



Biodiversity Protection Tools

Currently in Place in the Etowah
Watershed

Erosion and Sedimentation



Erosion & Sedimentation

- Existing ordinances are good
- Enforcement is often inadequate
 - Insufficient staff
 - Lack of training
 - Judges who don't care
 - Lack of political will





Local Riparian Buffer Ordinances

Functions of Riparian Buffers

- Trapping sediment in runoff
- Trapping/removing N in runoff
- Trapping /removing P in runoff
- Stabilizing stream banks
- Protecting aquatic habitat
- Protecting terrestrial habitat/providing movement corridors for animals

Progressive Stormwater Management Ordinance

- Minimize channel erosion
- Remove pollutants
- Preserve natural hydrology



On-site Approaches

Manage stormwater
as close to the
source as possible



A residential "rain garden"

Porous Paving Alternatives

**Porous
Asphalt**



**Porous
Concrete**



Pavers



**Grassed
Pavement**



Conservation Subdivision Ordinances



Drawings © Randall Arendt



Fern Park, Lumpkin Co.

Walking trail

Home under construction



Conservation Planning

- Determining where development should occur on the regional scale
- Using zoning effectively
- Economic benefits



Greenspace Preservation



Funding Greenspace Preservation

- **Federal Land Acquisition Funds**
- **SPLOST & Bond Issues**
- **Stream Mitigation Banks**
- **TDRs**

Road Crossings

- Restrictions on types of crossings
- Currently recommended by FWS
- May need to be mandatory

Reservoir Management

- Demand Management/Water Conservation
- Reservoir Siting
- Restricting Amenity Lakes
- Flow Management for Allatoona?

Others?

- Steep slope protection (Bartow)
- Part V criteria
- Status of comprehensive plan

Other water initiatives you're involved in...

- North Metro Water District
- Northwest Georgia Regional Initiative
- ACCG/Corps
- LAPA

Current research (Etowah Practicum students)

- Funding sources
- Impact fees
- Supplemental Environmental Projects
- Incidental take permits
- Regional TDR program
- Others?
 - Liability issues