#### WATERSHED PLANNING FOR FLEMING CREEK

#### WATERSHED PLANNING PROCESS



## Step I. Build Partnerships

ID stakeholders
ID issues of concern
Set preliminary goals
Develop indicators
Conduct outreach



### Step 2. Characterize Watershed

Gather existing data
Create data inventory
ID data gaps
Collect additional data, if needed
Analyze data
ID pollution causes and sources
Estimate pollutant loads



# Step 3: Finalize Goals and Identify Solutions

Set goals and management objectives
Develop indicators/targets
Determine load reductions needed
ID critical areas
ID management measures needed





Develop Implementation schedule
Set Interim milestones
Determine how you will measure success
Develop monitoring component
Develop evaluation process
ID technical and financial assistance needed
Assign responsibility
Documentation of these items completes the plan

### Step 5: Implement Watershed Plan

Implement management strategies
 Conduct monitoring
 Conduct outreach activities



## Step 6: Measure Progress and Make Adjustments

Review and evaluate
Share results
Prepare annual plans
Make adjustments



#### MIDDLE HURON WMP

- Large-scale (217 mi<sup>2</sup>)
  - Fleming = 32 mi<sup>2</sup>
- Comprehensive
- Umbrella plan
- Focusses on major TMDL impairments:
  - Excess nutrients (P)
  - Bacteria contamination
  - Habitat impairment



2003-12 Flow-Weighted Avg TP



#### SEASONAL TP WEIGHTED BY FLOW

#### MOSTLY ABOVE THE TARGET CONCENTRATION

#### PHOSPHORUS LOADING (LBS/DAY)

Site	TP Mean Daily Load Est. (2003-12)
Huron @ N. Territorial (upstream)	63.19
Mill Creek	42.43
Honey Creek	7.98
Allens Creek	3.85
Traver Creek	3.57
Fleming Creek	7-34
Millers Creek	0.47
Malletts Creek	11.60
Swift Run	1.99
Superior Drain	1.05
Cumulative Load	143.44
Huron @ Ford Lake (US-12)	151.43
Mass balance of remaining sources/(sinks)	7.99

#### E. COLI IN THE MIDDLE HURON



#### **BACTERIA TRENDS**



E. Coli (#/100 ml )

#### CONDUCTIVITY



#### STREAM FLOW



#### **BOTTOM LINE**



Protecting the river since 1965

- Fleming Creek is not a source of major water quality problems in the Middle Huron
- Most specific projects to reduce pollutants focus on other creeks
- A plan for Fleming Creek should develop goals specific to it and not the Middle Huron



Protecting the river since 1965

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