



# S T O R M W A T E R

## WHAT IS STORMWATER RUNOFF?

Stormwater runoff occurs when precipitation flows over the ground. Impervious surfaces such as driveways, streets, and roofs prevent rain from soaking into the ground.



## IS STORMWATER A PROBLEM?

**YES.** Stormwater runoff picks up debris, chemicals, dirt, and other pollutants from impervious surfaces and washes them into storm sewers. Anything that enters a storm sewer flows - often untreated - into the rivers and streams that we use for swimming and drinking water. In Georgia, stormwater runoff is identified as the cause of impairment for 98% of all impaired waters.

Stormwater runoff can have many adverse effects on animals, plants, and people:

- Sediment can cloud the water, destroy aquatic habitat, and increase water treatment costs.
- Excess nutrients, such as lawn fertilizers, can cause algal blooms.
- Bacteria and other disease-causing organisms can wash into water bodies and create health hazards.
- Hazardous chemicals such as oil, household pesticides, auto fluids, and paint solvents can poison aquatic life.

## HOW CAN WE REDUCE STORMWATER RUNOFF?

The best way to reduce the impacts of stormwater runoff is to reduce the amount of runoff generated, by reducing the amount of impervious surface area constructed and/or directing runoff to permeable areas, where it can soak into the ground, rather than into the storm sewer system.

## PROPOSED STORMWATER ORDINANCE

As part of the development of the Etowah Aquatic HCP, local governments have agreed to take steps to minimize the impacts of development on imperiled aquatic species, including adoption of a post-development stormwater management ordinance. Several members of the HCP - Bartow, Cherokee, Cobb, Forsyth, Fulton, and Paulding Counties, and cities within them - are already required to adopt a stormwater ordinance as part of the Metropolitan North Georgia Water Planning District. To ensure these communities meet both Metro District and HCP requirements, the HCP proposed ordinance is based upon the Metro District model stormwater ordinance.

## WHAT ARE THE MAJOR REQUIREMENTS OF THE ORDINANCE?

The proposed ordinance requires that development sites establish management practices to meet five specific performance criteria:

### WATER QUALITY PROTECTION

- All stormwater runoff must be adequately treated before discharged
- The first 1.2" of rainfall must be treated and 80% of the suspended solids removed

### STREAM CHANNEL PROTECTION

- The 1-yr, 24-hr storm event must be detained for 24 hours

### OVERBANK FLOODING PROTECTION

- The post-development peak discharge rate of the 25-year, 24-hour storm must be controlled

### EXTREME FLOODING PROTECTION

- The 100-yr, 24-hour storm event must be controlled and safely conveyed so that flooding is not exacerbated.

### AQUATIC SPECIES PROTECTION: RUNOFF LIMITS

- Volumes of stormwater runoff are limited to those that would occur under forested conditions, or other specified levels, depending on the "Priority Area" the site lies within. See below.

It is possible - and desirable - to design a single system that simultaneously meets all performance standards. For example, a system designed to meet the Runoff Limits will usually meet water quality and stream channel protection requirements, without the need for additional practices.

For more information, please contact:



## DOES THE ORDINANCE APPLY TO ALL DEVELOPMENT?

**NO.** The ordinance applies to:

- New developments that create 5000 ft<sup>2</sup> of impervious area
- Redevelopment projects that create, add, or replace 5000 ft<sup>2</sup> of impervious area
- Any development that is defined by the local jurisdiction to be a hotspot land use
- New developments that create less than 5000 ft<sup>2</sup> of impervious area but are part of a larger development plan

Construction of individual single-family homes, renovations to existing single-family homes and residential duplexes, agricultural and silvicultural activities, as well as repairs to stormwater management facilities are exempt from the ordinance.



## PRIORITY AREA PROTECTION

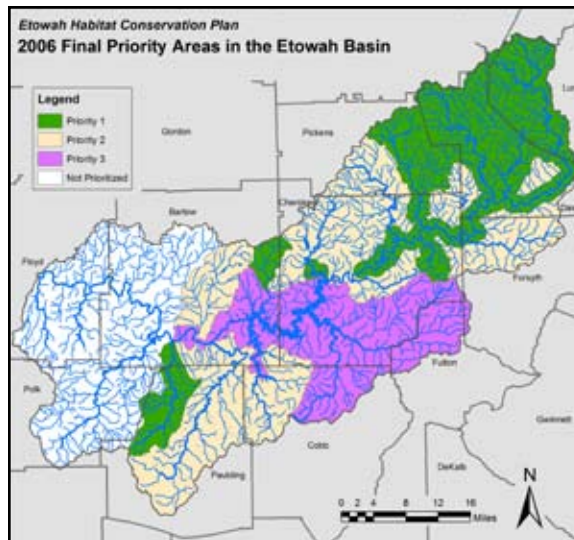
There are some areas of the Etowah basin that require additional measures to ensure protection of imperiled aquatic species. The HCP stormwater ordinance recognizes three levels of priority areas, Priority Areas 1, 2 and 3. Priority Area 1 is home to the most sensitive and rare species protected by the HCP, so requires the greatest protection; Priority Area 2 is important for protecting species that are slightly less sensitive and need less strict protection; and Priority Area 3 does not currently provide significant habitat to any imperiled fish in the basin, so needs no additional protection beyond the other HCP provisions.



runoff that can leave the site during small storms. In Priority Area 1, the volume of runoff must be the same as if the site were in a forested condition. In Priority Area 2, projects are allowed to generate an additional volume of runoff—as if the site were 95% forested

and 5% impervious. Existing soils are taken into account in making the calculations, so that sites with impermeable clay soils are allowed to produce more runoff than sites with highly permeable soils. In addition, local governments can designate some locations as “development nodes,” where additional runoff is permitted. The runoff limits program provides a great deal of flexibility to developers while ensuring that impacts to fish are minimized. In addition to using stormwater infiltration practices, developers can use

Better Site Design principles to minimize impervious cover and stormwater runoff, often saving money in the process. There are many examples of these site design practices currently in use in the Etowah basin.



New development and some types of redevelopment in Priority Areas 1 and 2 must comply with an additional set of performance standards, called “runoff limits”, which limit the volume of surface

## Helpful links:

Etowah Aquatic HCP:

[www.etowahhcp.org](http://www.etowahhcp.org)

Georgia Stormwater Management Manual:

[www.georgiastormwater.com](http://www.georgiastormwater.com)

Metro North Georgia Water Planning District's Site Planning Tool:

[www.northgeorgiawater.com/pdfs/CH2M-SW/SiteReviewTool\\_1.1\\_BLANK.xls](http://www.northgeorgiawater.com/pdfs/CH2M-SW/SiteReviewTool_1.1_BLANK.xls)

For more information, please contact:

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