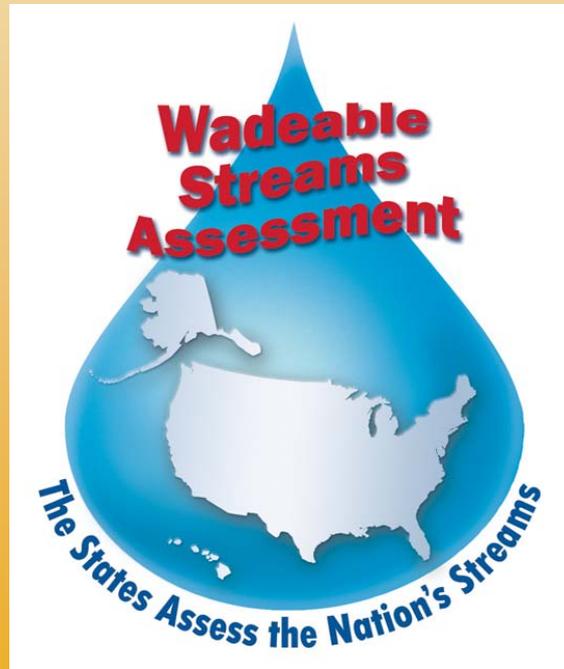


Overview of Monitoring Priorities and Wadeable Stream Assessment



April 27, 2004

Clean Water Act 305(b)

- Describe quality of all waters
- Describe extent that all waters support fish, shellfish, and wildlife
- Describe any other policies or management activities needed to meet CWA goals
- Estimate economic and social costs of implementing the Act
- Describe extent of NPS pollution problems and estimate costs to fix them

Critiques of Water Monitoring Programs

- GAO, National Academy of Science, National Academy of Public Administration, and other recent reports find monitoring inadequate
 - States do not have data needed to make decisions
 - Set water quality standards
 - Determine protection and clean up goals
 - Evaluate effectiveness of permits and management measures (beyond site-specific success stories)
 - EPA and States cannot make statistically valid statements about water quality condition in U.S.

Current State of Water Quality Monitoring

- Focus on targeted areas of concern
- Assess limited percentage waters and water body types (19% rivers and streams, 43% lakes, 36% estuaries, 4% wetlands)
- Generally not comparable across states
- Difficulty demonstrating effectiveness of program actions and allocation of resources

Collaborative Assessments at Multiple Scales

- National Coastal Assessment provided results at national and state scale; plans to move to local scale (NEPs)
- Lake Fish Tissue Study provides results at national scale and insights at local scale
- Wadeable Streams Assessment will provide results at ecoregion II scale and, for some states, at state scale

Wadeable Streams Assessment

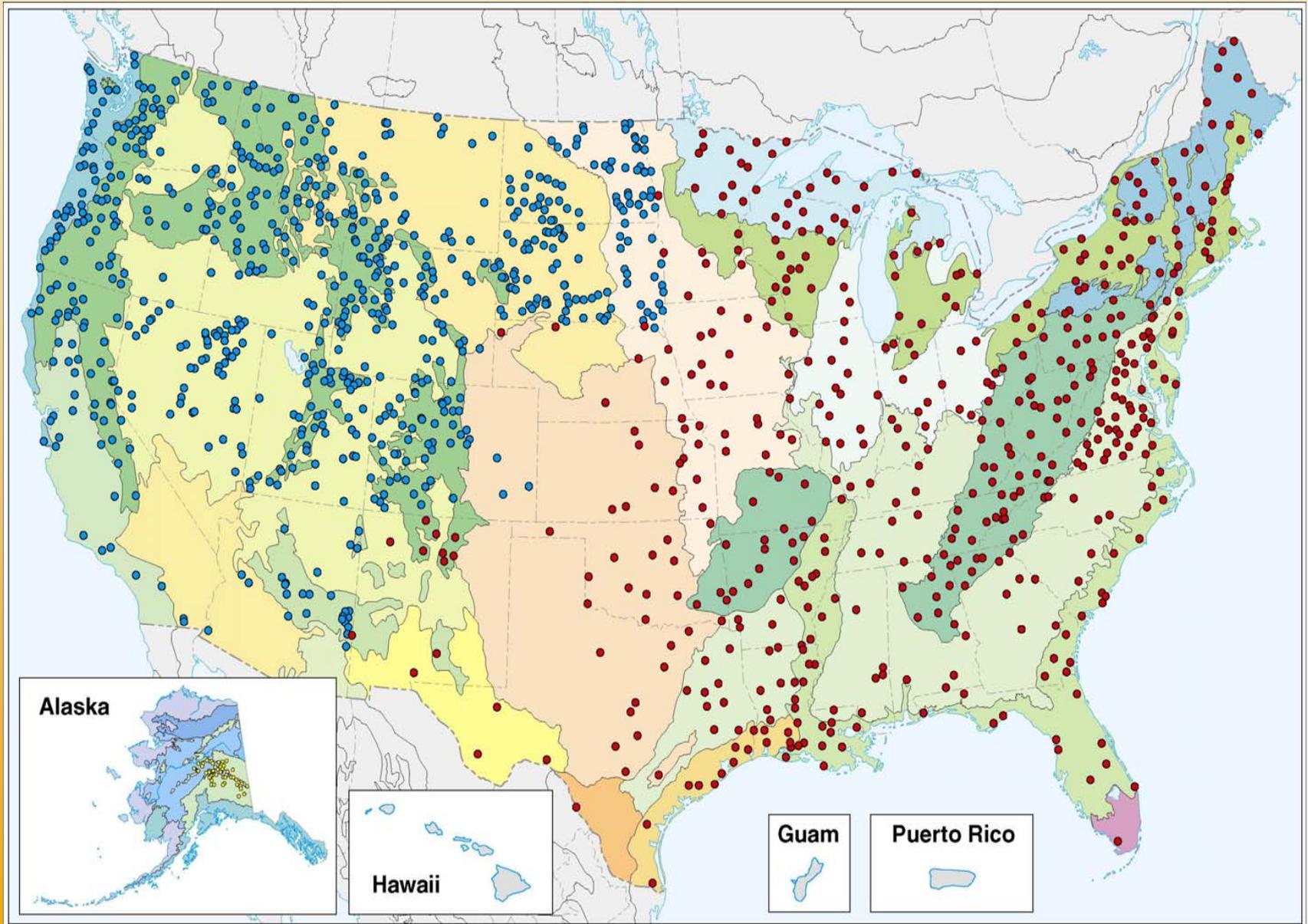
Basic Framework

- Generate accurate estimates of the condition of wadeable streams at multiple scales - ecoregion level II, EPA region, nation
- Basic set of core indicators
- Complements effort in Western States and Regions
- Encourage cooperators to enhance projects
- Complete sampling in 2004
- Produce report in December, 2005

Key Components

- Randomly generated sampling locations
- Standardized field and lab methods for core indicators
 - Benthic macroinvertebrate collections
 - Physical habitat assessment
 - Water samples for selected chemical parameters
- Comprehensive quality assurance program
- Standardized data management system
- Analysis plan for assessment and reports

Wadeable Streams Random Sites



Quality Assurance Program

- Detailed QAPP and SOPs
- Field training for sample collection
- Chain-of-custody procedures
- Qualified laboratories for chemical analyses and biological sample sorting and identification
- Trained taxonomists using the most up-to-date and widely accepted technical literature
- Field and laboratory audits
- Rigorous data entry QC

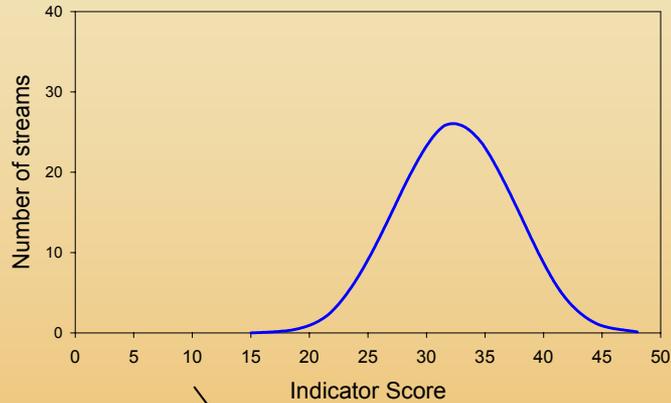
Data Analysis and Reporting

- Assessment Workgroup to recommend data analysis and interpretation options
- Team to scope report and provide feedback on data analysis options
- National meeting for consensus on data analysis plan - January 2005
- Regional workshops to crunch data sets and draft report in Spring/Summer 2005
- Draft report - September, 2005
- Final report - December, 2005

Data Analysis and Interpretation

Descriptive Statistics

Distribution



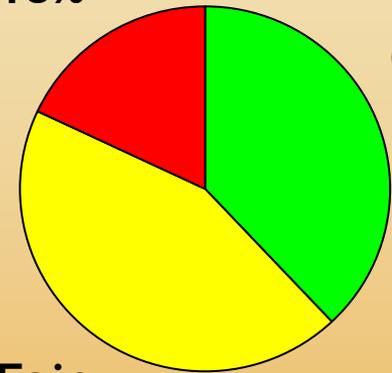
Threshold Development

Cumulative Distribution



Interpreted Statistics

Poor
18%



Good
38%

Fair
44%

Overall Schedule

| | | |
|------|----------------|---|
| 2003 | Nov. 18 | Issued request for pre-proposals |
| | Dec. 19 | Pre-proposals due |
| 2004 | Jan | Successful pre-proposals selected |
| | Feb-May | Final awards negotiated |
| | Feb-Sept | Draft data analysis options developed, distributed, discussed, revised |
| | Mar | QAPP/SOPs finalized |
| | <u>May-Jun</u> | <u>Training on field protocols</u> |
| 2005 | Jun-Oct | Field work conducted |
| | Fall\Winter | National meeting on data analysis, interpretation and reporting options |
| | Apr | Lab analysis completed, validated data available for analysis |
| | Apr-Jun | Regional meetings to analyze data |
| | Sept | Draft report distributed |
| | Dec | Final report |