

**THE CONTINUING EVOLUTION OF FLORIDA'S  
NONPOINT SOURCE AND WATERSHED  
RESTORATION PROGRAM**

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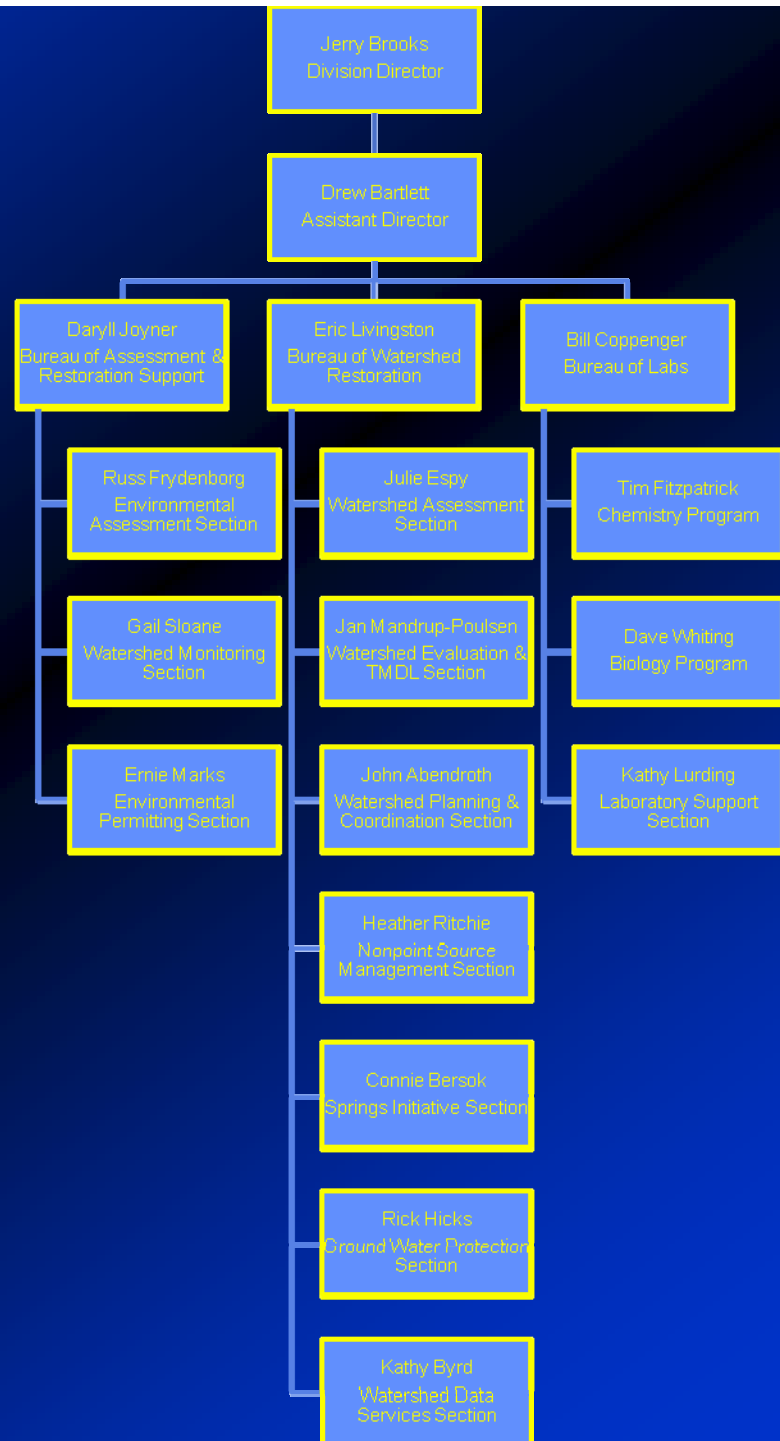
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**<http://www.dep.state.fl.us/water/watershed>**

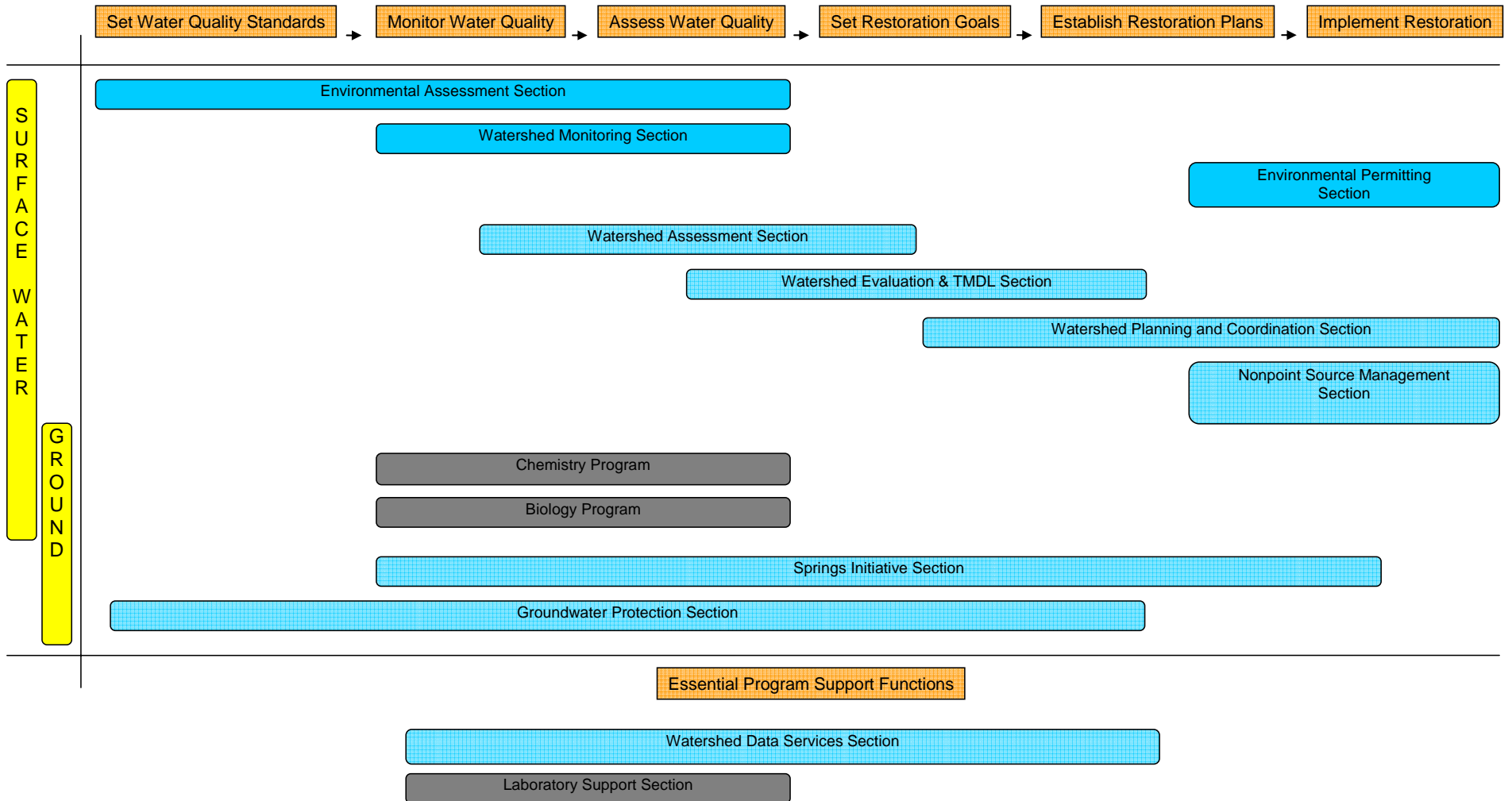
# Water Quality Restoration Framework



# Division Organization



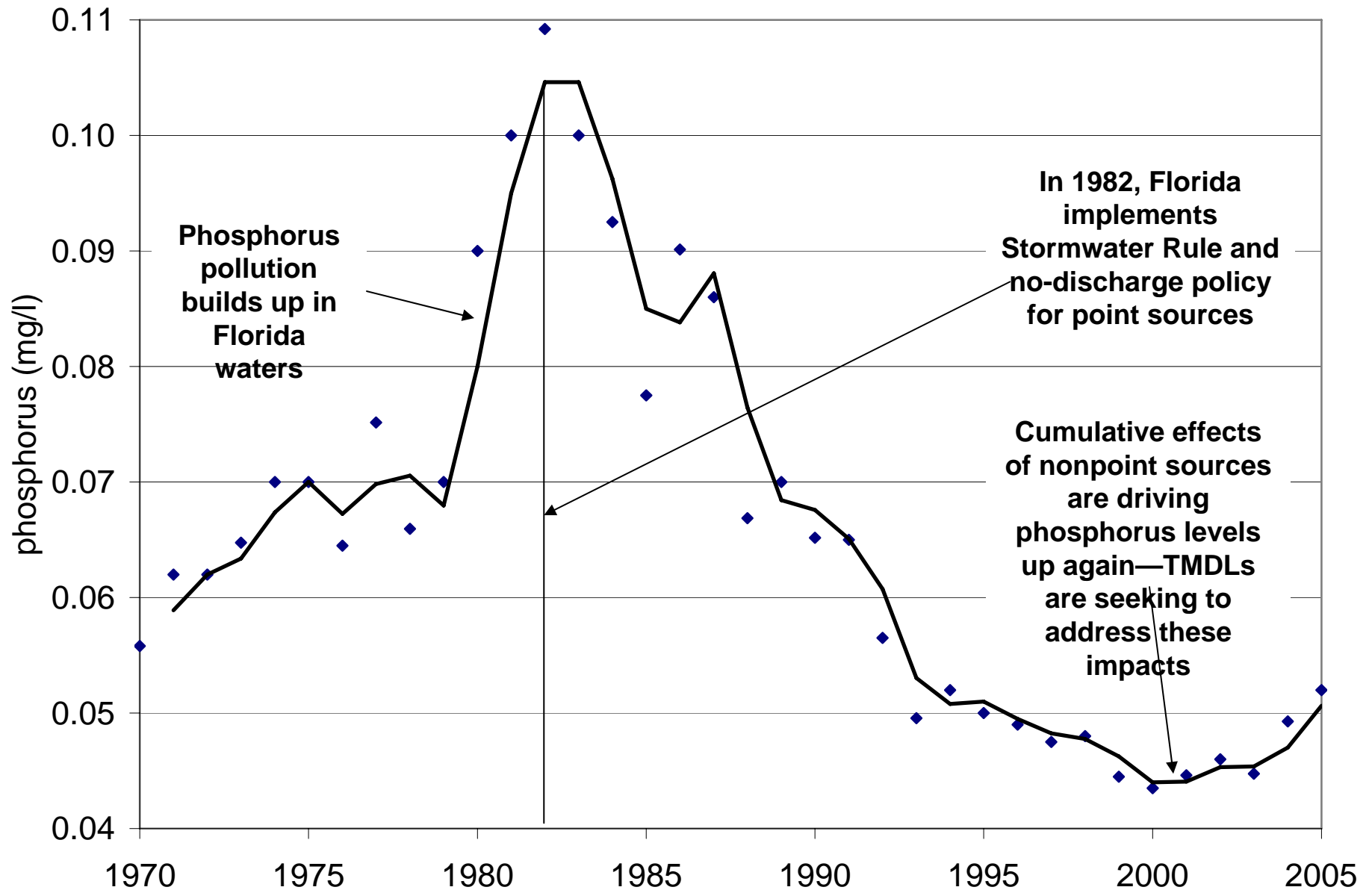
# Water Quality Restoration Framework



# EVOLUTION OF WATERSHED MANAGEMENT

- **People**
- **Land use change**
- **Drainage**
- **Point source treatment**
- **Nonpoint source management**
  - **Erosion and sediment control**
  - **Stormwater treatment**
  - **Stormwater retrofitting**
  - **OSTDS**
- **Watershed management**

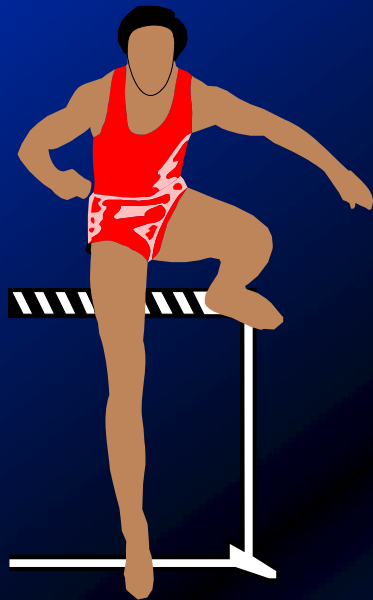
# Phosphorus Trends in Florida Waters 1970 -2005



# TMDLS AND CONTROLLING NONPOINT SOURCE POLLUTION

- **Vast majority of Florida TMDLs – NPS**
- **Focus on:**
  - **Preventing NPS loads from new sources**
  - **Reducing NPS loads from existing sources**
- **Key is enforceable State NPS PROGRAMS**

# WATERSHED MANAGEMENT CHALLENGES



- **Institutional**
- **Technical**
- **Financial**
- **Cultural**

# WATERSHED MANAGEMENT: INSTITUTIONAL CHALLENGES



Communication

Buy-in

Many

Partners



Cooperation



Coordination

# WATERSHED MANAGEMENT: INSTITUTIONAL CHALLENGES

- **Legal authority**
- **Roles of government**
- **Stakeholder involvement and support**
- **Technology based vs WQ based programs**
- **Integration and coordination**
- **Thou shall not treat in “waters”**
- **Role of nonstructural BMPs**

# NPS LEGAL AUTHORITIES

- **FEDERAL**

- **Section 208, FCWA- planning**
- **Section 319, FCWA - implementation**
- **Section 6217, CZARA – enforceability**

- **STATE**

- **Laws – Chapters 163, 373, 403, F.S.**
- **Rules – Stormwater, Ag BMPs, OSTDS, Growth management, Wetlands protection**

# FLORIDA WATERSHED RESTORATION ACT

## Section 403.067, F.S.

- Enacted in 1999, amended in 2005
- Gives DEP clear legal authority for TMDLs
- Requires “Good Science” - DEP to adopt methodology for determining impaired waters = Impaired Waters Rule (62-303, FAC)
- Requires “Public Participation”
  - 303(d) lists are adopted by DEP secretary
  - TMDLs, BMAPs are adopted by rule
- Requires “equitable allocation” of load reductions

# FLORIDA WATERSHED RESTORATION ACT 2005 Amendments – TMDL Implementation

- **Use existing control programs**
- **Detailed allocation in BMAP**
- **Ag NPS pollution/BMPs – DACS**
- **Urban NPS pollution/BMPs – DEP**
- **Implementation assurances:**
  - **Point sources - NPDES permits**
  - **Municipal stormwater – NPDES MS4**
  - **Agricultural NPS – DACS BMP program**
    - **DEP BMAP enforce**

# KEY ELEMENTS FOR WATERSHED MANAGEMENT

## Watershed plan (The BMAP)

- **Goals and load reductions**
- **Accurately assess loading sources**
- **Allocate loads and reductions**
  - New development
  - Existing development
- **Projects to reduce loadings**
- **Public education**
- **Financing**
- **Schedule**
- **Monitor and adapt**

# KEYS TO RESTORING IMPAIRED WATERS



- **Reducing loads from existing activities**
- **Preventing new loads from future activities**

# FLORIDA POINT SOURCE PROGRAMS (62-4, 62-600, 62-620, 62-621, 62-660, FAC)

- ~4500 domestic/industrial ww facilities
- NPDES permits
  - surface water discharges
  - <500 left in the state
  - WQBELs
  - TBELs
- State permits
  - non-surface water discharges



# **NPS PROGRAMS FOR NEW SOURCES**

- **1972**      **DRI/ACSC laws**  
**Land Conservation Act (EEL)**
- **1975**      **Local Govt. Comp Planning Act**
- **1979**      **State Stormwater Rule**  
**CARL Trust Fund**
- **1981**      **OSDS rule revisions**  
**Save Our Coasts/Our Rivers**
- **1984**      **Wetlands Protection Act**
- **1985**      **State Comprehensive Plan**  
**LGCP & LDR Act**
- **1989**      **Preservation 2000**

# NPS PROGRAMS FOR EXISTING SOURCES

- **1986**      **Stormwater utility enabling legislation**
- **1987**      **SWIM Act**
- **1989**      **Dairy Rule for Okeechobee, Stormwater law**
- **1992**      **SFWMD Rule 40E-63 (EAA)**
- **1994**      **Nitrate Bill/Fee**  
**Stormwater PLRGs in SWIM Plans**
- **1997**      **SRF opened to urban and ag stormwater**
- **1999**      **Forever Florida Act**  
**Florida Watershed Restoration Act**
- **2000**      **Lake Okeechobee Protection Program**  
**Revised State Revolving Fund legislation**
- **2005**      **Florida Watershed Restoration Act amendments**
- **2007**      **Northern Everglades & Estuaries Program**

# FLORIDA'S STORMWATER RULES

**1979** Chapter 17- 4.248, F.A.C.

**1982** Chapter 17- 25, F.A.C.

**1994** Chapter 62- 25, F.A.C./ERP

**2010?** Chapter 62- 347, FAC

## TECHNOLOGY BASED

- Performance Standard
- BMP Design Criteria
- Presumption of compliance
- Dynamic BMP designs

# STORMWATER PERMITS FOR NEW DISCHARGES

- **Healthy waters – meet permitting criteria of not causing or contributing to violations of WQS = meet BMP design criteria**
- **Waters on adopted Verified List of Impaired Waters**
  - **Can not increase load of pollutants of concern**
  - **Meet “net environmental improvement” requirements**

## FLORIDA WATERSHED RESTORATION ACT AGRICULTURE'S CHALLENGE

- **Continues agriculture's "self implementing" approach for BMPs**
- **DACS to develop/adopt BMPs for agricultural nonpoint source pollution**
- **DEP to verify effectiveness of BMPs**
  - **BPJ initial verification**
  - **Monitoring confirming verification**
- **Presumption of compliance if BMPs installed**
- **BMPs to be revised with time**

# AGRICULTURAL BMP PROGRAM

- **DACS adopts BMPs, DEP approves**
- **Farmer submits electronic NOI**
  - **Farm location, crops**
  - **BMPs to be implemented**
  - **Schedule, record keeping, tracking**
- **Opens the door for BMP cost sharing**
- **DACS inspects BMPs**

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

# WATERSHED MANAGEMENT: TECHNICAL CHALLENGES



**Good Science**



**Aquatic Ecology**

**Better  
Management  
Performance**



**Innovative BMPs**



**Source Controls**

## WATERSHED MANAGEMENT: TECHNICAL CHALLENGES

- **Good Science**
  - **Revised water quality standards**
  - **Quantify loads from OSTDS**
- **Innovative BMPs**
  - **Higher nutrient treatment levels**
  - **Passive nutrient removal OSTDS**
- **Aquatic Ecology**
  - **Biological & sediment assessment**
  - **Nutrient standards**
- **Nonstructural Controls**
  - **Treatment effectiveness**
  - **Accountability and acceptability**

## **FOCUS ON REDUCING NUTRIENT LOADS**

- **Turf grass research project**
- **Passive nutrient septic tank project**
- **Florida friendly landscaping program**
- **Green Industry BMP program**
- **Model landscape ordinance**
- **Irrigation standards**
- **Golf course BMP manual**
- **Urban fertilizer labeling rule**
- **Ag/urban nutrient mgmt BMPs**
- **Unified stormwater treatment rule**

# STORMWATER/WATERSHED MANAGEMENT: FINANCIAL CHALLENGES



**Big  
Money  
Problem**

**Dedicated Funding is the Key**

## FLORIDA FUNDING SOURCES

- **Stormwater utility fee**
- **Stormwater program fees**
  - **Plan review**
  - **Inspections**
  - **Operating permits**
- **State Revolving Fund**
- **SWIM, WMD Coop Programs**
- **Section 319 NPS Grants**
- **TMDL WQ Restoration Grants**

## DID YOU KNOW???

- Chapter 201, F. S. establishes excise tax on documents, deeds
- Deeds - \$0.70/\$100 value; \$0.35/\$100 value on notes, loans, etc

YEAR	DOC STAMP \$\$
2004	\$3.365 Billion
2005	\$4.058 Billion
2006	\$3.060 Billion
2007	\$1.825 Billion
2008	\$1.386 Billion

# WATERSHED MANAGEMENT: CULTURAL CHALLENGES

**Bring  
Many  
Pollutants**



# SOURCES OF URBAN STORMWATER POLLUTANTS

<b>POLLUTANT</b>	<b>PRIMARY SOURCES</b>
<b>Particulates</b>	<b>Erosion, sedimentation, pavement wear, atmosphere, maintenance</b>
<b>Nutrients</b>	<b>Atmosphere, fertilizer application</b>
<b>Lead</b>	<b>Leaded gas, tire wear, lubricants</b>
<b>Zinc</b>	<b>Tire wear, motor oil, grease</b>
<b>Copper</b>	<b>Metal plating, bearing and bushing wear, moving engine parts, brake lining wear, fungicides and insecticides</b>
<b>Cadmium</b>	<b>Tire wear, insecticides</b>
<b>Chromium</b>	<b>Metal plating, moving engine parts, brake linings</b>
<b>Nickel</b>	<b>Diesel fuel and gasoline, lubricating oils, metal plating, bushing wear, brake linings, asphalt</b>
<b>Petroleum</b>	<b>Spills, leaks or blow-by of motor lubricants, antifreeze and hydraulic fluids, asphalt</b>
<b>Pathogens</b>	<b>Animal waste, septic tanks, sewer line spills</b>
<b>Synthetic organics</b>	<b>Industrial processes, pesticides, spills, asphalt</b>



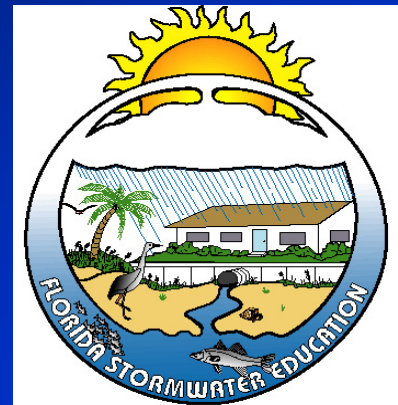
**POINTLESS  
PERSONAL  
POLLUTION**

**BE PART OF THE SOLUTION**

# MEETING THE CULTURAL CHALLENGE

## PUBLIC EDUCATION

- ***Pointless Personal Pollution***
  - [www.tappwater.org](http://www.tappwater.org)
  - [www.floridaagwaterpolicy.com](http://www.floridaagwaterpolicy.com)
  - <http://www.dep.state.fl.us/water/watersheds>
- **Stormwater Education Training tool box ([www.stormwater.ucf.edu](http://www.stormwater.ucf.edu))**
- **What can YOU do?**
  - **Disconnect roof runoff**
  - **Florida friendly yard/fertilizer**
  - **Pick up pet waste**



# Watershed Management Team

- EPA** - Program direction, oversight, consistency
- DEP** - Water quality standards, classifications
  - Point source programs, NPS programs
  - NPDES SW implementation, TMDLs
  - Urban BMP research, criteria
  - Training and public education
- DACS** - Ag BMP research, training, implementation
  - Ag/urban fertilizer labeling
- DOH** - Septic tanks
- WMD** - Primary stormwater permitting agency
  - Regional BMP criteria, goals
  - SWIM plans - Stormwater PLRGs
- Local** - Comprehensive plan, LDRs
  - Infrastructure master plans, level of service
  - Capital improvements plan

# THE BIG Cs OF WATERSHED MANAGEMENT

- **Cumulative**
- **Catchment**
- **Comprehensive**
- **Continuity**
- **Consistency**
- **Communication**
- **Cooperation**
- **Coordination**
- **Creativity**
- **Common Sense**
- **Cash**
- **Challenge**
- **Cultural Change**
- **Confession**
- **Commitment**