Comprehensive Watershed Management

What is CWM?
An interdisciplinary approach to water resource management that emphasizes the use of science to support decision making.

- Started in the mid 1990s
- Multi-disciplinary Teams
- Balance between Areas of Responsibility (AORs)
  - Water Supply
  - Flood Protection
  - Water Quality
  - Natural Systems
- Geographic Information System (GIS)
CWM and the 3-part Approach

- Organizational Structure and Customer Base
- CWM Decision Support System
- Information, Alternatives, Priorities
Organizational Structure
Comprehensive Watershed Management
Organizational Structure

Eight Basin Boards

- ALAFIA RIVER
- COASTAL RIVERS
- GREEN SWAMP
- HILLSBOROUGH RIVER
- MANASOTA
- NORTHWEST HILLSBOROUGH
- PEACE RIVER
- PINELLAS-ANCLOTE RIVER
- WITHLACOOCHEE RIVER

Basin Board Boundaries
WMD Boundary
Eleven CWM Teams

- WMD Boundary
- County Boundary

WATERSHEDS

- Alafia River
- Hillsborough River
- Lake Wales Ridge
- Little Manatee River
- Manatee River
- Myakka River
- Peace River
- Southern Coastal
- Springs Coast
- Tampa Bay/Anclote River
- Withlacoochee River
Customer Base
Diverse Customer Base

- Boards
- Scientists
- Executive
- Public
- Planners
- Local Govt’s
Decision Support System
Emphasis on GIS Technologies
CWM: Combining Resources
Information Technology and CWM

An integrated approach to collecting, managing, analyzing and presenting data in a manner that supports the decision making process.

- Data Collection/Administration
- Data Management
- Data Analysis/Modeling
- Business Processes
- Decision Making
Decision Support System

User Access
- Intranet Access
- Internet Access
- Wireless Access

Data Discovery
- Search and Query
- Data Download
- Display
- Data Analysis
- Modeling

Database Consolidation

Internal Production Databases
- GIS
- Water Management
- Regulatory
- LIMS
- BRASS
- Project Management
- SCADA
- Hydron

External Production Databases
- FDEP
- EPA STORET
- Local Govts
- WMDs
- USGS
- Other

DISSEMINATION DATABASE
Information, Alternatives, Priorities
CWM Process

Implementation (Policy)

PRIORITIZATION
Decide / Strategic Planning / Funding

Data Discovery / Analysis / Modeling

Information Technology

ALTERNATIVES

Data Discovery / Analysis / Modeling

INFORMATION

Databases / Data Warehouse / Data Query and Analysis / Access

Interpretation (Staff)
Data Incorporation

Sub-watershed Units
- USGS 12 HUC sub-watershed boundary;
- Hillsborough County Environmental Conditions Report;
- Pinellas County Comprehensive Plan’s Surface Water Management Element; and
- Pinellas County Surface Water Element.
- SWFWMD, GIS database
## Data Collection Analysis

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A closer look at the Sub-watersheds

SWFWMD
Brooker Creek
Calculating Total Nitrogen load/Acre for Brooker Creek...

Please stand by...
Water Quality Data
Tampa Bay

1995 Nitrogen Potential Load
TN Load (lbs/acre)

0- 9.21
9.21-12.81
12.81-16.25

1995 Phosphorous Potential Load
TP Load (lbs/acre)

0- 1.78
1.78-2.6
2.6-3.62
Aquifer Monitoring Sites
Comprehensive Watershed Management

- **Identify** Watershed Condition Issues/Strategies
- **Prioritize** Study / Analyze / Direct
- **Recommend** Projects
- **Action Plan**
  - Background, literature review, data, Regulatory, Activities, Issues/Strategies
- **Implement**
  - RECOMMEND Projects
- **Technology**
  - MONITOR Plan, Action Plan, Projects

**Water Supply**  **Flood Protection**  **Water Quality**  **Natural Systems**
Tampa Bay/Anclote River CWM Priority Sub-Watersheds

• Anclote River
• Brooker Creek
• Clearwater Harbor/St. Joseph’s Sound
• Old Tampa Bay
Overall team effort including extensive research, shared ideas, document reviews, and designing strategies to guide policies and projects.

Plan of Action
Why CWM?

1. Agency Coordination
2. Central Data Source
3. Collective Review/Analysis
4. Team Consensus
5. Data Consistency
6. Data Availability
7. Coordinated Strategy
8. Coordinated Action
9. Combined Resources

Better Resource and Watershed Management
Better Local Government and Agency Coordination