

Sources of information for establishing
relations between stream flow and biota:
developing a scientific basis for
environmental flows

Southeast Instream Flow Network

2 December 2009

Session Overview

1:00 Case Studies

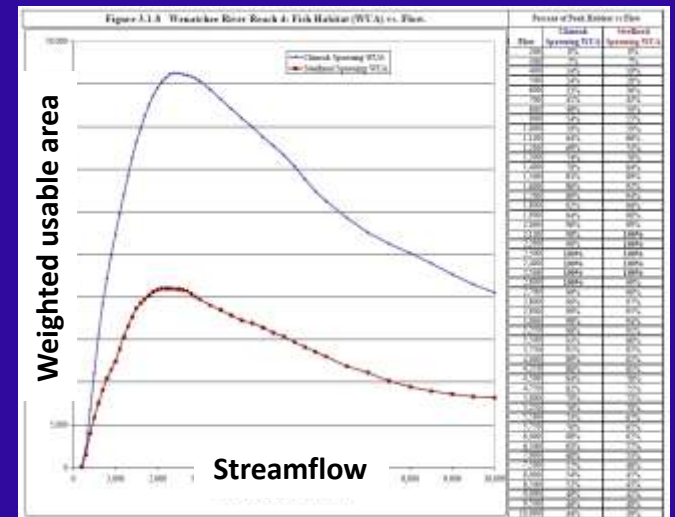
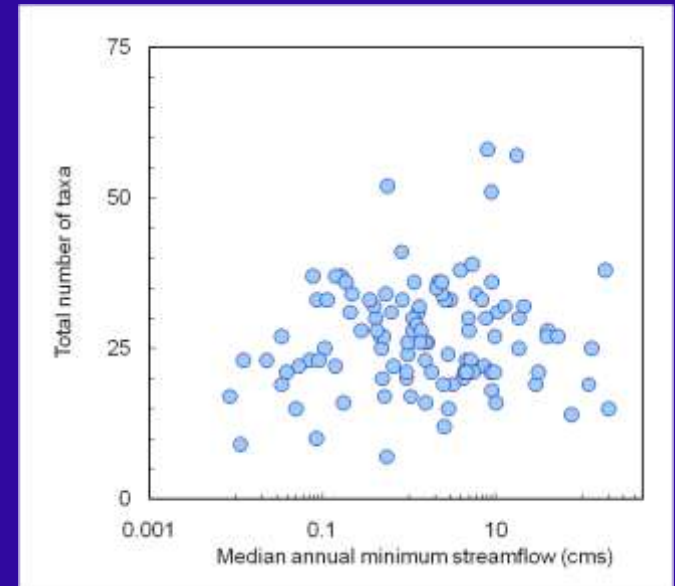
- Susquehanna River – Colin Apse
- Western Colorado – Thomas Wilding
- Michigan – Paul Seelbach

2:30 Break

3:00 SIFN Test Cases

- Virginia – John Kaufman
- Arkansas – Jeff Quinn
- Alabama – Pat O'Neil

4:00 Discussion



Applications of information on flow- biota relations

- Basin planning - future water availability, environmental flow allocation
- Permitting uses (diversions and pumping)
- Policy development
- Advising other agencies/programs
- Real-time management

When is information on flow-biota relations needed? This will dictate sources...

- **Could be used today (...could have been used yesterday)**
- **Imminent deadline for development of environmental flows**
- **Currently planning implementation**
- **Long-range planning**
- **Information could facilitate policy development**

Biological/ecological targets for environmental flows follow from authorities

- **State has broad authority to protect freshwater ecosystems**
- **Policy focus on commercial species, game or sport fishes, iconic species**
- **Endangered species or other biologically-based legal requirements**
- **Specified authority (particular basins, water quality, or uses)**

Information sources on flow-biota relations

- What is currently available?
In the Southeast? Other locations?
- How can this information be used?
- Are there biological/ecological targets that aren't covered?
- What new information sources are being developed?

Level of Evidence

- **Expert workshop/best professional judgment?**
- **Best available science (not specific biota)?**
- **Regional biological information?**
- **Basin/site-specific information?**
- **Flow or flow alteration?**

Technical Topics

Evaluating regions via “dummy variables” in regression

Dealing with confounding factors

Meta-analysis

