Bacteria Pollution Control Plans

Fecal Coliform TMDLs

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Plan Design Enable

Bacteria Pollution Control Plans

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- Required for waterbodies with:
  - adopted FDEP fecal coliform TMDLs, and
  - established EPA fecal coliform TMDLs
- Must submit plan within 30 months of MS4 permit issuance
  - sources of bacteria
  - activities to reduce bacteria loadings from stormwater outfalls
- FDEP Fecal Coliform TMDL Guidance Tool Kit
  - assessment tools and methodology

Bacteria Pollution Control Plans

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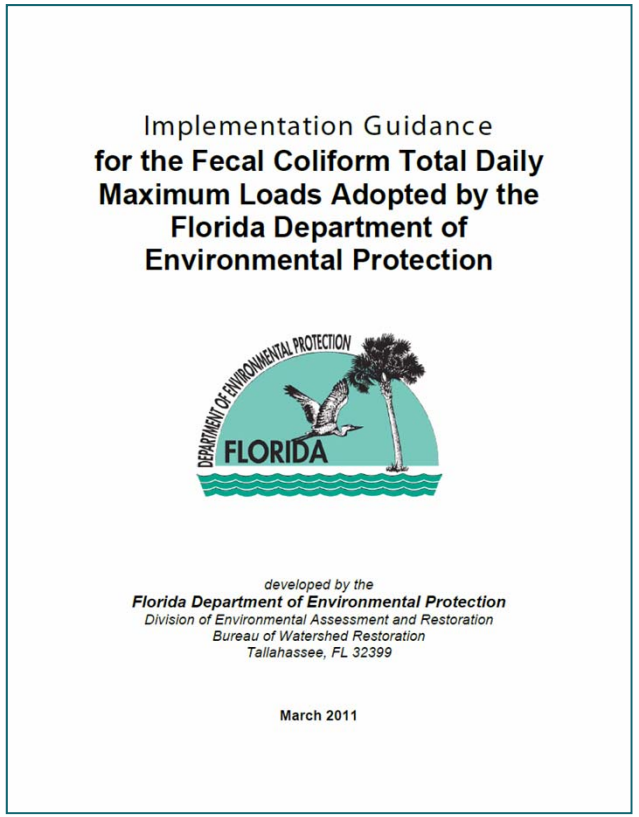
- Required elements
  - identify potential sources of bacteria
  - bacteria source tracking (BST) and other assessment techniques to target and prioritize sources to reduce loadings
  - adoption and implementation of pet waste management ordinance or program
  - implementation of an educational program to reduce loadings
  - identification of additional structural or non-structural BMPs to reduce loadings to the maximum extent practicable (MEP)
  - annual status report of implementation measures and estimated load reductions that have occurred

Fecal Coliform TMDL Guidance Tool Kit

- Available on line:
  - http://www.dep.state.fl.us/water/watersheds/docs/fcg_toolkit.pdf
- Based on two projects:
  - City of Jacksonville
  - Hillsborough County
- Weight-of-evidence approach
  - data analysis
  - one-on-one meetings with stakeholders
  - “maps on the table” workshops
  - walk the waterbody (field reconnaissance)
  - bacteria source tracking (BST), if necessary


Implementation Guidance
for the Fecal Coliform Total Daily Maximum Loads Adopted by the Florida Department of Environmental Protection

developed by the
Florida Department of Environmental Protection
Division of Environmental Assessment and Restoration
Bureau of Watershed Restoration
Tallahassee, FL 32399

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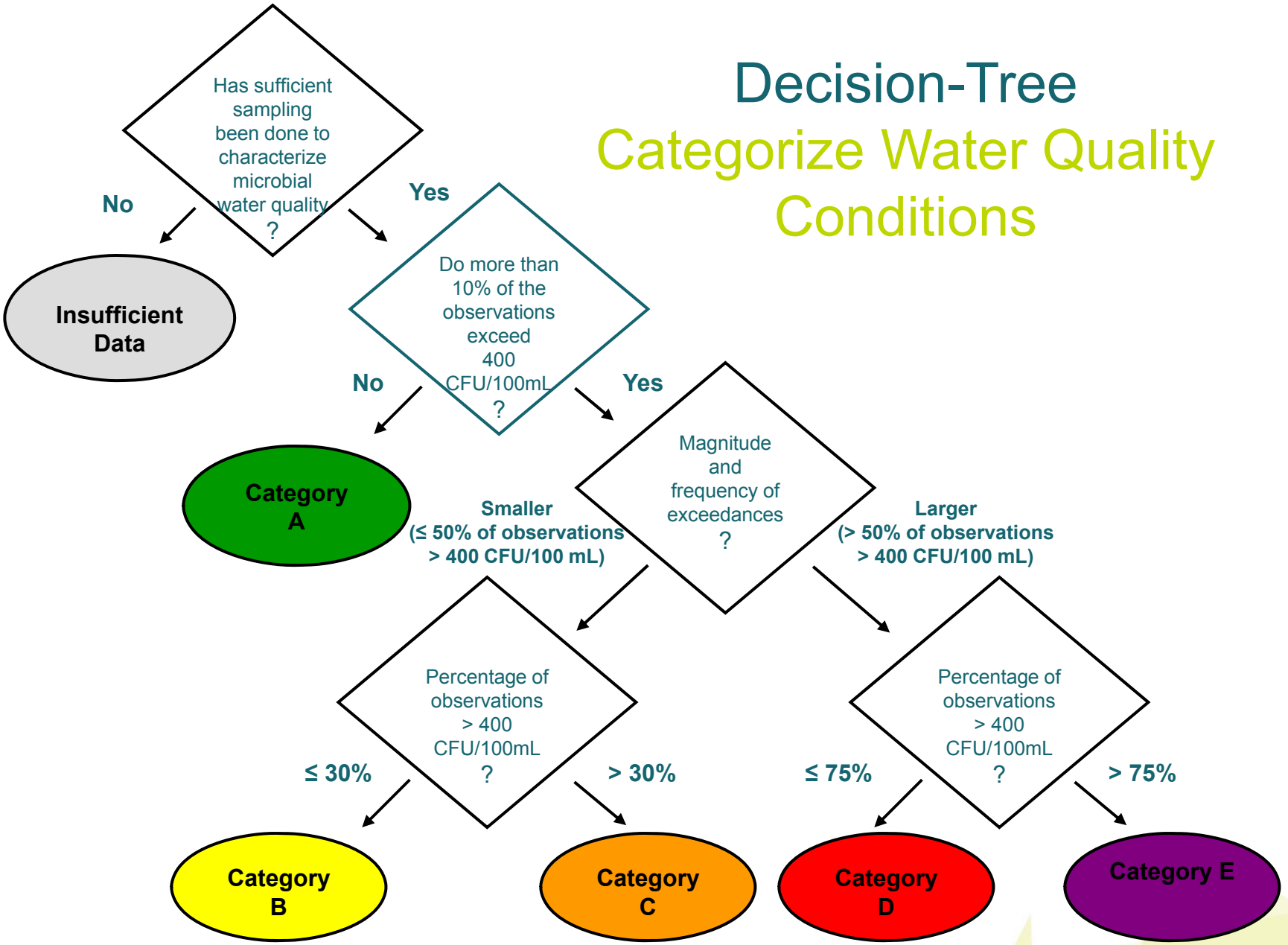
Decision-Tree
Categorize Water Quality Conditions



Contaminant Source Survey

Classify Sites Based on Human Health Risks

Very Low: No visual evidence of potential sources of human pathogens; natural environment; no or minimal anthropogenic land uses; wildlife present (any density)

Low: Low density agricultural and residential sources, including pets, livestock (without direct access to surface waters), or poultry operations; residences on septic systems

Moderate: Urban stormwater sources (including pet waste) present; well-functioning wastewater infrastructure (both sewer and septic); episodic/low volume sanitary sewer overflows (SSOs) reaching surface waters; moderate-density livestock with little direct access to surface waters; Class A residual and/or septage spreading areas may be present

High: Major stormwater outfalls present; history of failing wastewater infrastructure (central sewer or onsite systems); episodic or chronic/high volume SSOs reaching surface waters; concentrated livestock without direct access to surface waters; residual/septage spreading (Class B)

Very High: Current failing wastewater infrastructure; chronic/high volume SSOs reaching surface waters; concentrated livestock with direct access to surface waters; evidence of direct sewage inputs (e.g., confirmed illicit discharges)

Classification/Priority Matrix

Combines results of water quality analysis and CSS

		MWQA Group (based on binomial assessment of frequency of 400 CFU/100 mL fecal coliform exceedances)					Exceptional Circumstance (e.g., sewer line break) [c]
		A (≤ 10%)	B (>10% - 30%)	C (>30% - 50%)	D (>50% - 75%)	E (>75%)	
Contaminant Source Survey (CSS) Assessment Category (likelihood of fecal contamination posing human health risks)	1. Very Low	A1	B1	C1[a]	D1[a]	E1[a]	**Immediate Action**
	2. Low	A2 [b]	B2	C2	D2[a]	E2[a]	
	3. Moderate	A3[b]	B3	C3	D3	E3	
	4. High	A4[b]	B4[b]	C4	D4	E4	
	5. Very High	A5[b]	B5[b]	C5[b]	D5	E5	
	Exceptional Circumstance (e.g., sewer line break) [c]	**Immediate Action**					

Bacteria Source Tracking

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- If necessary
  - used in those watersheds with highest frequency and magnitude of exceedence
  - to minimize cost & time, use lower-cost more basic analytic methods first, followed by higher-cost, more sophisticated methods
- Central hypothesis
  - Certain microbial species or types are associated with the gastrointestinal tract of specific animal hosts
  - this association can be used to “track” the fecal microorganism back to its host

Benefits of Using the Tool Kit

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- Saves time & money
  - screening tool to prioritize bacterial impairments at the station & waterbody levels
- Increases efficiency & effectiveness
  - uses both level of impairment & potential human health risk to prioritize identification of sources
- Leverage resources & build consensus for addressing sources
  - active stakeholder involvement
- Insures actions can be expected to address impairments & helps reduce the possibility of 3rd party challenges
  - used to evaluate the “sufficiency of effort” of the projects identified in the management plan to restore water quality

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Case studies: Hillsborough County and City of Jacksonville