Hitting Moving Targets in Rivers of Change:
Water Quality Monitoring for West Virginia Riverine National Parks
Park History

New River Gorge National River
  1978

Bluestone National Scenic River
  1988

Gauley River National Recreation Area
  1988
Figure 1. Bluestone National Scenic River Water Quality Sample Sites

LEGEND
- Sample Sites
- Major Roads
- Park Boundary
- Streams
- Towns

0 2 4 Miles
NEW RIVER GORGE NATIONAL RIVER

History of Water Quality Monitoring

BLUESTONE NATIONAL SCENIC RIVER and
GAULEY RIVER NATIONAL RECREATION AREA


Water Quality Issues

• Acid mine drainage not a problem
  – Low-sulfur “smokeless” coal
  – Streams well buffered (pH 7+ to 9)

• Sewage contamination THE issue
  – Failure of centralized systems
  – Many not on centralized systems
  – Failure of individual systems
Aspects of Sewage Pollution

• More pervasive in some streams
  – Streams with STPs HIGH during runoff
  – Streams without STPs chronically HIGH
Supplemental Studies

- USGS
  - NAWQA
  - Microbial Reconnaissance
  - Polycyclic Aromatic Hydrocarbons (PAHs)
  - Bacteria Source Tracking
Supplemental Studies

- NPS
  - Hydrologic Influences on Fecal Bacteria
  - 2001 Floods
  - Storm Event
  - Keeney Creek
Supplemental Studies

- Wolf Creek (PAN)
- Dunloup Creek (DCWA)
- EMAP (WV DEP)
- Superfund Site (EPA)
- Mid-Atlantic Highlands Assessment
- others
Incident Response

- Train derailments
  - coal
  - diesel
  - corn
- Toxic spills & releases
- Fish and invertebrate kills
  - pet flea shampoo
Other proposed studies

- Synthetic Streamflow
- Trace Elements
- Emerging Contaminants (PC&PP)
- Gauley River hydrology
- Biological Assessments
- Public Health Epidemiology
Technical Evaluation

• FY 2005
• Facilitator
• Outside Reviewers
  – NPS Regional Office (1)
  – NPS National Office (1)
  – WV DEP (1)
  – USGS (1)
  – Local government (1-3)
  – River users (1)
  – Other (1-3)