Planning a Watershed Assessment
An Overview
Overview of a Watershed Assessment

- Bring the assessment team together
- Identify purpose & scope and develop a “plan of attack” (analysis plan). This involves developing a conceptual model.
- Collect and analyze existing and new data
- Synthesize data
- Prepare a report
Step 1: Organize the Assessment Team

- Goal of the Assessment Team
  - Develop a plan for the assessment
  - Identify consultants to help carry out work
- Who should be on the assessment team:
  - Any stakeholder with an interest in the watershed
    - Concerned citizens
    - Representatives from local/regional government
    - Business, ag, development community
Importance of the Assessment Team

- Those that develop the plan will have an interest in implementing it
- Two types of actions typically result from an assessment:
  - Restoration goals and activities
  - Changes in land use and business practices
Importance of the Assessment Team

- Land use decisions are made by local/regional government and land owners.
- Without their cooperation and engagement, unlikely any relevant recommendations in management plan will be implemented.
Step 2: Lay out the scope of the work

- Identify the issues of importance
  - Focus is determined by values of the stakeholders. These are the ‘ecological endpoints’ of the assessment....
    - Valued fish
    - Water supply
    - Trails and open space
    - Improved water quality
    - Fishability
Step 2: Lay out the scope of the work

- Define the temporal and spatial scale of the assessment
  - Identify the boundaries of the watershed
    - Decide on an area that is workable for your group
    - Working watershed – <100 sq. miles
  - Over what period of time will you collect data
Part of the Scoping: Developing a conceptual model

A. Process-based Conceptual Model
Conceptual Models

b. Management oriented models
Step 3: Develop a Formal Assessment Plan

- Plan should include:
  - Goals and focus of the assessment, including definition of the time and areal extent of the project. What questions you will answer?
  - Type of data you plan to collect
    - New and existing data
  - How the data will be analyzed
    - Summary & analysis of watershed data
    - Data integration that will support a management plan
  - Arrangements for preparation of a report
Step 4: Collect and Analyze the Data

- **Sources of existing data**
  - Government: NPDES permit-related, SWAMP, wastewater treatment plant monitoring
  - Watershed council monitoring
  - EIR-related from consultants
  - RCD, other regional/local organizations

- **New data**
  - Chemical, physical habitat, biological data relevant to goals of the assessment

- Analyze data using informal or formal statistical methods
Step 5: Synthesize & Integrate Information

- What does the data mean?
- How can it be used to guide the development of a management plan?

- Data integration usually involves some type of risk analysis.
  - Key concept: those factors that pose the greatest risk are likely targets for future actions
  - Limiting factors analysis
  - Watershed risk assessment
Step 6: Prepare a Report

- What you did
- How you did
- What you found
- Identify key limiting factors or stressors, & less important factors as well.
- Presented in an easy to understand fashion
  - Figures and graphs
- This lays the basis for developing a watershed plan based on sound science, not a ‘best guess’