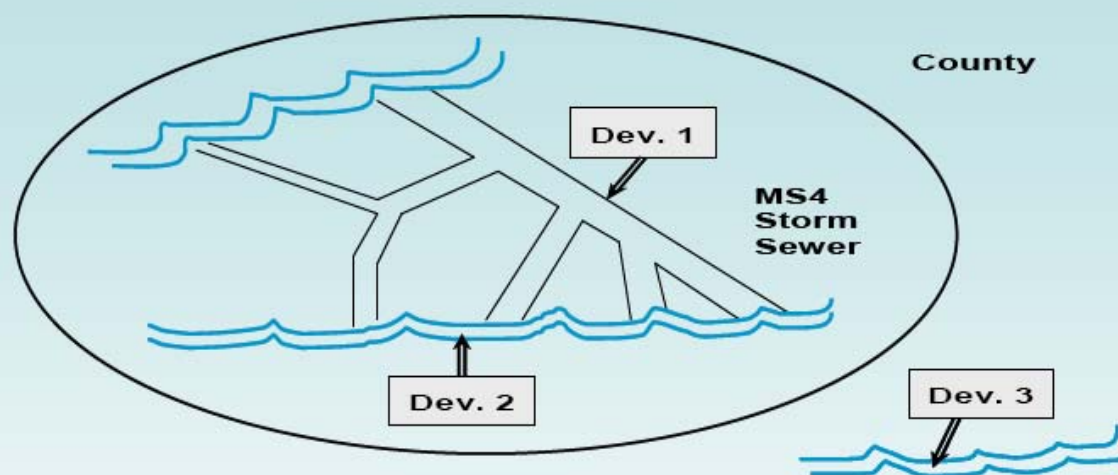
1. Expand the universe of regulated discharges beyond urbanized area



- Regulated small MS4s limited to Urbanized Area (UA) boundary as defined by the U.S. Census,
- Federal regulations cover only 2% of total U.S. land area, while much development is occurring outside covered areas
- Some states have designated additional separate storm sewer systems as regulated MS4s.

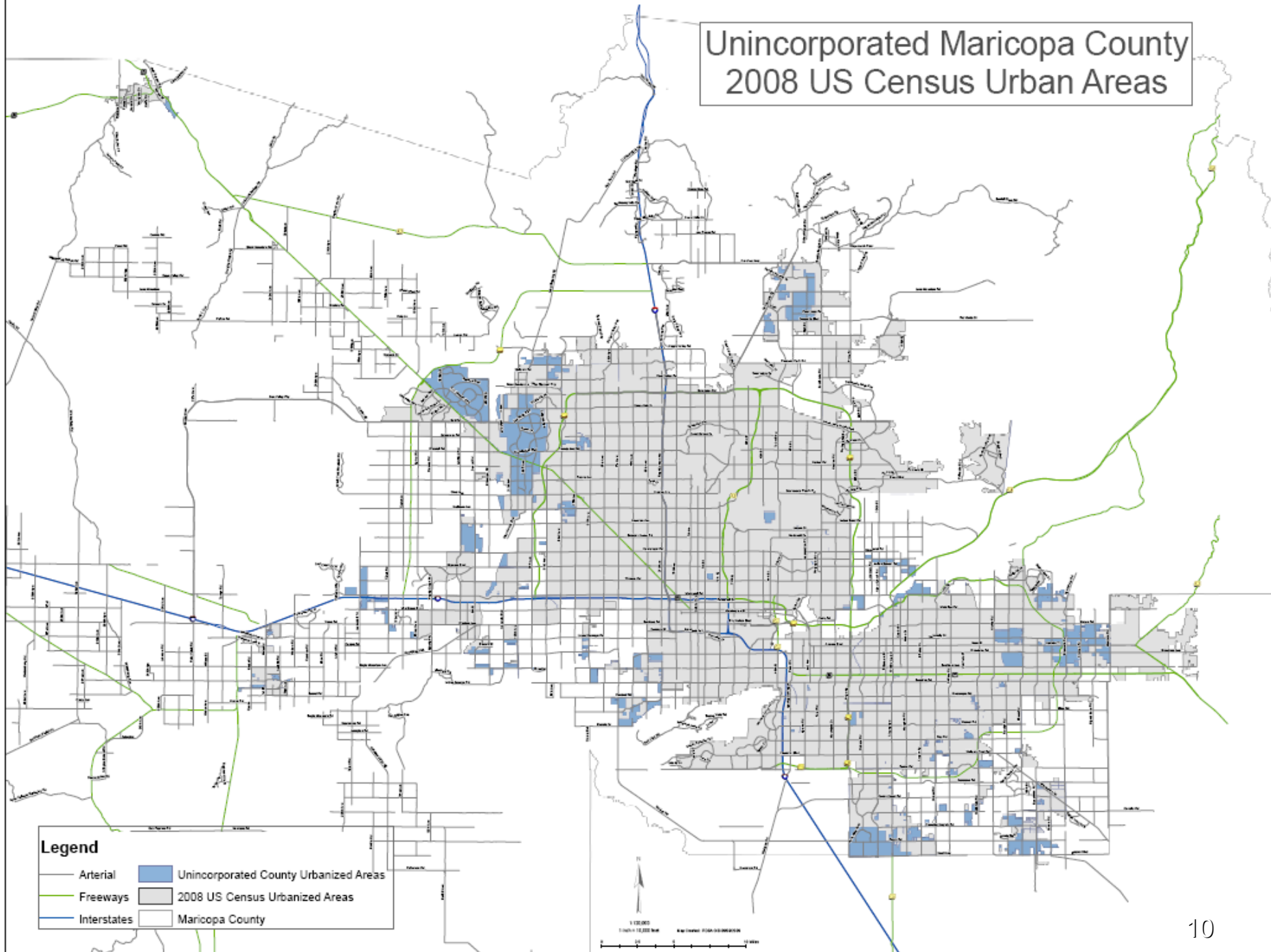


1. Expand the universe of regulated discharges beyond urbanized area

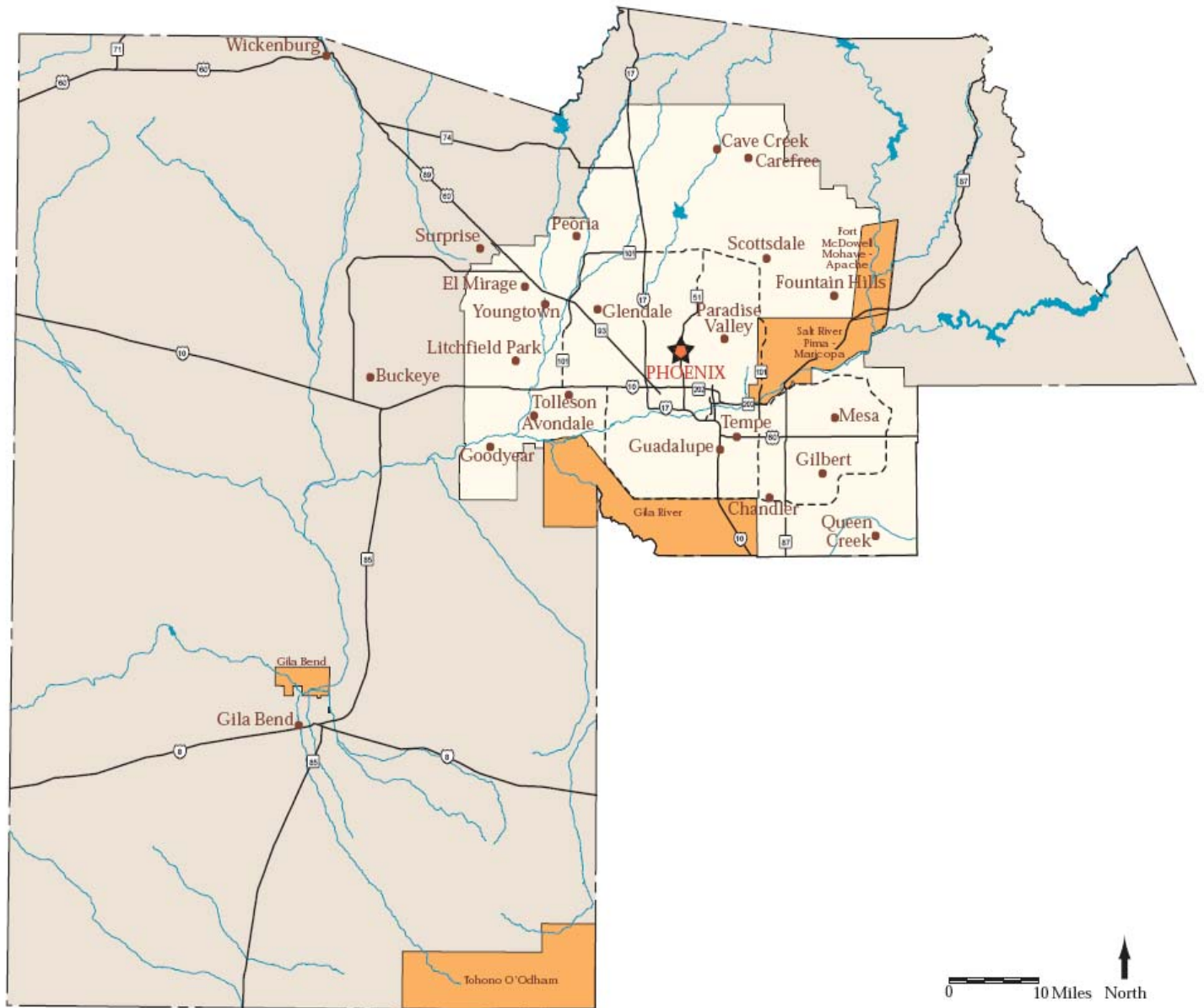


- What is the best way to expand the universe of regulated discharges beyond Urbanized Area?
- Is there an appropriate jurisdictional boundary for permit coverage, such as municipality or county?
- What criteria could be used to identify areas (e.g., % of impervious cover)?
- Should States decide the areas to include?
- In addition to expanding area should EPA consider regulating stormwater discharges from particular types or sizes of development that are not covered by an MS4 permit?

Unincorporated Maricopa County 2008 US Census Urban Areas



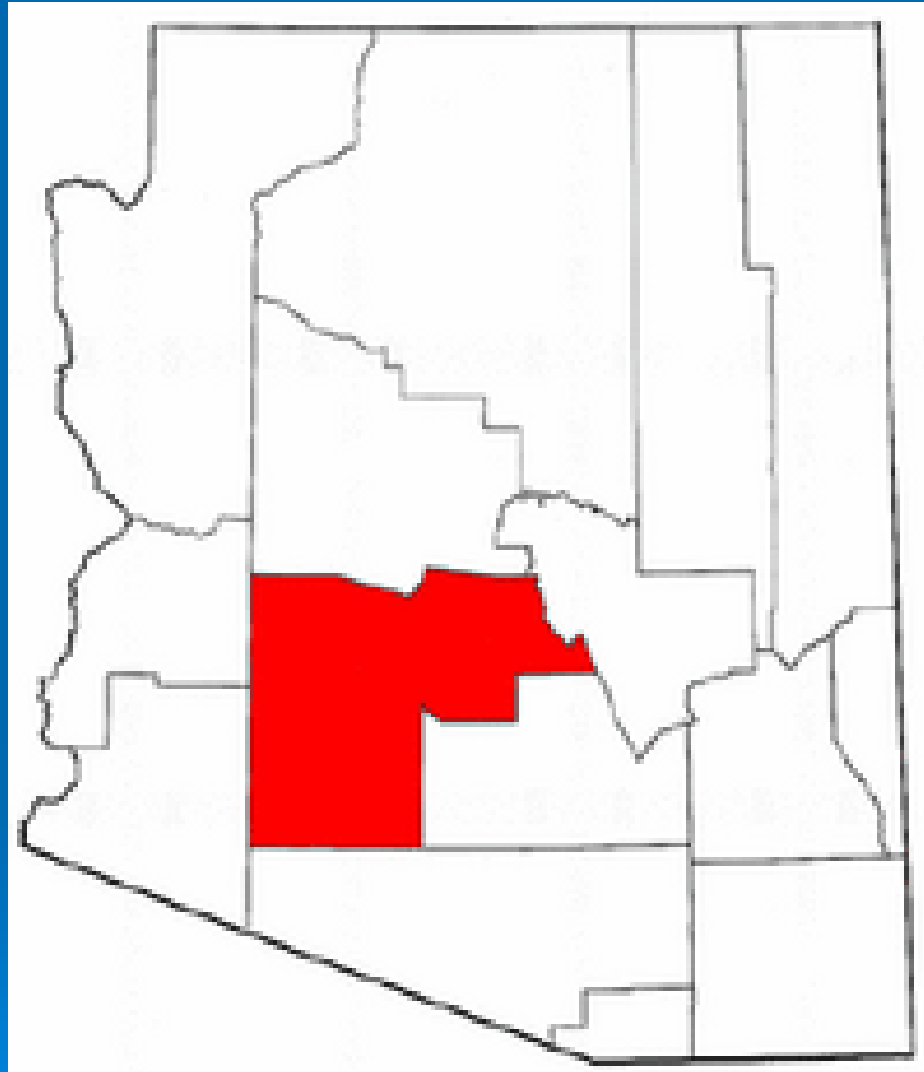
MARICOPA COUNTY, ARIZONA



The Jurisdictional Question

- Cities vs. Counties in Stormwater permit jurisdictional area in accordance with permit language.
- Permit jurisdictional area for most cities' permits are the city limits.
- My County is larger than 5 states elsewhere in the US. My permit area defined by the EPA is less than 90 square miles but the unincorporated county is greater than 6,200 square miles.

ARIZONA



2. Establish substantive post-construction requirements for new and redevelopment

- Develop a standard that promotes sustainable practices that mimic natural processes to infiltrate and recharge, evapotranspire, and/or harvest and reuse precipitation.
- Should there be a national requirement for on-site stormwater controls such that post development hydrology must mimic pre-development hydrology on a site-specific basis?
- Options for meeting the requirement could be: on-site retention of specific sized storm, limits on amount of effective impervious area, use of site-specific calculators to determine predevelopment hydrology, and/or use of regional standards to reflect local circumstances.
- Should the standards be different for new development vs. redevelopment?

3. Develop a single set of consistent requirements for all regulated MS4s

- Many Phase I & II MS4s address issues that are similar, but the regulatory requirements are different.
- Should EPA apply the requirements to all MS4s?
- Should EPA apply 6 minimum measures to Phase Is?
- Phase I MS4s are required to implement a program to control discharges from industrial facilities. Should this requirement be extended to all MS4s?
- What additional requirements should be considered?



4. Addressing stormwater discharges from existing development.

- Stormwater discharge from developed areas is a significant contributor to water quality impairments.
- Some MS4 permits require retrofit practices that infiltrate or otherwise retain stormwater.
- Some cities are implementing retrofit practices to control CSOs.
- Should EPA consider retrofit requirements?
 - Development of a retrofit plan?
 - Should we start with large MS4s?
 - Should we require Implementation of the plan?
 - Limit to water quality impaired waters?



SALT
RIVER



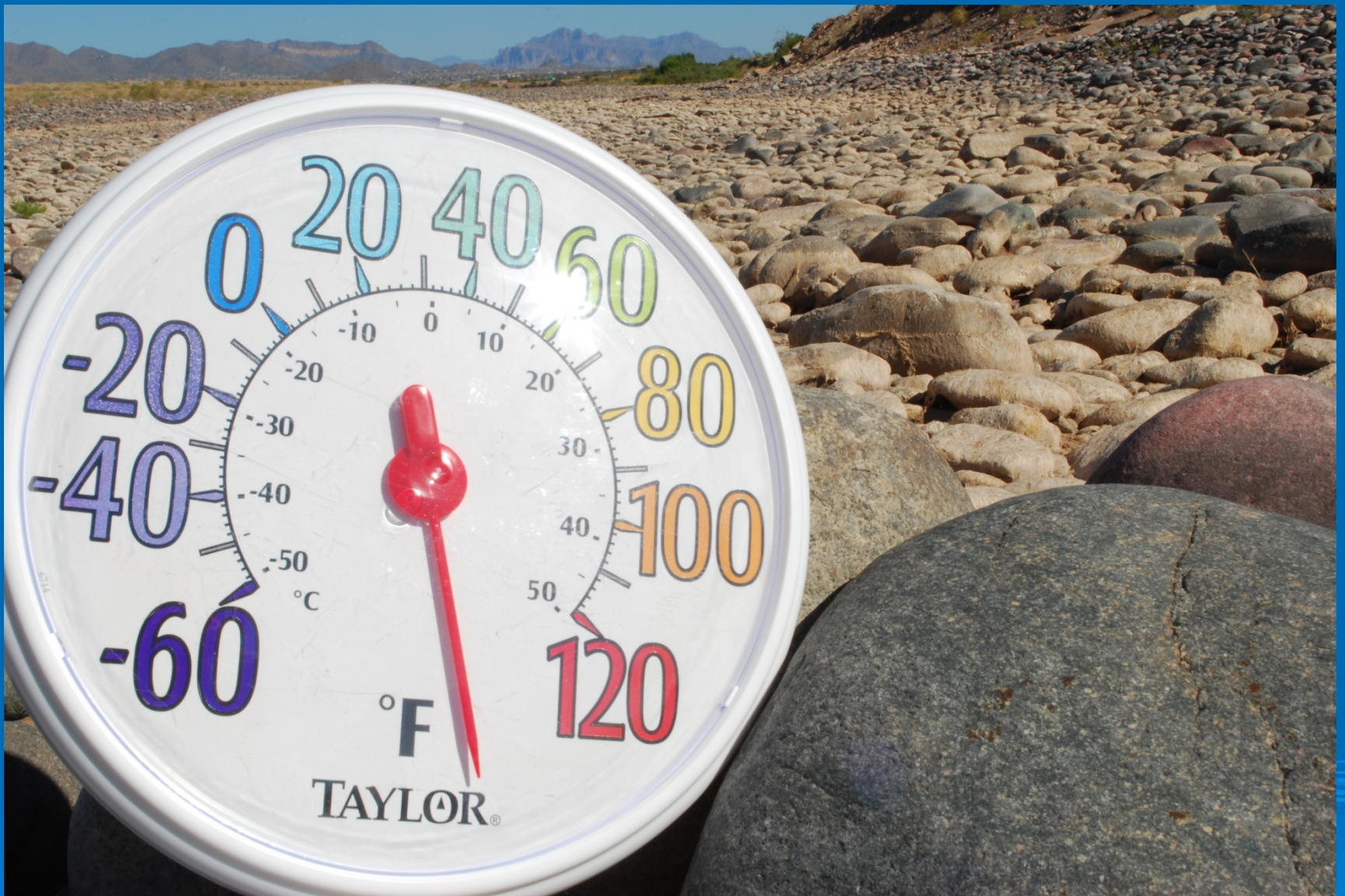
A river bed which, while it may not qualify as “fishable/swimmable” (40 CFR 131), may be walkable !





Your fish are done!





EPA's ICR Question on Retrofit

Question A64 from the MS4 Questionnaire

“What kind of retrofit projects could make the most effective difference in terms of restoring water quality in your area?”





EPA ISSUES NEW MS4 PERMIT IMPROVEMENT GUIDE

APRIL of 2010



MS4 Permit Improvement Guide



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF WATER

OFFICE OF WASTEWATER MANAGEMENT

WATER PERMITS DIVISION

APRIL 2010

EPA 833-R-10-001



Purpose and Objective of the Guide

- “The primary purpose of the MS4 Permit Improvement Guide (Guide) is to assist National Pollutant Discharge Elimination System (NPDES) permit writers in strengthening municipal separate storm sewer system (MS4) stormwater permits.”
- “The objective of the Guide is to facilitate the creation of MS4 permits which are clear, consistent with applicable regulations, and enforceable.”



- “This Guide contains examples of permit conditions and supporting rationale that could be used in fact sheets that accompany NPDES permits.”
- “Permit language should include controls that identify specific actions permittees must perform to comply with the Permit Requirements.”
- The EPA recommends that permit writers review the example permit language presented in the guide and consider how to incorporate it, or similar, language into MS4 permits as appropriate.



“This Guide focuses in large part on permits for small (Phase II) MS4s. However, while the contents of the Guide are generally organized consistent with the six minimum control measures (40 CFR 123.34(b)) applicable to Phase II MS4 permits, however, permit writers may find this Guide useful for Phase I MS4 permits.”



“In addition, the Guide specifically addresses Phase I MS4 Permit Requirements with regard to the industrial program elements set forth in the Phase I regulations at 40 CFR 122.26(d)(2)(ii) and (iv)(C). These are addressed in Chapter 7. The Guide may also be useful for “non-traditional” MS4 permittees, such as departments of transportation (DOTs), universities and prisons.”



The EPA guide advises the state permit writer to assess:

- Areas of obvious strengths or weaknesses in the SWMP
- Trends or common compliance problems
- Level of implementation of SWMP activities (e.g., frequency and numbers of inspections, frequency of catch basin cleaning, street sweeping)
- Water quality priorities for the permittee (e.g. impaired waters, TMDLs, high quality waters)
- Specific sources or pollutants of concern permittee is currently focusing...



WHAT TO ASSESS (CONT'D)

- Level and type of enforcement currently being used by permittee
- Any trends (i.e. water quality, compliance, control measure implementation levels) being reported by Permittees which indicate success or failure of particular SWMP components
- Types of measurable goals being applied and achieved by permittees
- Stormwater management program (SWMP)
- NPDES MS4 audit reports, construction/industrial/commercial site inspection reports
- Permit renewal application data or past notice of intent (NOI) information
- Previous MS4 permit



ESTABLISHMENT OF THE STORMWATER MANAGEMENT PROGRAM

- ▶ Requirement to develop a stormwater management program
- ▶ Necessary legal authority
- ▶ Enforcement Measures and Tracking
- ▶ Adequate resources



ILLICIT DISCHARGE DETECTION AND ELIMINATION

- ▶ IDDE program development
- ▶ MS4 mapping
- ▶ Identification of priority areas
- ▶ Field screening
- ▶ IDDE source investigations and elimination
- ▶ Public reporting of non-stormwater discharges and spills
- ▶ Illicit discharge education and training



Example Permit Provisions for an IDDE Program

The permittee must continue to implement a program to detect, investigate, and eliminate non-stormwater discharges, including illegal dumping, into its system. The IDDE program must include the following:

- a. An up-to-date storm sewer system map.
- b. Procedures for identifying priority areas within the MS4 likely to have illicit discharges, and a list of all such areas identified in the system
- c. Field screening to detect illicit discharges
- d. Procedures for tracing the source of an illicit discharge
- e. Procedures for removing the source of the discharge
- f. Procedures for program evaluation and assessment
- g. Procedures to prevent and correct any on-site sewage disposal systems that discharge into the MS4.



CONSTRUCTION

- ▶ Construction requirements and control measures
- ▶ Construction site inventory
- ▶ Construction plan review procedures
- ▶ Construction site inspections and enforcement
- ▶ MS4 staff training
- ▶ Construction site operator education and public involvement



Additional Construction-related requirements of note

- Inspection Frequency Protocols – The proposed change will require a mandatory inspection of all covered construction sites after .5in rain event.
- Monthly inspections will be required, at a minimum, for sites disturbing 1 acre or greater. There is a provision that bi-monthly inspections may be required for sites larger than an as of yet undetermined size (5 acres?).
- Inspection numbers will need to be tracked.
- Additionally, “a rigorous inspection protocol is necessary. This protocol must include a written SOP for site inspections and enforcement to ensure inspections and enforcement actions are conducted in a consistent manner.”



Additional Construction-related requirements of note (cont'd)

- Construction Operator Education: Each year, permittee will provide information on existing training opportunities or develop new training for construction operators on control measure selection, installation, implementation, and maintenance as well as overall program compliance.
- Public Involvement: The permittee must hold public meetings for all public projects that have planned disturbance greater than or equal to an acre.



POST-CONSTRUCTION

Additional Post-Construction-related requirements of note

- Inspection Frequency: Inspect Post-Construction BMPs (20% per year).
- The permittee must develop a plan to retrofit existing developed sites that are impacting water quality.
- An inventory of potential retrofit locations



GOOD HOUSEKEEPING

- Development of a Municipal Facility and Stormwater Control Inventory for municipally owned or operated facilities
- Comprehensive Assessment of Pollutant Discharge Potential of facilities, including those of “High Priority”
- Site specific SOPs for stormwater management at high priority facilities.



INDUSTRIAL FACILITIES

EPA recommends that permit writers consider including requirements pertaining to stormwater discharges to the MS4 from industrial sources in Phase II permits to further reduce stormwater pollutants from the MS4.

- Maintain an inventory of all industrial and commercial sites/sources within its jurisdiction that could discharge pollutants in stormwater to the MS4
- Industrial and Commercial Site Inspection Program
- The use of a geolocational database system is highly recommended.



Development of a Comprehensive Monitoring and Assessment Program

“Example Permit Provision

The permittee must continue to implement, and revise as necessary, a comprehensive monitoring and assessment program. A description of this program must be included in the SWMP document. The monitoring and assessment program must be designed to meet the following objectives:

- a. Assess compliance with this permit;
- b. Measure the effectiveness of the permittee’s stormwater management program;
- c. Assess the chemical, physical, and biological impacts to receiving waters resulting from stormwater discharges;
- d. Characterize stormwater discharges;
- e. Identify sources of specific pollutants;
- f. Detect and eliminate illicit discharges and illegal connections to the MS4; and
- g. Assess the overall health and evaluate long-term trends in receiving water quality.”



FOR ARID COUNTIES

Do I have “receiving waters” ?





Some Relief for Arid Areas?

The EPA advises the permit writer that:

- There are numerous factors that should be examined while setting up the water quality monitoring portion of the comprehensive program.
- Understanding and considering climatic conditions such as precipitation patterns, temperature, and seasonal variations will ensure the study design will collect data that are representative of typical storms in the area and that sampling occurs during times of the year when it is most logical to do so.
- Acknowledging the different types of land uses within the area will also help the permittee to prioritize monitoring efforts based on the areas most likely to be impacted by stormwater.
- The type of waterbody monitored must also be considered when selecting sampling locations since pollutants behave differently depending on the environment thereby impacting sampling protocols.

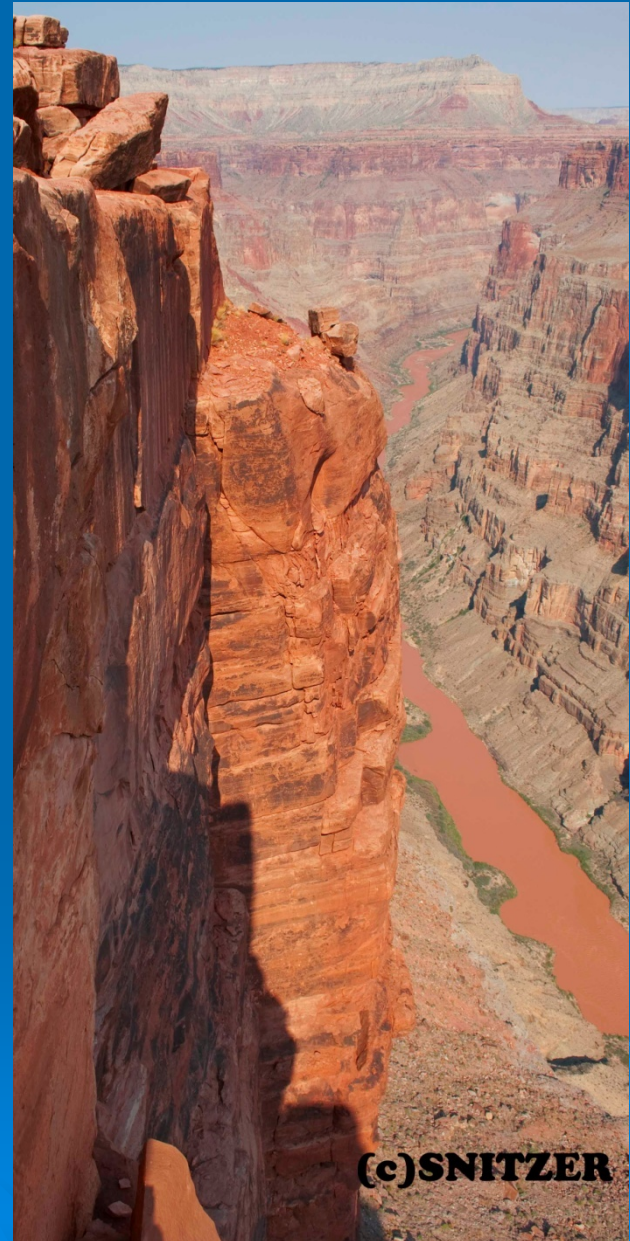


What can be done to address present issues or proposed changes to the MS4 permit which appear to be problematic for the regulated?

- Form or join local, county, state or national coalitions or organizations to present a unified voice. Choose those that best fit the role of providing the representation you wish for your organization.
- Work with the permit writers in your state?
- Contact the EPA directly?
- Provide information and analysis regarding negative impacts to your organization (municipality) to your organization's office of government relations. (A political approach.)
- If a “one-size-fits-all” nationwide regulation doesn't make sense and results in the wasteful expenditures, pass on helpful suggestions to make the regulations better.
- Stress those unique characteristics that define your region,







Gen. William Tecumseh Sherman visited Arizona in the summer of 1880. A promoter made the mistake of asking him what he thought of the place. “Too damn hot and dry”, Sherman declared. “All she needs”, the promoter said soothingly, “is less heat, more water, and a few good citizens”. “Hunh,” Sherman said. “That is all hell needs.”



(From Roadside History of Arizona)

THANK YOU



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