WATERSHED PLANNING AND MONITORING PROGRAM

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WATERSHED PLANNING AND MONITORING PROGRAM - WHAT WE DO

• Water Quality Standards
• Monitoring – chemical, physical and biological monitoring
• Assessment – assess water quality data vs. standards
• Water Quality Modeling
• Wasteload allocations for dischargers
• Total Maximum Daily Loads (TMDLs)
• Watershed Assessments/Protection Plans – required for expanding any major wastewater dischargers
The CWA process:

1. Objective:
   Restore and maintain the chemical, physical, and biological integrity of the waters of the United States

2. Assess Waters

3. Develop TMDLs for Impaired Waters

4. Implement WLAs through Permits and LA through BMPs

5. Compliance
WATER QUALITY STANDARDS

- EPA and the States establish standards
- Designated Uses
  - All waters assigned a designated use
    - **Fishing**
    - Drinking water
    - **Recreation**
    - Wild and Scenic River
    - **Coastal Fishing**
- Water Quality Criteria
  - Criteria must be protective of the designated use
WATER QUALITY MONITORING

- Trend Monitoring
- Lake Monitoring
- Estuary Monitoring
- Intensive Surveys
- DNR State Park Beach Monitoring
- Wetland Monitoring
- Ground Water Well Monitoring
- Biological Monitoring
- Fish Tissue Monitoring
- Facility Compliance Monitoring

- 175 Rivers and Streams
- 68 Lakes
- 11 Estuaries
- 27 DNR Park Beaches
- 130 Ground Water Wells
- 60 Biological Sites
- 15 Wetlands Sites
- 75 Fish Tissue Samples
- 96 Compliance Sampling Inspections
• CWA § 305(b): Every two years States must prepare and submit to EPA a report that describes the water quality of the State’s waters.

• Compare data to the Water Quality Standards

• Publish Water Quality in Georgia

  • Report contains 305(b)/303(d) list, which provides the conditions of all waters both supporting and not supporting
GEORGIA ENVIRONMENTAL MONITORING AND ASSESSMENT SYSTEM DATABASE (GOMAS)

- Chemical, physical, and biological monitoring data from EPD and USGS
- 305(b)/303(d) Assessments
- Watershed Assessment data
- Used to transfer data to federal databases WQX and ATTAINS
- Available to the public:
  https://gomaspublic.gaepd.org/
EPD’s TMDL Modeling and Development Unit has developed over 1700 TMDLs since 2000

Tools used to develop TMDLs

- Mass Balance
- GA DOSAG - Steady State River Model
- GA ESTUARY - Steady State Estuary Model
- GA RIV-I - Hydrodynamic River Models
- LSPC - Watershed Model
- EFDC - 3-D Lake and Estuary Model
WATER QUALITY MODELING

• Water Quality Modeling Unit develops Wasteload Allocations (WLAs) for new and expanding wastewater treatment facilities and for permit reissuances

• Major parameters of concern:
  • 5-day Biochemical Oxygen Demand (BOD5)
  • Ammonia (NH3)
  • Dissolved Oxygen (DO)
  • pH
  • Temperature
  • Nutrients
  • Bacteria

• Calibrate models to existing conditions
• Use models to determine permit limits and still meet the water quality standards
LITTLE OGEECHEE WASTELOAD ALLOCATION STUDY