National Biological Assessment and Criteria Workshop

Advancing State and Tribal Programs

Coeur d'Alene, Idaho
31 March – 4 April, 2003

APP 101

BIOLOGICAL ASSESSMENTS AND CRITERIA AND THEIR APPLICATION IN WATER PROGRAMS

Course Presenters and Contributors

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Introduction

Presented by

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Take Home Concepts

Upon completion of this course, you will understand a variety of ways biological assessments and criteria can be applied in water programs. Examples from States will illustrate for you what you could potentially do in your own programs.

Purpose of Presentation

1. *INTRODUCTION: Examine possible applications of biological assessments and criteria in water programs*
2. *CASE STUDIES: Look at examples*
3. *Question and answer session*

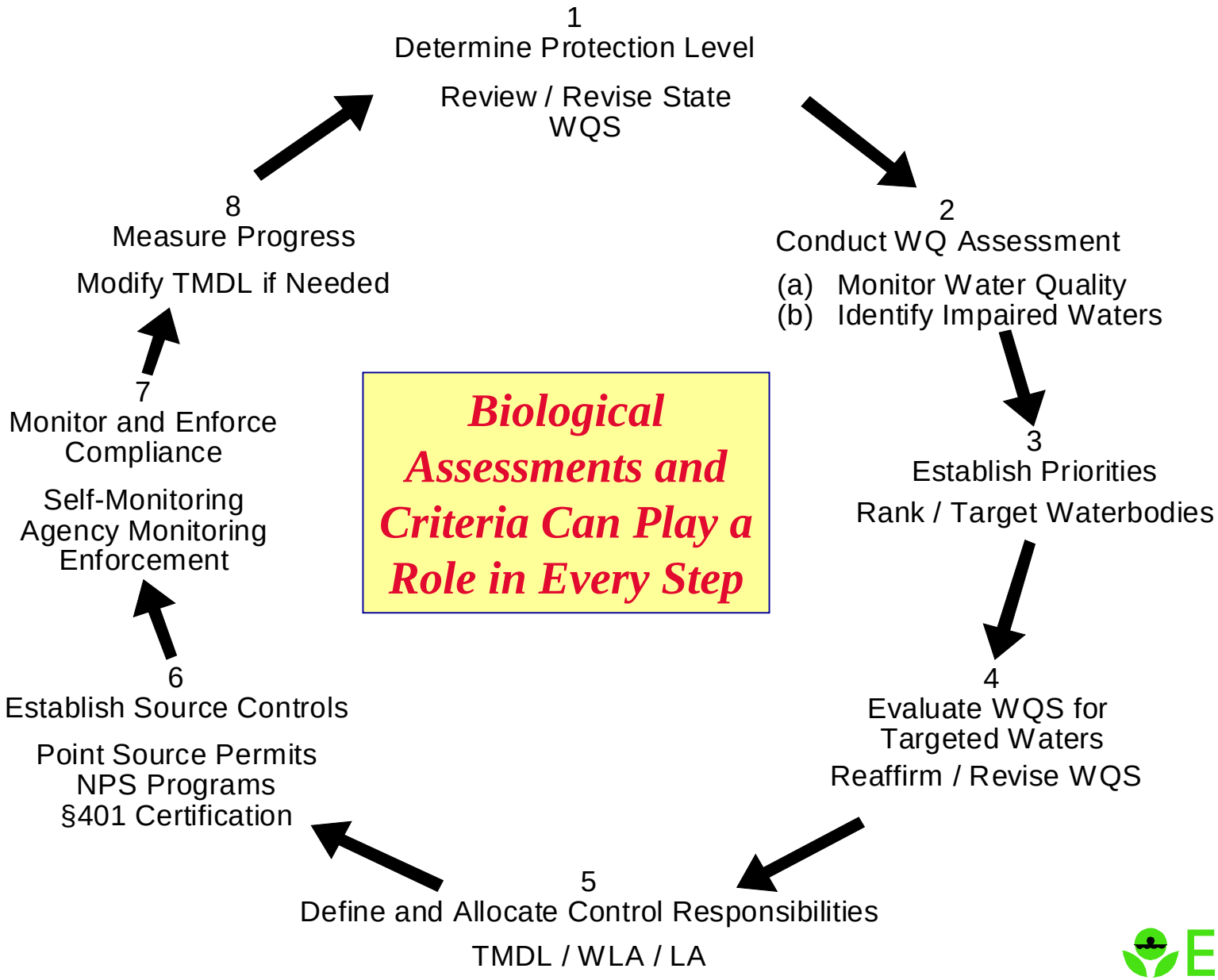
Can Bioassessments/Biocriteria Be Used in Water Programs, including Regulatory Programs?

Sure……….

Terminology

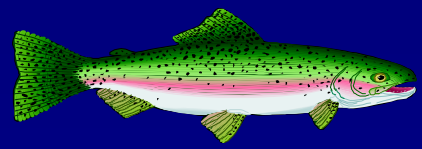
- **Bioassessments**– *an evaluation of the biological condition of a water body using surveys of the structure and function of the community of resident biota of the waterbody.*
- **Biocriteria**– (**scientific**) *quantified values representing the biological condition of aquatic communities in waterbodies.*
- **Biocriteria**– (**regulatory**) *narrative descriptions or numerical values of the biological condition necessary to protect the designated aquatic life use,* **implemented in, or through water quality standards.**

The Water Quality Management Cycle



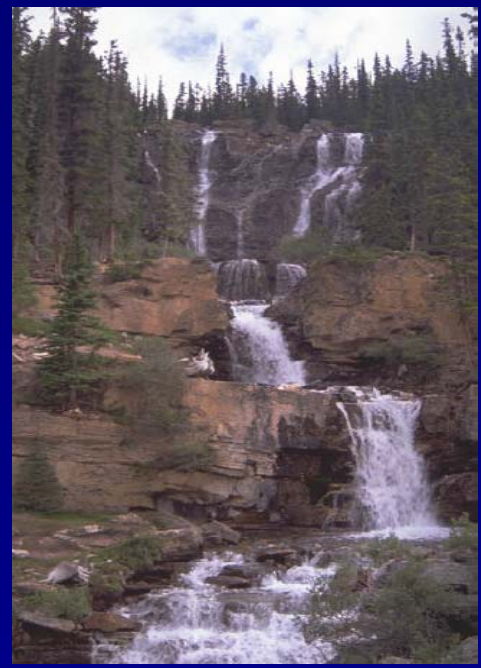
Ways to Use Biological Assessments and Criteria

- **Basic monitoring and assessment tool**
- **Indicator:**
  - **Degradation**
  - **Restoration**
- **Use Attainment:**
  - **305(b) report**
  - **303(d) list**
- **TMDLs:**
  - **TMDL endpoint/indicator of success**



Ways to Use Biological Assessments and Criteria

- **Permitting: (Internal/External)**
  - **NPDES Permitting (402)**
    - **Wastewater**
    - **Stormwater**
      - **Monitoring condition**
      - **Above and below assessments**
      - **Control effectiveness**
      - **Program effectiveness**
      - **Action level or trigger**
      - **Re-issuance impact assessment**
  - **Wetland Permitting (404/401)**



Ways to Use Biological Assessments and Criteria

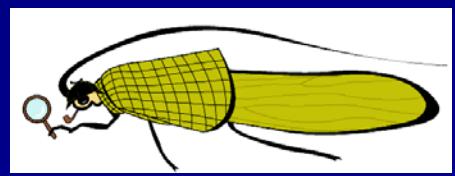
- **Superfund Benchmarks**
- **Enforcement Actions:**
  - **Assessment of damage**
  - **Time of recovery**
  - **Penalty factor**
- **Mitigation target/indicator**
- **Water Quality Standards!**

Caution!!

- ***Biocriteria can be used in a variety of ways in permitting programs, but have not typically been used as effluent limits directly in permits, as are chemical and whole effluent water quality criteria.***

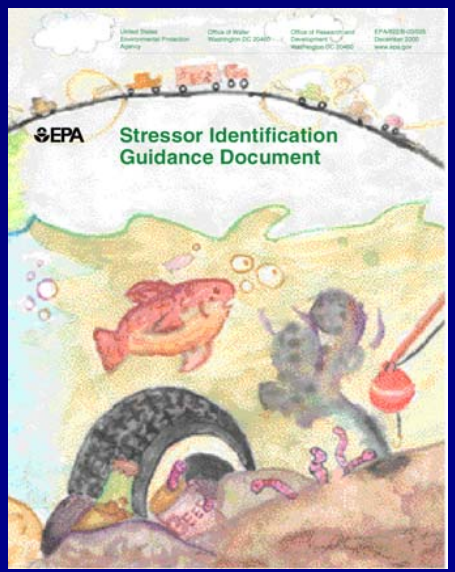
What's the cause??

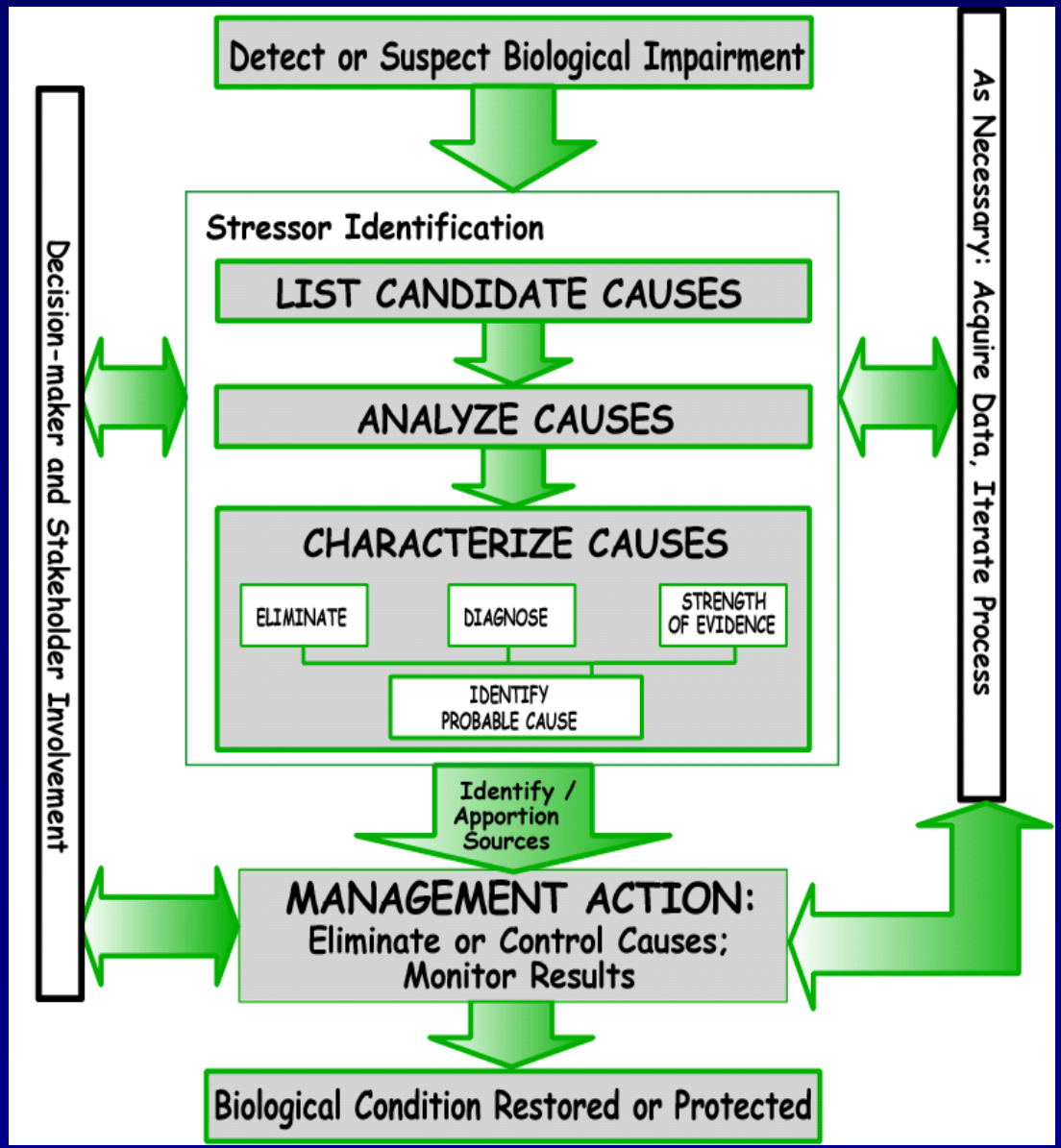
When Biocriteria for a waterbody are exceeded, the stressor(s) causing such should be identified and controlled in the most appropriate manner.



Stressor Identification

Identifying unknown causes of biological impairment





Examples

1. *Florida Program*
2. *Ohio Program*
3. *Maine Program*
4. *Rock Creek Enforcement Case– Washington, DC (Written report and summary in handouts --See Poster)*