

Creating and Managing Watershed Stewardship Programs

Session 5

Kelsey Aho

ORISE Fellow c/o USEPA, Office of Research and Development

Clayton Cox

AAAS Fellow c/o USEPA, Office of Research and Development

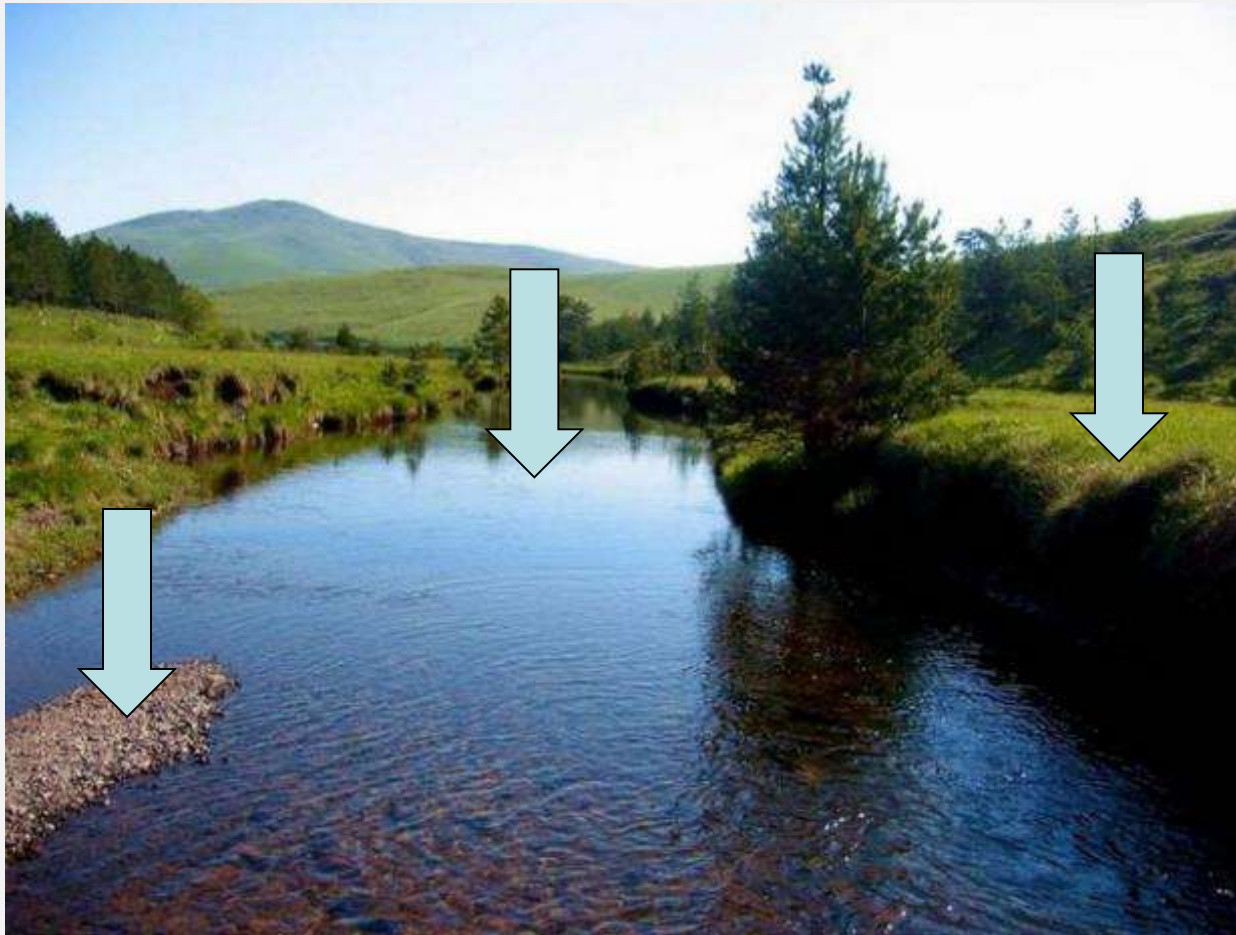
Joseph Flotemersch

USEPA, Office and Research and Development

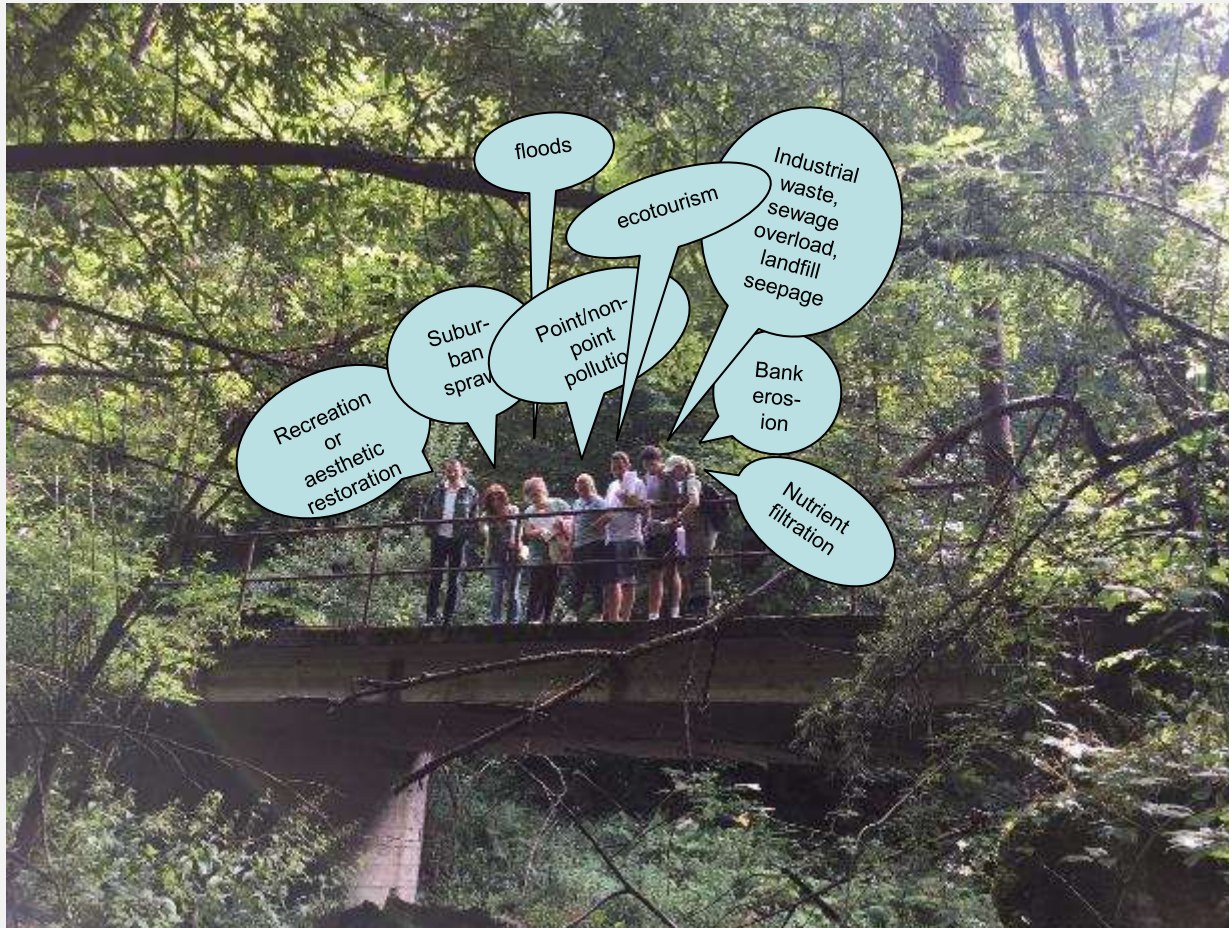
A. Forming an Organizing and Steering Committee

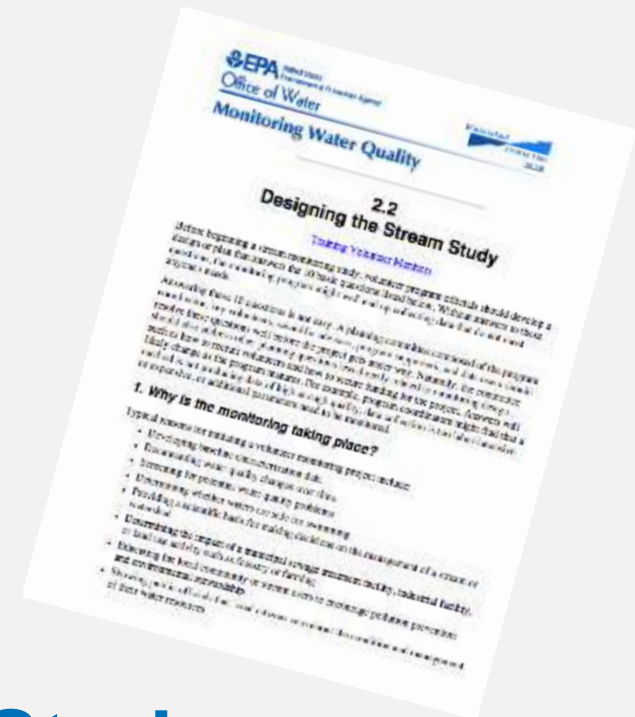


Getting familiar with the issues



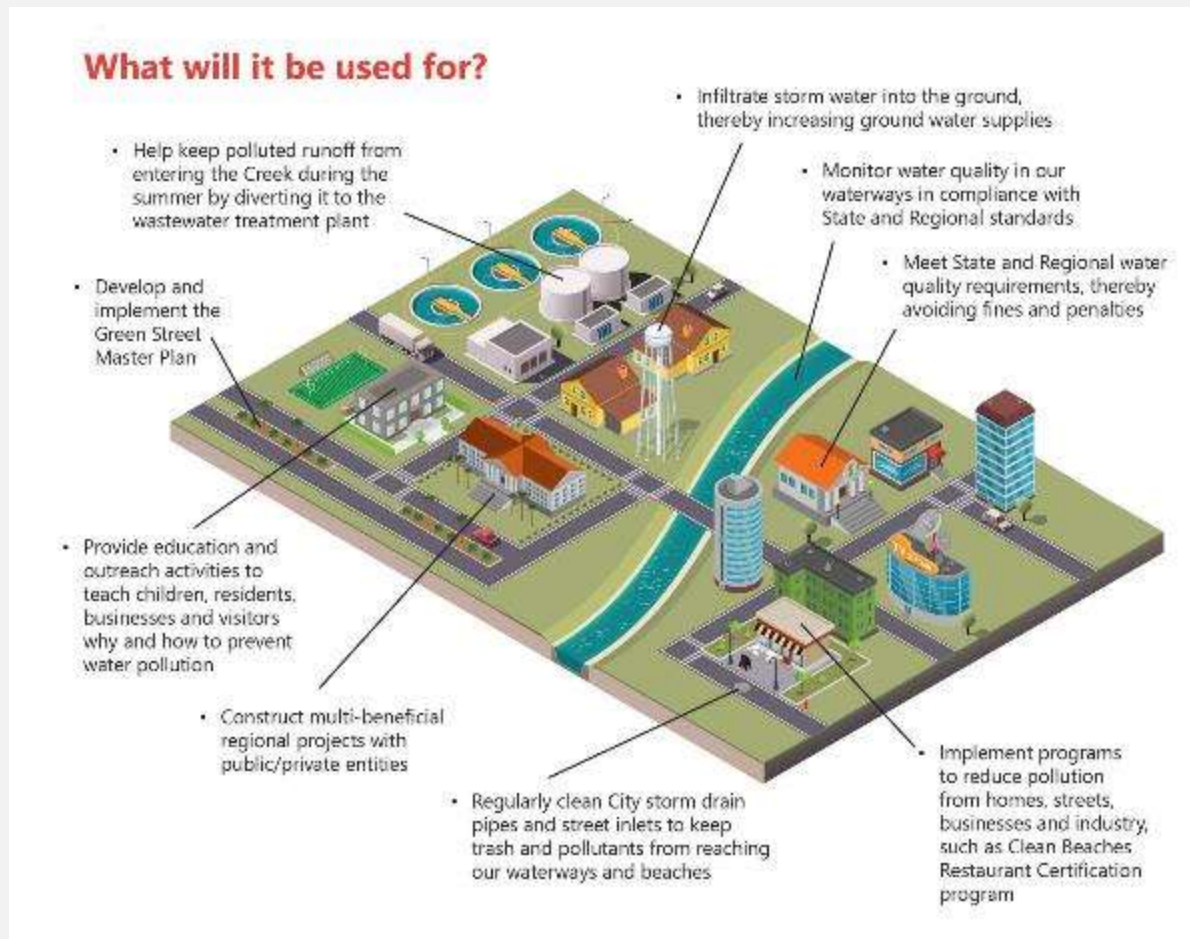
What issues are facing the basin?





B. Designing the Stream Study

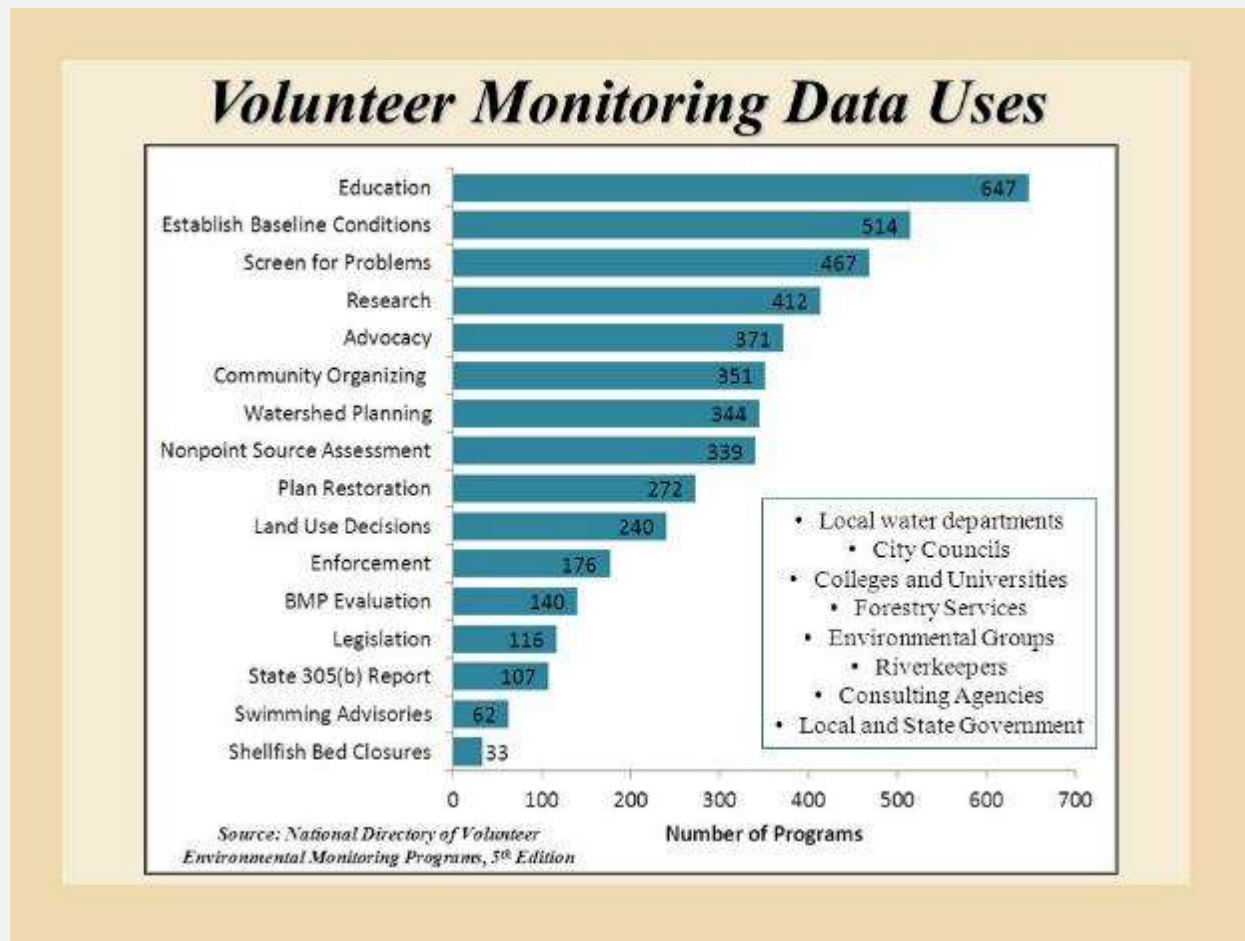
1. Why is this monitoring taking place?



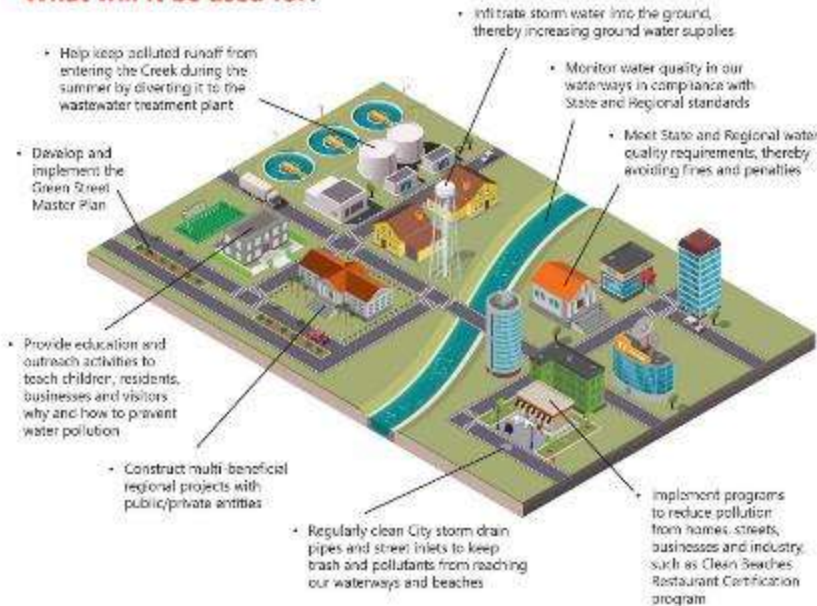
2. How will the data be used?



3. Who will use the data?

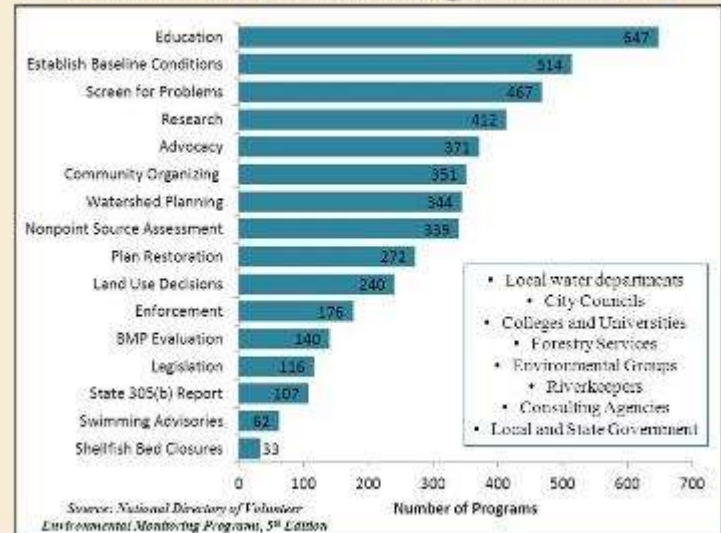


What will it be used for?



UK Groundwater Forum

Volunteer Monitoring Data Uses

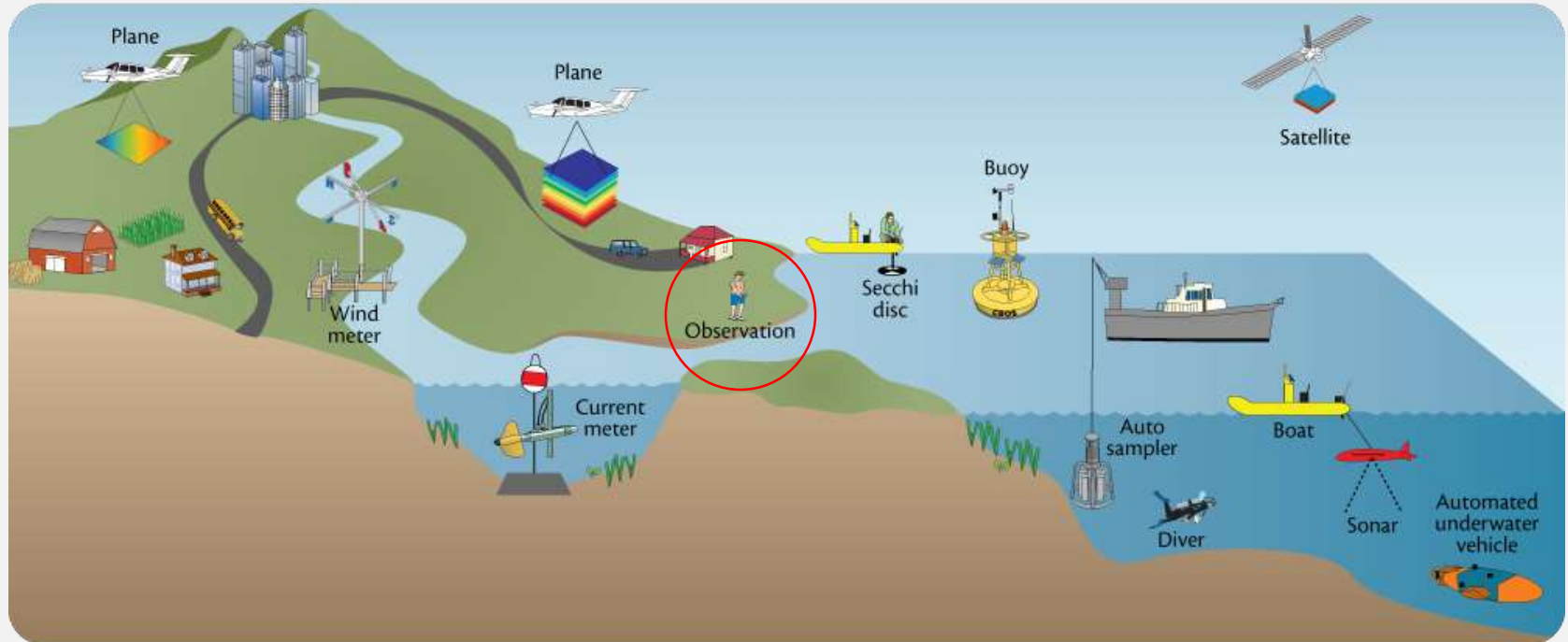


4. What parameters or conditions will be monitored?



Physical Condition	<ul style="list-style-type: none"> Channel Condition Hydrologic alteration Bank Condition Riparian area quantity and quality Canopy cover Water appearance Pools Barriers to aquatic species movement Riffle embeddedness
Biological Condition	<ul style="list-style-type: none"> Fish habitat complexity Aquatic invertebrate habitat Aquatic invertebrate community
Chemical Condition	<ul style="list-style-type: none"> Nutrient enrichment Manure or human waste presence Salinity

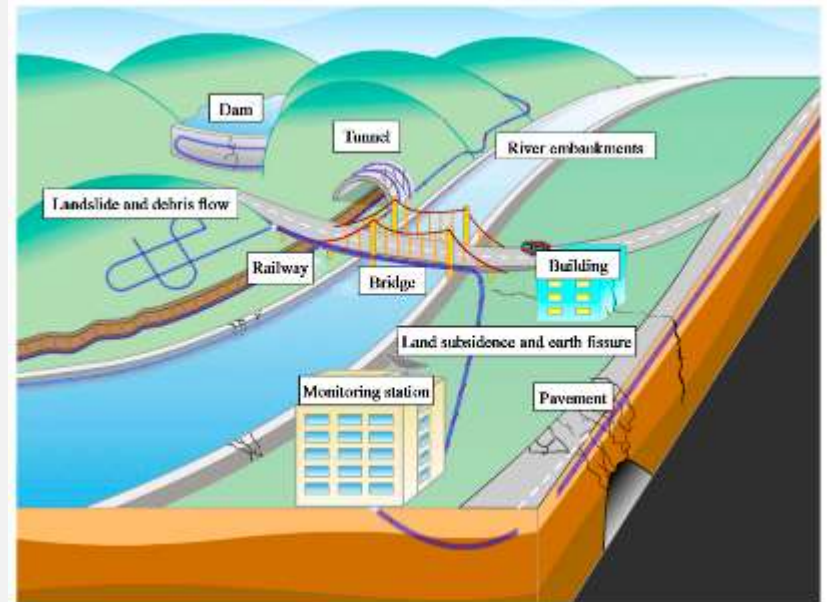
5. What methods will be used?



Conceptual diagram illustrating the mixture of different approaches in monitoring water quality. Water can be monitored by a number of platforms, from a dockside observer, to *in situ* instrumentation that can be deployed directly in the environment being measured (e.g., the water column) to remote aerial and satellite sensors.

Diagram courtesy of the Integration and Application Network (ian.umces.edu), University of Maryland Center for Environmental Science. Source: Longstaff, B.J., T.J.B. Carruthers, W.C. Dennison, T.R. Lookingbill, J.M. Hawkey, J.E. Thomas, E.C. Wicks, and J. Woerner (eds) (2010) Integrating and applying science: A handbook for effective coastal ecosystem assessment. IAN Press, Cambridge, Maryland.

6. Where will the monitoring sites be?



7. When will the sites be monitored?

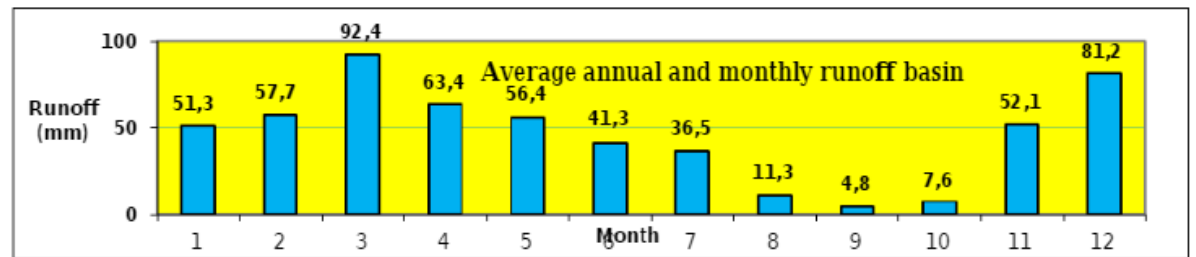
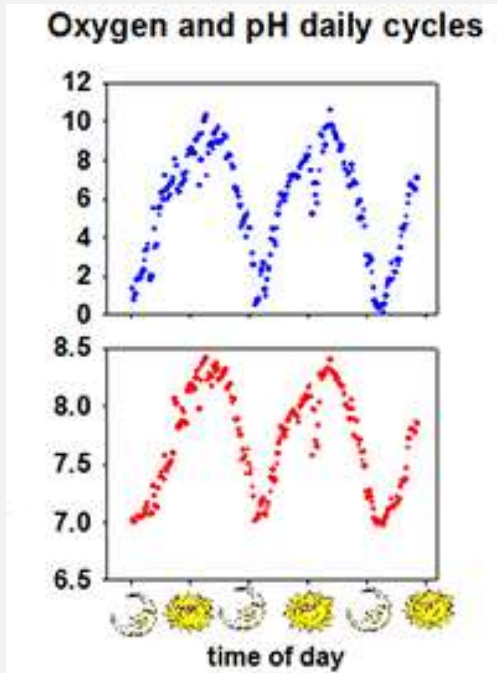


FIGURE 2. Diagram of flow by months

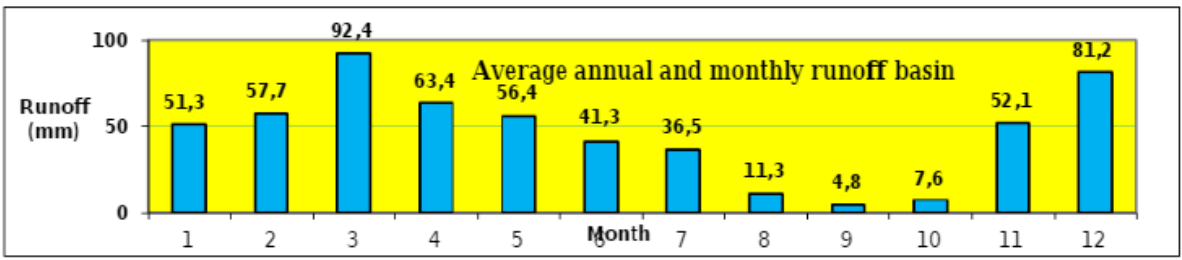
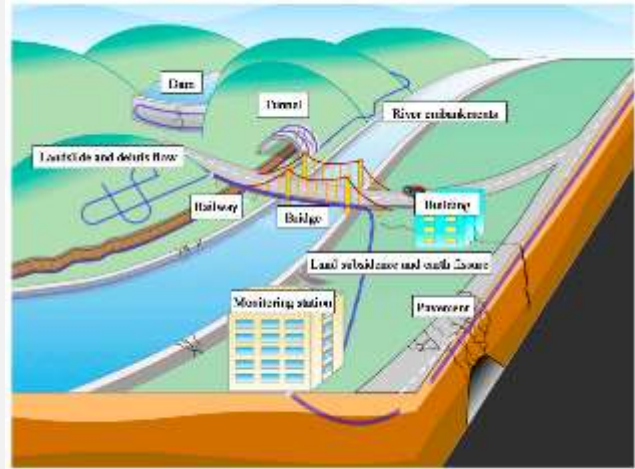
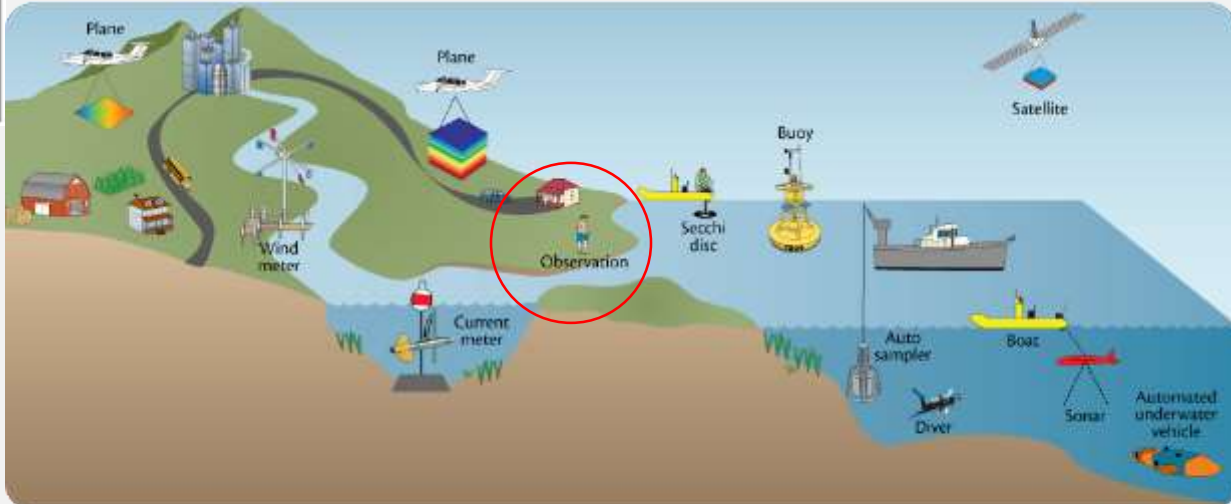
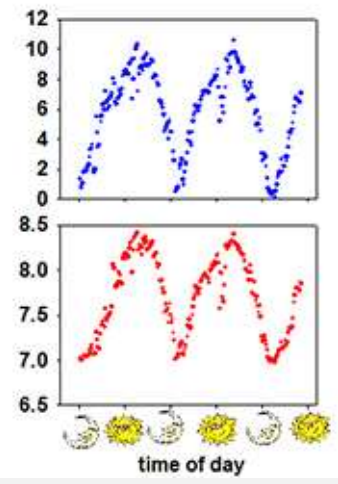


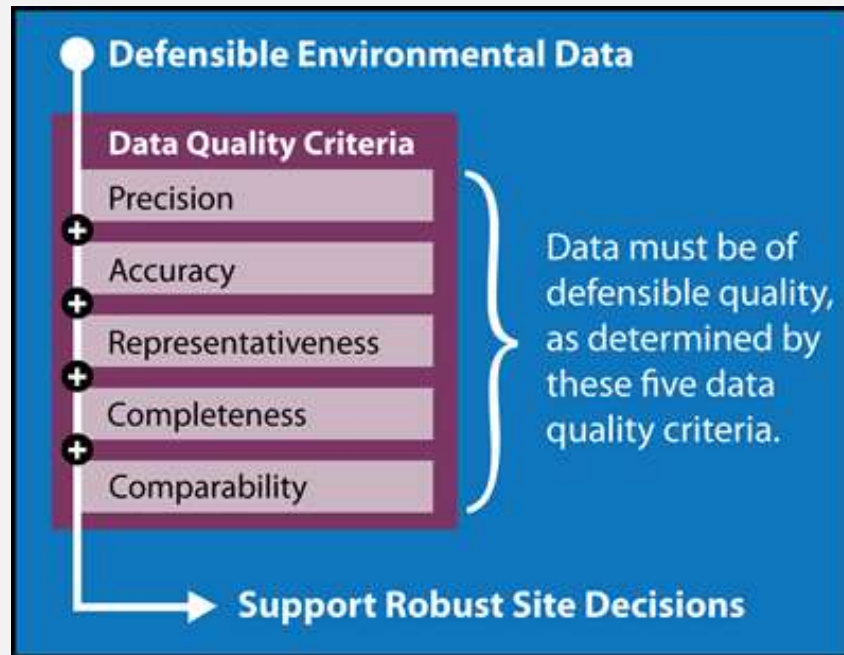
FIGURE 2. Diagram of flow by months

Physical Condition	<ul style="list-style-type: none"> Channel Condition Hydrologic alteration Bank Condition Riparian area quantity and quality Canopy cover Water appearance Pools Barriers to aquatic species movement Riffle embeddedness
Biological Condition	<ul style="list-style-type: none"> Fish habitat complexity Aquatic invertebrate habitat Aquatic invertebrate community
Chemical Condition	<ul style="list-style-type: none"> Nutrient enrichment Manure or human waste presence Salinity

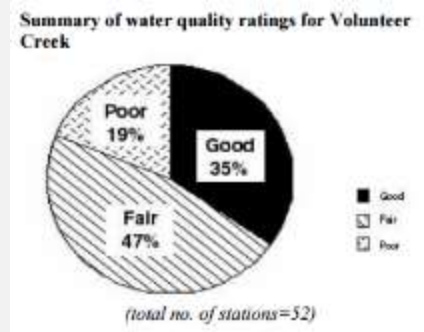
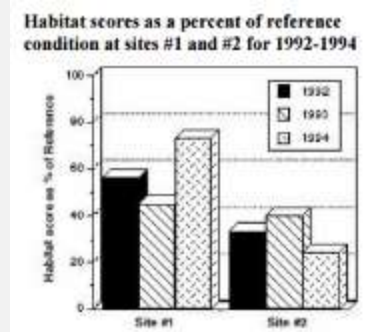
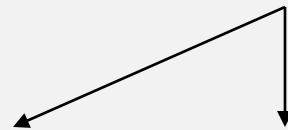
Oxygen and pH daily cycles



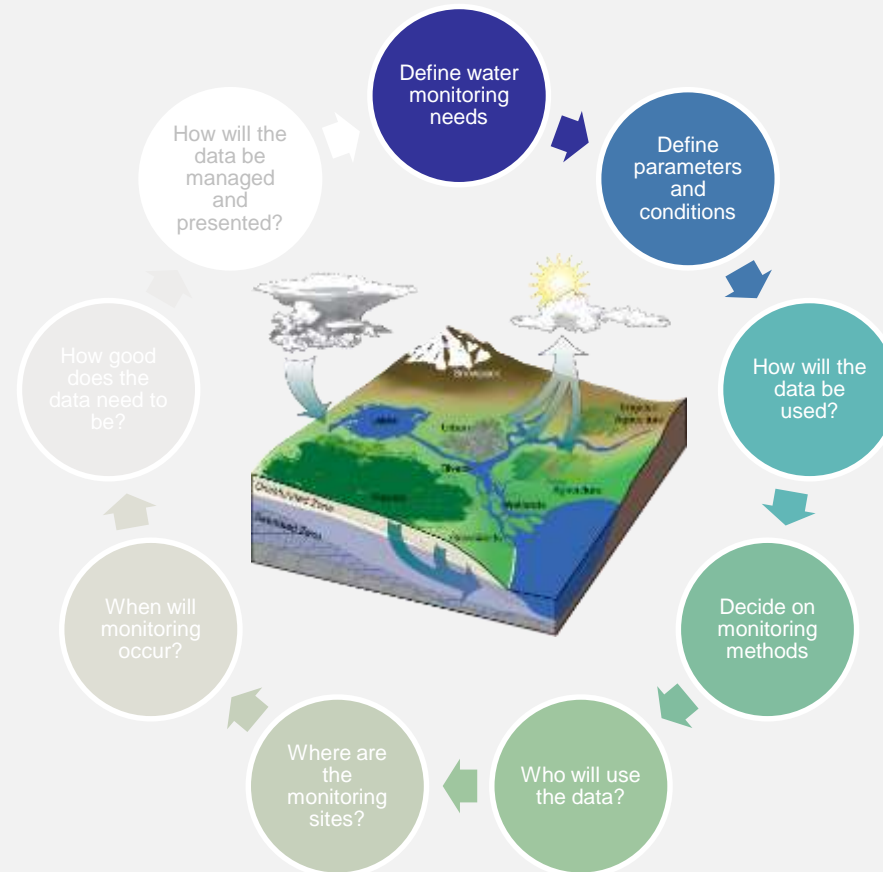
8. How good does the monitoring data need to be?



9. How will monitoring data be managed and presented?



10. How will the program ensure that data are credible?



Presentation

- ✓ **Group name**
- ✓ **Location of stream**
- ✓ **Who?** Involved Stakeholders
- ✓ **What?** Local issues

- ✓ Who will use the data?
- ✓ Where will the data be stored?

Thank you!

Presentation

- ✓ Group name
- ✓ Location of stream (municipality)
- ✓ Involved Stakeholders
- ✓ What are the local issues?

- ✓ Who will use the data?
- ✓ Where will the data be stored?

