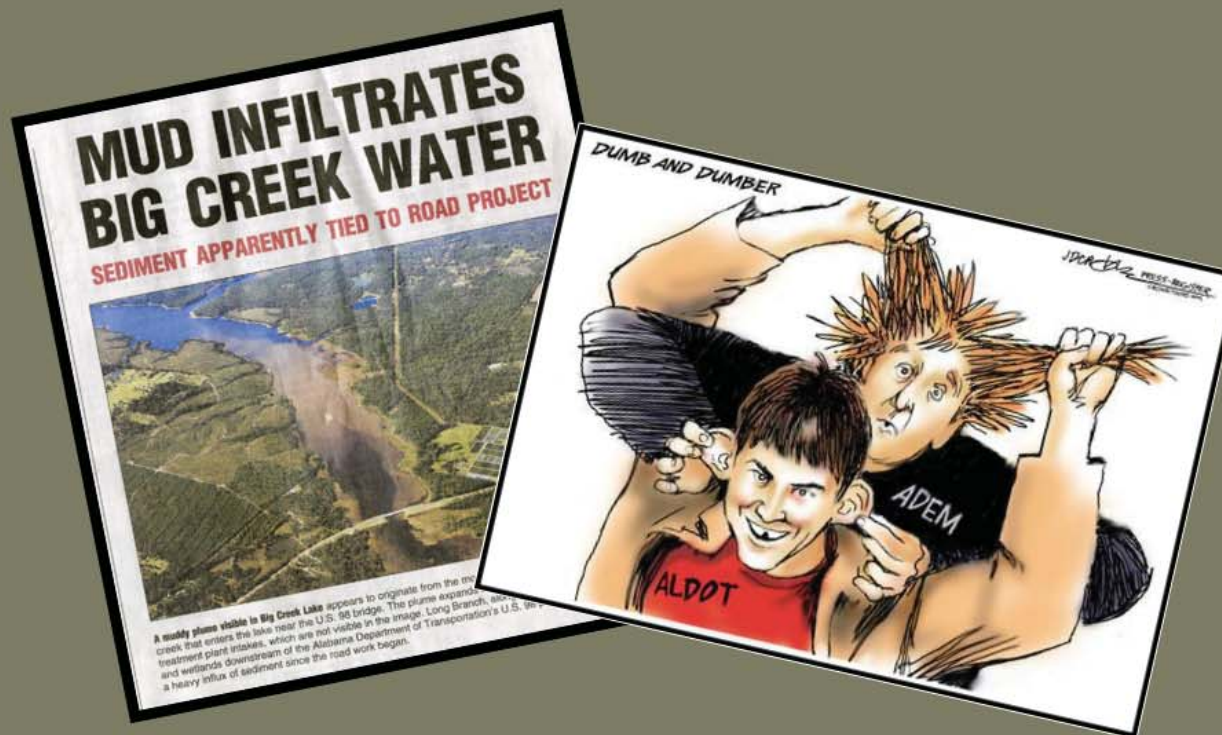




Alabama:
The State of
Stormwater

"Walking and biking are relatively new forms of transportation."

- Alabama MPO rep discussing the future for cyclists and pedestrians





Stormwater From a Different Grid

become involved

The Art of Managing Stormwater

think differently

MEP - Maximum Extent Practicable

enhanced

Best Management Practices

A photograph of a stone wall overlooking a river with rapids. The wall is constructed from large, reddish-brown stone blocks. In the background, the river flows rapidly, creating white water. A wooden railing is visible in the foreground, and a sign with the text "NATIONAL PARK" is partially visible on the left. The text "FACTOR OF SAFETY" is overlaid in white, bold, sans-serif font at the bottom center of the image.

FACTOR OF SAFETY



OBLIGATION OF CIVIL ENGINEERS
AND PUBLIC WORKS PROFESSIONALS:

to protect and sustain infrastructure
or...

to protect and sustain the economic, social,
and natural elements of our communities

ASCE Policy Statement 418

Environmental, economic, social and technological development must be seen as interdependent and complementary concepts, where economic competitiveness and ecological sustainability are complementary aspects of the common goal of improving the quality of life.



ASCE Strategic Priority #3:

Achieve a more sustainable
natural and built environment.

ASCE Code of Ethics

CANON 1: Engineers shall hold paramount the safety, health and welfare of the public and shall strive to comply with the principles of sustainable development in the performance of their professional duties.



be helpful,
not harmful.



purpose:

... to restore and maintain the chemical, physical, and biological integrity of our Nation's waters.

goals:

- 1) eliminate pollutants to our Nation's waters by 1985
- 2) restore our Nation's waters by 1983

...stormwater is the only pollutant source that is actually getting worse.

Debra Nagle, EPA Water Permits Division Director

Clean Water Act



Alabama Rivers and Streams:

Total - 77,242 miles

polluted - 4.1% of total

3,164 miles

27% of assessed

assessed - 11,800 mi (15%)

#1 cause of river and stream impairment?

sediment/siltation

True or False?

The most significant stormwater-related impacts are due to ~~ALDOT~~ construction activities.

FALSE

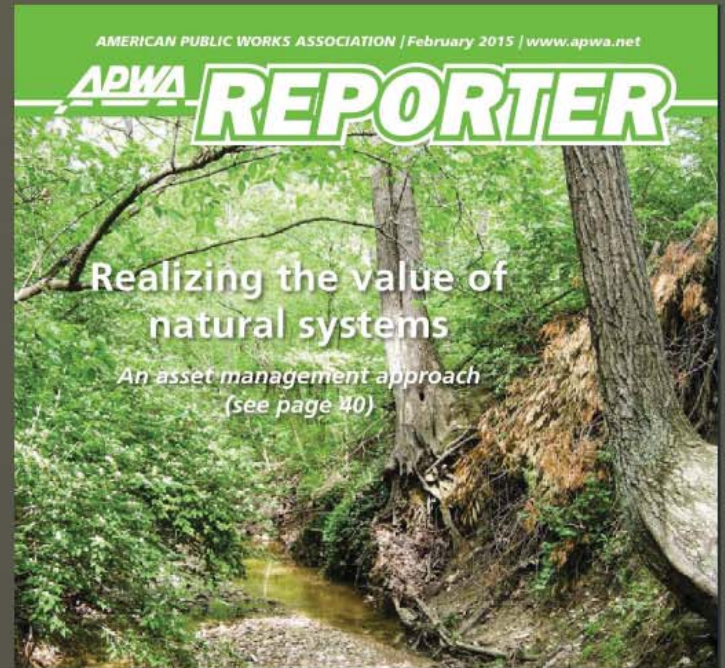


ASCE Policy Statement 441

ISSUE: Urbanization and land use changes lead to increased stormwater runoff quantity and degraded quality, impacting the watershed and waters of the United States.

Failure to sustain a stormwater management system that effectively mitigates these impacts leads to increased downstream flooding and stream bank erosion, loss of and changes in aquatic habitat, water-quality deterioration, property loss and increased cost of infrastructure replacement and upgrade.





- promote benefits of GI...
- build and share knowledge around GI...
- encourage adoption of GI





so how do we get there?



ALDOT GFO 3-73

- post-development hydrology must mimic pre-development hydrology
- smaller, more frequent storms
- practices and features considerations -
 - decentralized
 - natural materials
 - natural processes

ASCE Policy Statement 441

RATIONALE: Civil engineers are typically the lead professionals involved in the design, construction, operation, and maintenance of stormwater systems.

The availability and the development of stormwater evaluation and design technology can lead to improved systems that sustainably manage the quantity and quality of stormwater runoff and meet the goals to mitigate its impacts on receiving waters.

The challenge of sustainable stormwater management is complex and may require a flexible, comprehensive approach...

"Stormwater infrastructure is a relatively ^{renewed} ~~new~~ focus for civil engineers and public works professionals."

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Alabama: The State of Stormwater



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StormwaterTools.com