

NACWA

LAW CONFERENCE, SEATTLE

**EPA'S NEW FLOW & IMPERVIOUS
COVER TMDLS**

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Flow & Impervious Cover TMDLs

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Background & Key Issues Regarding
Flow/Impervious Cover TMDLs

Uncertain Development on the Water Restoration Regulatory Front

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- Flow and/or Impervious Cover TMDLs for urban streams
 - Impaired benthic communities
 - Sediment
 - Other pollutants
- Huge potential expansion of CWA authority
- Which EPA terms “nonconventional”

Uncertain Development on the Water Restoration Regulatory Front

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- First CWA attempt to address flow directly as a matter of federal law
 - EPA getting into YOUR land use development through TMDLs that will impose devel/redevel requirements
 - Imposed – at least initially - via MS4 permits

Uncertain Development on the Water Restoration Regulatory Front

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- Not an abstract TMDL issue
 - NPDES permits must be consistent with TMDLs
 - 40 CFR 122.44(d)(1)(vii)(B)
 - EPA therefore concludes that your MS4 permit must implement flow & IC reductions

Four Examples (no dead bodies, yet)

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- Missouri TMDLs (EPA)
 - Approximately 40% reduction in high flows in watersheds for several urban streams in Columbia and Springfield
 - All three TMDLs were appealed

Four Examples (no dead bodies, yet)

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- Virginia Accotink (EPA)
 - Approximately 47% reduction in the one-year, 24-hour flow rate over the watershed
 - Virginia's "Manhattan" – Tysons Corner
 - Estimated to cost Fairfax County hundreds of millions to implement
 - VA (VDOT) and Fairfax County have appealed

EPA Developed and Issued Flow Surrogate TMDLs in MO

- City of Columbia/Boone County
 - Hinkson Creek TMDL
 - Approximately 40% reduction in peak flows to the watershed
- City of Springfield
 - Wilson and Jordan Creeks and Pearson Creek TMDLs
 - UNKNOWN POLLUTANT
 - Approximately 30-40% reduction in peak flows to the watershed



Hinkson
Creek



Jordan Creek

EPA Developed and Issued Flow Surrogate TMDL in VA

- Fairfax County & VDOT
 - Accotink Creek
 - Approximately 47 - 50% reduction in peak flows to the watershed
 - 1 year, 24 hour flows
 - Over 22,000 acres
 - VDOT \$70 million
 - Fairfax \$110 – 215 million
 - Sediment is the pollutant of concern

State Examples

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□ North Carolina

- IC TMDL for Alamance Creek, Burlington, NC
- Would have required a 62% reduction in IC over a 16-square mile watershed in Burlington, NC
- State has abandoned this TMDL

State Examples

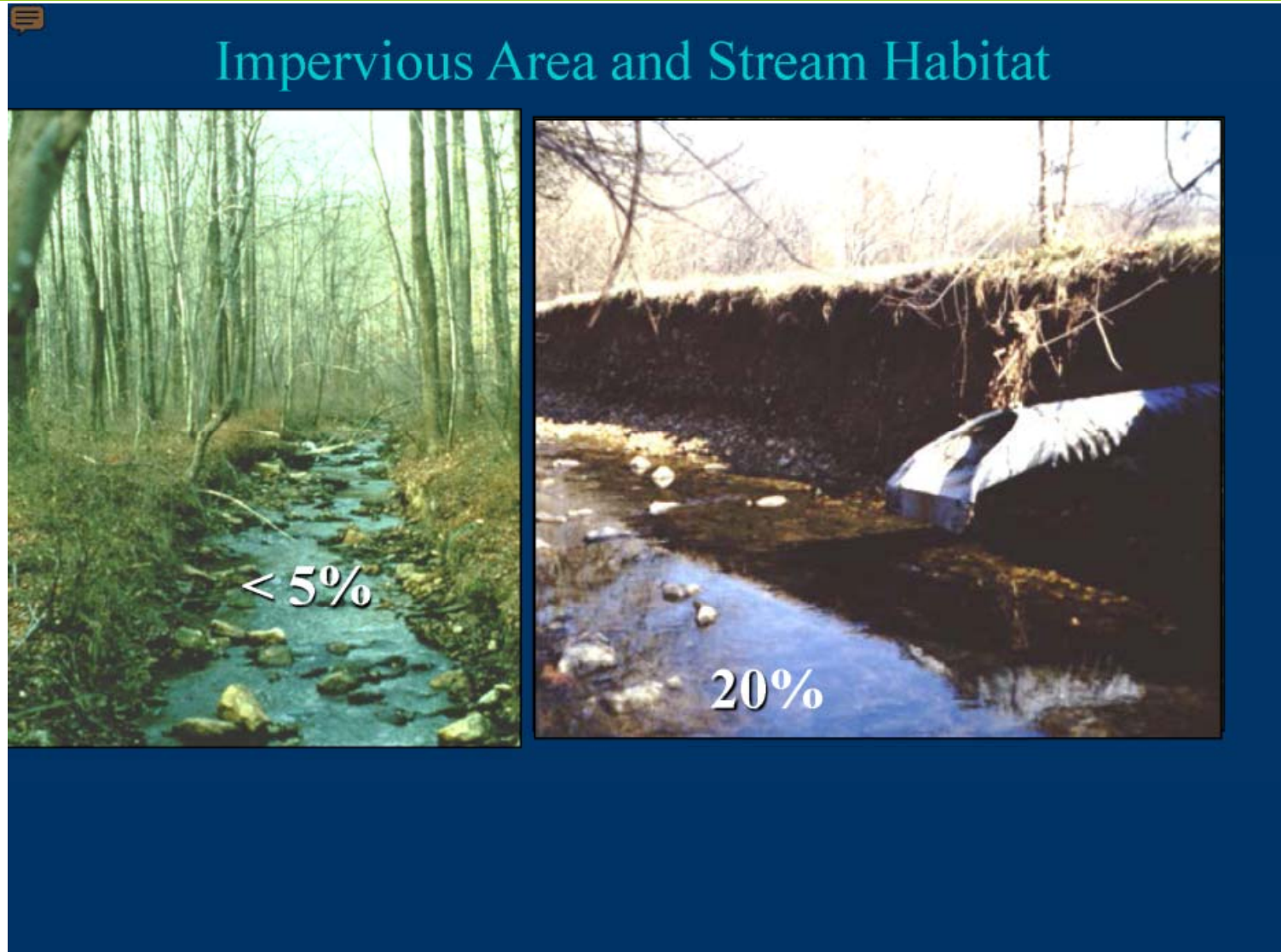
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□ Maine

- IC TMDL for 29 watersheds
- Current IC up to 39% would have to be reduced to 5- 16% IC
- TMDL Approved by EPA on 9/27/12

Comparison of two Streams: <5% IC (left) and 20% IC (right).

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Uncertain Regulatory Development

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- Each TMDL will costs tens if not hundreds of millions of dollars to implement
 - Assuming that the reductions are even technically possible
- Tip of the regulatory iceberg or isolated anomalies?
 - Implications for your community if these four TMDLs are the tip of the regulatory iceberg?
 - 9% IC across the US?

Why Are the Agencies Doing This?

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- Urban streams – can be impaired by pollutants and flows due to IC-related impacts
- Some studies show that flows matter
- Some say that once IC reaches threshold level, it correlates to impaired streams
 - “Flashiness” and flow-related impacts
 - Scouring;
 - Smothering benthic communities
 - Stream bank destabiliation

Why Are the Agencies Doing This?

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- Others say there is some merit to that but not all streams are the same
 - One stream impaired at 10% IC while another is fine at 18%
- Also, contrary to the flow advocates, pollutants may be the primary driver of the impairment in many streams
 - “Diesel Spring” in one of the creeks in Springfield

Things to Consider

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- Urban environments are significantly different from forested streams
 - Tree cover (light, temperature)
 - Urban pollutants
 - Impervious cover
- Streams constantly seek equilibrium
- Same for aquatic populations instream
- TMDLs target a sliver of peak flows
 - Address the flow sliver and you get happy bugs....?

Things to Consider

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- Competing environmental philosophies:
 - Smart growth versus sprawl?

- Smart growth concentrates development and is viewed as minimizing the environmental impact from that development
 - But there remain impacts

Things to Consider

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- Development-related impacts have come over 100-200 years in this country
 - It will take decades or longer to address them
 - Even if technically and financially feasible
- Can we really have healthy aquatic communities in creeks behind every Walmart?
- Do the social benefits justify the costs?
 - Especially when weighed against competing social needs?

Things to Consider

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- Piecemeal regulation
 - Trying to impose flow control through one watershed at a time, rather than national, state or community-wide devel/redevel basis doesn't make functional sense
 - TMDL-by-TMDL approach certainly misses priority waters
 - Our early flow control dollars are not spent where we best the best public benefit
 - TMDLs not the best tool for decades-scope problems

Things to Consider

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As you ponder your policy answers, here are a few key Legal/Regulatory issues

Can EPA do this at all?

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- CWA an exercise in cooperative federalism
 - Currently too much cooperation by the states
 - Not enough federalism from EPA

- CWA authorizes EPA and the States to regulate the discharge of pollutants

Can EPA do this at all?

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- TMDLs are to address “pollutants . . . suitable for such calculation”
 - CWA 303(d)(1)(C)
 - See also 40 CFR 130.7(b)(4) (“identify the pollutants” causing impairment)
- EPA required to formally ID pollutants suitable for TMDLs
 - “All pollutants . . . are suitable for the calculation of [TMDLs]”
 - 43 FR 60665 (1978)

Can EPA do this at all?

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- Neither Flow nor IC is included in the definition of “Pollutants”
 - See 40 CFR 122.2 (definitions)
 - See EPA 2004 303(d) Listing Guidance. “EPA does not believe that flow . . . is a pollutant . . . In the situation where a pollutant is present a TMDL, which may consider variations in flow, is required for that pollutant.”

Can EPA do this at all?

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- See also EPA's 2000 TMDL rulemaking
 - “[L]ow flow is not a pollutant. . . . If low flow amplifies the impairing effect of a pollutant . . . by increasing its concentration, that factor is to be accounted for . . . in the TMDL by calculating and allocating the total pollutant load in light of . . . variations in flow.”
 - 65 FR 43586

Can EPA do this at all?

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- Further, this all ignores the CWA “Maximum Extent Practicable” Standard for MS4s
 - CWA 402(p)(3)(b)(iii)
 - Displaces the concept of pollutant-specific numeric NPDES limits, before you even get to the idea of surrogates for those pollutants

Authority for Surrogates?

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- EPA's assertion of flow as a pollutant surrogate is illegal
 - EPA can't do indirectly what it lacks authority to do directly
 - Different from using a pollutant as a surrogate for other pollutants
 - E.g. use of solids as a surrogate for hydrophobic pollutants

Authority for Surrogates?

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- EPA's assertion of flow as a pollutant surrogate is illegal
 - “Synthetic” surrogate is even more questionable
 - In Missouri EPA made up fictional stream from four forested “reference” streams (all < 1% IC)
 - No statutory or regulatory authority to use flow surrogate (esp. in the “Show Me State”)

Authority for Surrogates?

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- EPA's assertion of flow as a pollutant surrogate is illegal
 - In Virginia used non-applicable, non-urban streams as "reference" streams

EPA's 2010 Memo on TMDLs for Stormwater Sources

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- Establishing TMDLs for Stormwater Sources
 - Nov 12, 2010
 - Predicated on new & additional experience and knowledge of TMDLs
 - Use of surrogates for pollutant parameters
 - Flow & IC
 - “Difficult” to identify pollutants
 - 2009 National Research Council paper on flow & IC
 - “Other appropriate measure” citing 40 CFR 130.2(i). But this is a definition, and it relates to units of measurement, not to what's controlled

EPA's 2010 Memo on TMDLs for Stormwater Sources

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□ NACWA Response

- Jan 28, 2011
- Sweeping changes, in the absence of rulemaking, and in the absence of public input
- Ignores the CWA MEP standard, which is a limitation on permitting, not a coequal requirement
- Courts have ruled that MEP is the only applicable MS4 standard

Reference Streams are Not Representative

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- Synthetic reference streams are not representative
- Even if EPA has the authority to regulate flow, what about comparing IC/Flow in unimpaired URBAN streams to other urban streams?
 - Put another way: why not use URBAN reference streams?

The TMDL Program

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- TMDL – Maximum Daily Load
 - ▣ Pollutant load
 - ▣ Not flow (volume)
 - ▣ Certainly not Impervious Cover
 - ▣ Courts say you have to specify the Load
 - By implication that does not mean flow

No Linkage Between Flow and Happy Bugs

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- EPA is unable to demonstrate that reducing the targeted slice of peak flow will yield the number and variety of benthic organisms.
 - ▣ There are many other factors
 - ▣ Less flow may actually mean higher toxics concentrations
 - E.g. motors oils from roads
 - Organics from springs

Bypassed Public Safeguards

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- The VA and MO TMDLs were the final TMDLs under their respective TMDL consent decrees
 - Issued in the last days of the allowable period (Springfield was on the last day)
- Regulatory ends don't justify the means
 - No matter how right EPA/States may be about flow being the problem in some waters, they can only regulate what they have authority to regulate and then only in the manner (rulemaking) authorized

EPA Must Adopt Flow/IC Requirements by Rule

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- Even assuming EPA has the authority to impose flow/IC reductions, they must adopt the requirements by rule
 - Every other WQS is adopted by rule
 - States & EPA have to promulgate every other WQS
 - What authorizes the Agency to simply announce by fiat flow/IC requirements?

Cases Poorly Chosen by EPA in any Event

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- In Springfield, MO TMDLs EPA's final TMDL documents ID'ed a number of identified or suspect "pollutants"
 - "Diesel spring"
 - Springs with recharge from industrial sites
 - Benzene & naphthalene > WQS
 - Mo DNR TIE work identifying specific toxic metals

Cases Poorly Chosen by EPA in any Event

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- In Fairfax, VA TMDL the 303(d) listing of Accotink Creek was for the pollutant sediment
- Plaintiffs County & VDOT had done an unusually thorough job of comparing TMDL impacts
 - Cost of implementing flow reduction of approx 50% over 22,000 acres
 - Cost of addressing sediment more directly
 - VDOT delta >\$70 million
 - Fairfax County delta \$110 – 215 million

Bottom Line

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- Agenda-driven
- A pastoral, decentralized society mindset
- Unrealistic
- Nonetheless, urban stormwater a major water quality problem

Solutions that Could Allow Reasonable Further Progress

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- Urban Stream Classification
- Urban Stream Restoration Variance

Take-Aways

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- IC/Flow TMDLs – potential major regulatory initiative targeted directly at land use control
- Some merit to trying to manage flow
 - Will require community-scale “renewal”
- Key public safeguard concerns
 - Statutory authority
 - To regulate flow v. pollutants
 - Surrogate pollutants; synthetic surrogates
 - Rulemaking procedures
- Urban stream classification/Urban Restoration Variance to facilitate iterative progress?

General Take-Away

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A well-defined problem is half solved....

You can have a cheap solution directed toward an unknown problem or an expensive solution directed toward a well-defined problem.

You CANNOT have an expensive (flow TMDL) solution for an undefined problem (Urban benthic impairment)

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