

Framework for Sustainable Watershed Management Using Science-based Decision Making

I. TECHNICAL PHASE

II. PLANNING PHASE

III. EDUCATION & OUTREACH

TECHNICAL STUDIES
IMPACTS OF DEVELOPMENT ON FLOW
 CHARACTERIZE HYDROLOGIC RELATIONSHIPS
 BETWEEN BASEFLOWS and WITHDRAWALS
 Forested – Pre Development
 2000 Land Use
 2020 Build-out

TROUT USED AS INDICATOR SPECIES

Distributed
Hydrology
Model

3-D Groundwater
Model

Hydro-ecological
Integrity
Process

RESULTS:

Classification: PERENNIAL FLASHY/RUNOFF

Recharge reduced in majority of recharge areas

Daily Base Flow < 31%
 Low Flow 7Q10 < 11%
 Monthly Median Daily Flow < 10%

Monthly Peak Daily Flows > 21%
 Annual Max. Daily Flow > 19%

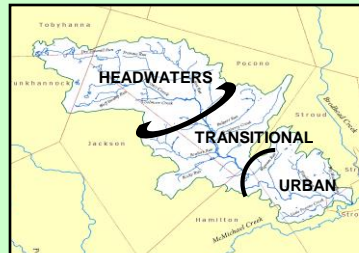
Watershed-Averaged Groundwater
Recharge < 31%

PLANNING PRINCIPLES

- SCIENCE-BASED MANAGEMENT
- PRECAUTIONARY PRINCIPLE
- WATERSHED INTERCONNECTEDNESS
- HEADWATERS PRIMACY

IMPLEMENT REGIONAL WATERSHED MANAGEMENT - LOCALLY

A Watershed Plan implemented locally within regional context. Each of the three regions in the watershed have distinct characteristics. Each region requires a specific suite of Best Management Practices. Watershed Hydrology can be managed through Stormwater and Land Use Planning.

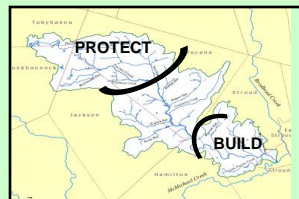


Municipalities focus on just their own WMA's BMPs to maximize multi-municipal funding opportunities and minimize implementation and project responsibilities.

Watershed-wide Stormwater Authority

| WMA | BMP Function |
|--------------|-------------------|
| Headwaters | Conservation |
| Transitional | Buffers/Retrofits |
| Urban | Retrofits |

INSTITUTIONAL CHANGES



- Integrated Water Management
- Utility & Land Use Plans Comply
- Single Point of Contact @ DEP
- Regulatory Consistency
- 21st Century Regulatory Processes
- Conserve & Protect Headwaters
- Transfer of Development Benefits
- Sustainable Economic Development

NEW PARADIGM REQUIRES AWARENESS

INNOVATIVE
WATERSHED COMMUNITY
OUTREACH EVENT
for
PUBLIC OFFICIALS, DEVELOPERS
&
RESIDENTS

*"Sustain Development –
Save a Trout"*

Groundwork for Social Marketing Effort



AWARENESS TO ACTION
Community Expectations, Officials Engaged

