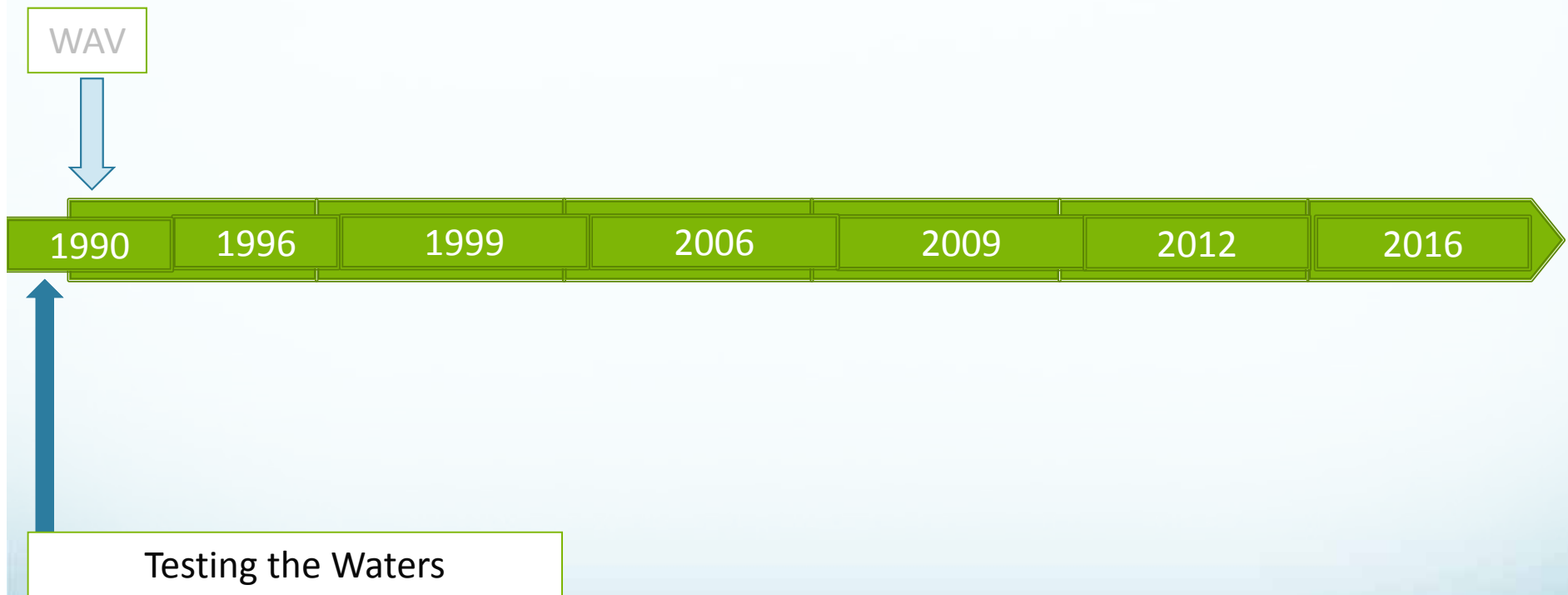


History of Water Action Volunteers (WAV) and Citizen Monitoring in Streams



A HISTORY OF VOLUNTEER STREAM MONITORING IN WISCONSIN



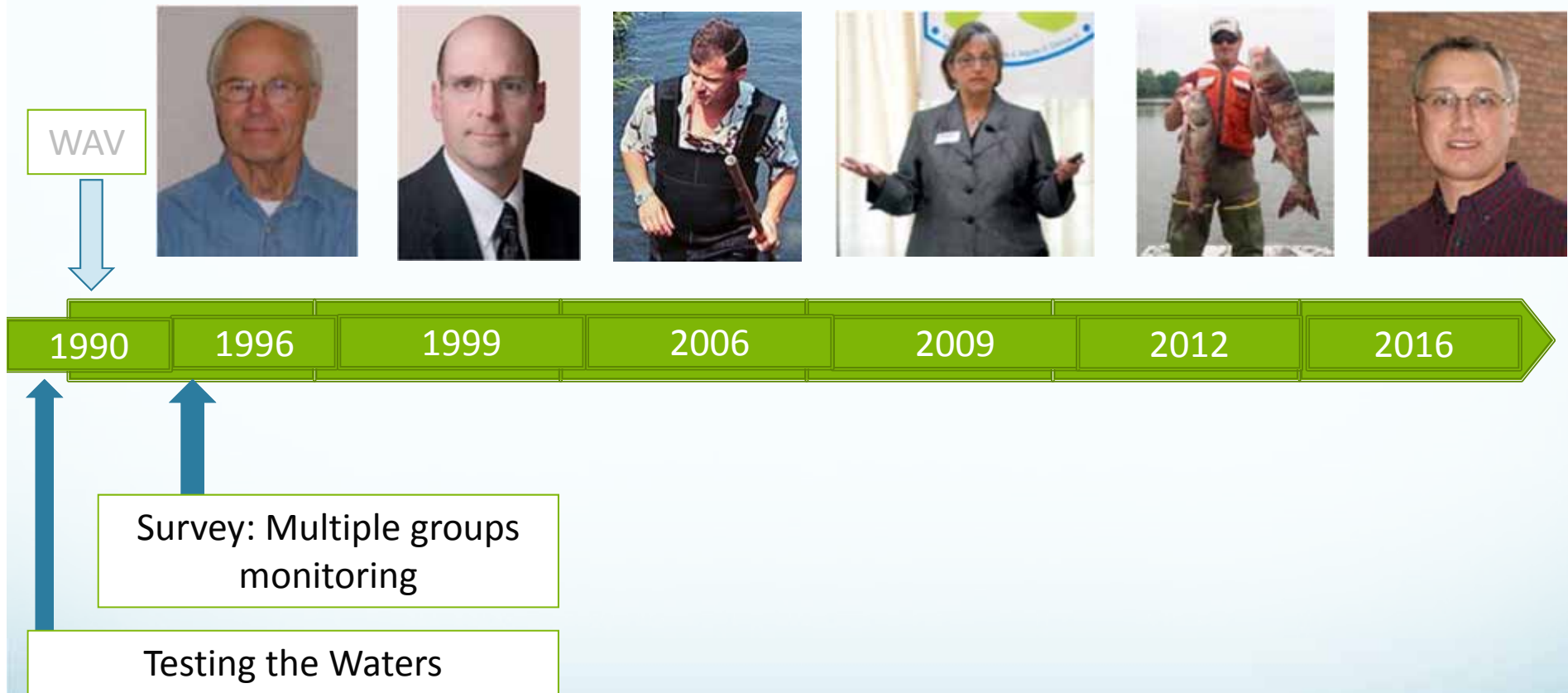
testing the waters

LINKING STUDENTS AND WATER THROUGH TECHNOLOGY

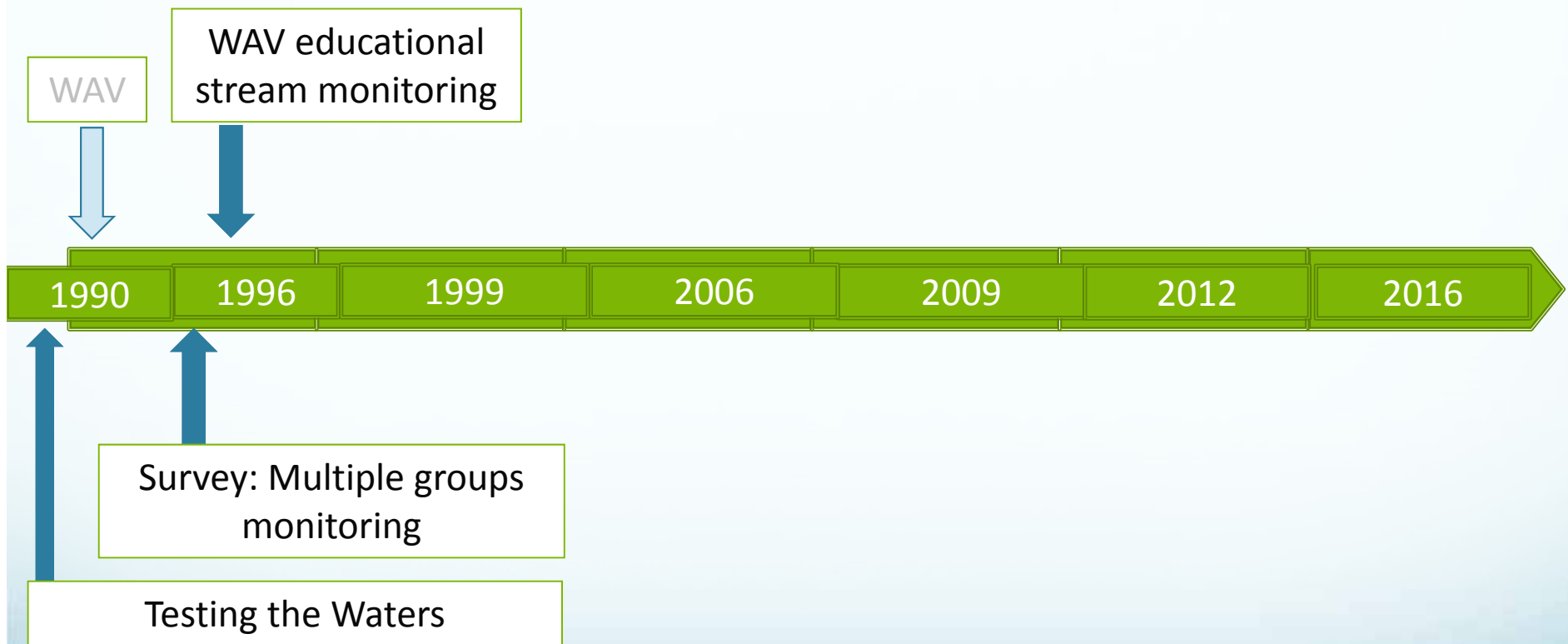
- School-based program
- Initiated 1989
- Milwaukee, Menomonie, and Kinnickinnic Rivers
- 7 counties
- Directed by Riveredge Nature Center
- 15,000+ students since 1990
- *Field Manual for Water Quality Monitoring* protocols
- 9 parameters monitored – Q-value determined



A HISTORY OF VOLUNTEER STREAM MONITORING IN WISCONSIN



A HISTORY OF VOLUNTEER STREAM MONITORING IN WISCONSIN



20 years of WAV- Highlights

Fall 1996/Spring 1997

- WAV statewide stream monitoring program piloted
- 3 volunteer groups; 4 sites
- First samples collected 10/5/1996



Water Action Volunteers



Initial WAV Goals and Objectives

1. WI citizens will monitor stream and river health
2. Support data sharing for educational purposes
3. Provide a network for volunteer groups, individuals, and schools to interact
4. Provide support of civic conservation and environmental groups
5. Increase linkages between volunteer monitoring and public resources protection programs



Pam Packer

Initial Parameter & Equipment Goals

Sampling parameters should:

- be common amongst sampling groups
- be easy to measure
- well-represent stream health over time

Equipment should:

- be easily obtained
- affordable
- safe for volunteer use



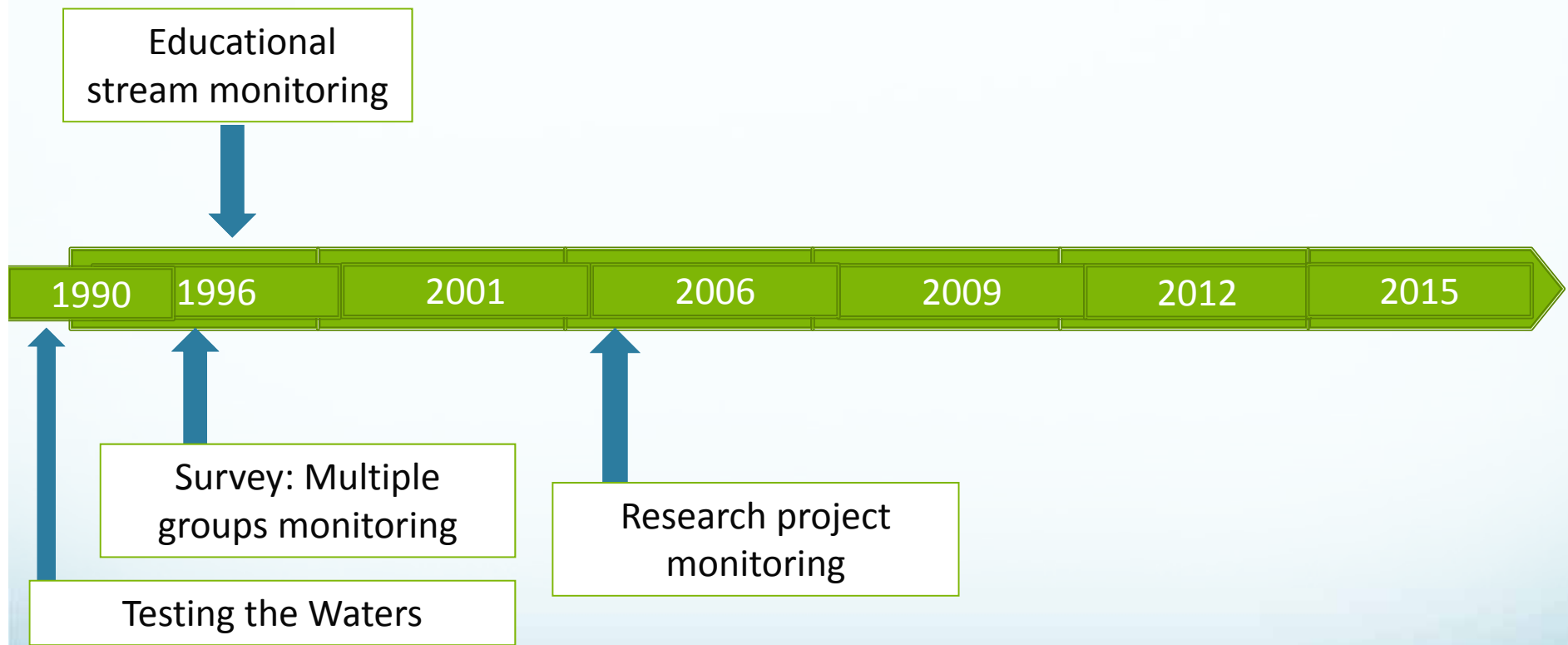
20 years of WAV- Highlights

2001-2

- New WAV Coordinator
- WAV database and new website debut
- Streamflow added
- Awards program developed
- First statewide Volunteer Stream Monitoring Conference



A HISTORY OF VOLUNTEER STREAM MONITORING IN WISCONSIN



Early Research Projects

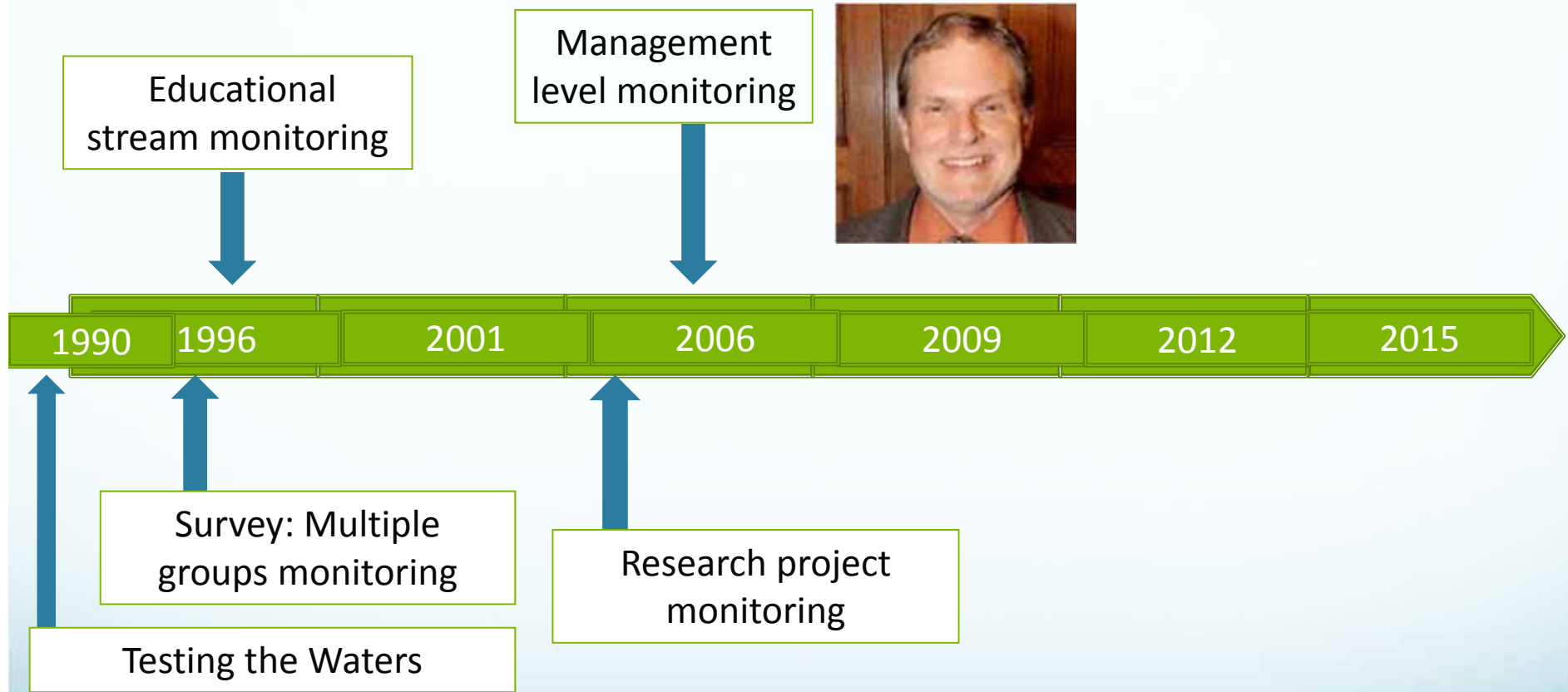
- 2003-2006: *E. coli* bacteria monitoring
- 2004: Statewide crayfish survey



Source: Karen Wilson



A HISTORY OF VOLUNTEER STREAM MONITORING IN WISCONSIN



20 years of WAV- Highlights

2006

- Volunteers have reported 3400 days of sampling
- Level 2 Stream Monitoring Pilot Project initiated
 - In partnership with River Alliance
 - 14 groups
 - Coordinator hired
 - 4 parameters
 - SWIMS database available



Updated Goals and Objectives

- Preserve and protect Wisconsin's 86,000 miles of rivers by
 - Educating and empowering citizens
 - Obtaining high quality data useful for DNR decision-making
 - Sharing data and knowledge



20 years of WAV- Highlights

2007

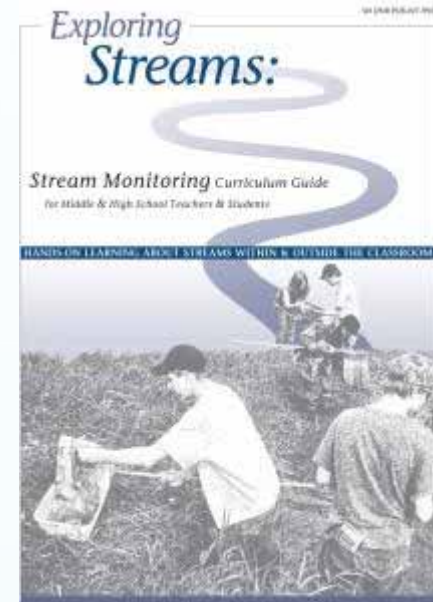
- New Level 2 Coordinator and Database Manager hired
- Citizen-based Water Monitoring Network website and updated WAV website



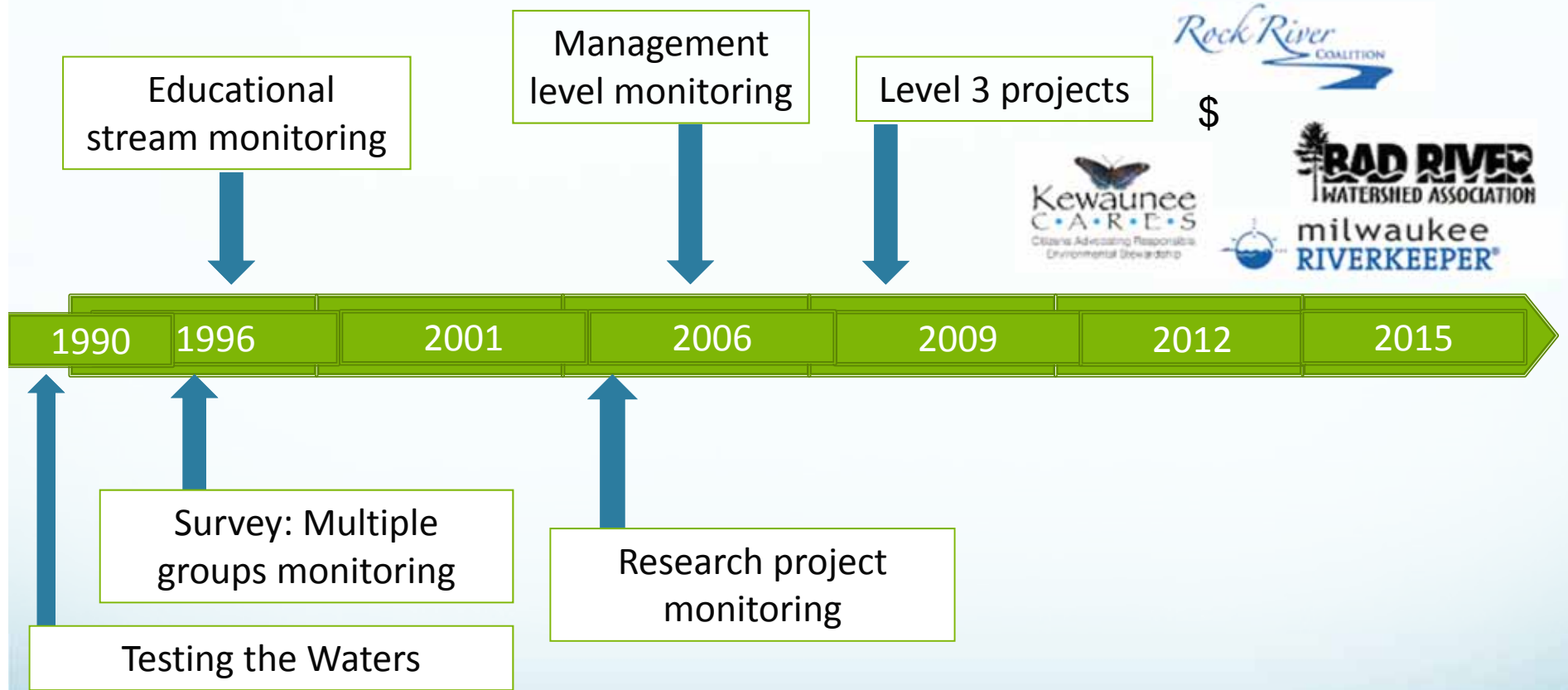
20 years of WAV- Highlights

2009

- Volunteers have reported 6225 days of sampling
- School curriculum developed and piloted



A HISTORY OF VOLUNTEER STREAM MONITORING IN WISCONSIN



20 years of WAV- Highlights

2010

- Level 3 wastewater treatment plant thermal project
- Another new Level 2 Coordinator (or two)



20 years of WAV- Highlights

2011

- Road salt monitoring begins
 - 30 sites/19 volunteers
- Green Bay AOC – monitoring aesthetics
- Two multi-day family level macroinvertebrate trainings



Lisa Ludwig

Partnerships for Local Program Implementation

Partners include:

- ~50 local coordinators
- Nonprofits
- Counties
- Colleges/Universities/K-12
- Municipal districts
- Businesses
- Research partners



20 years of WAV- Highlights

2012

- Streamflow monitoring methods comparison
- Expanded road salt monitoring to IA and MI
- Total phosphorus Level 3
 - 12 volunteers/16 sites/100% success



20 years of WAV- Highlights

2013

- New Zealand mudsnails found in Black Earth Creek – Volunteers assisted with screening
- Total Phosphorus monitoring expanded to 81 sites/47 volunteers
- WEEB grant to develop signs for long-term sites



20 years of WAV- Highlights

2014

- New Zealand mudsnails added to WAV monitoring
- WAV more closely aligned to assist DNR where they need monitoring; 98 of 102 sites are filled by 67 volunteers
- 651 sites across all WAV Levels
- New Level 2 Coordinator



20 years of WAV- Highlights

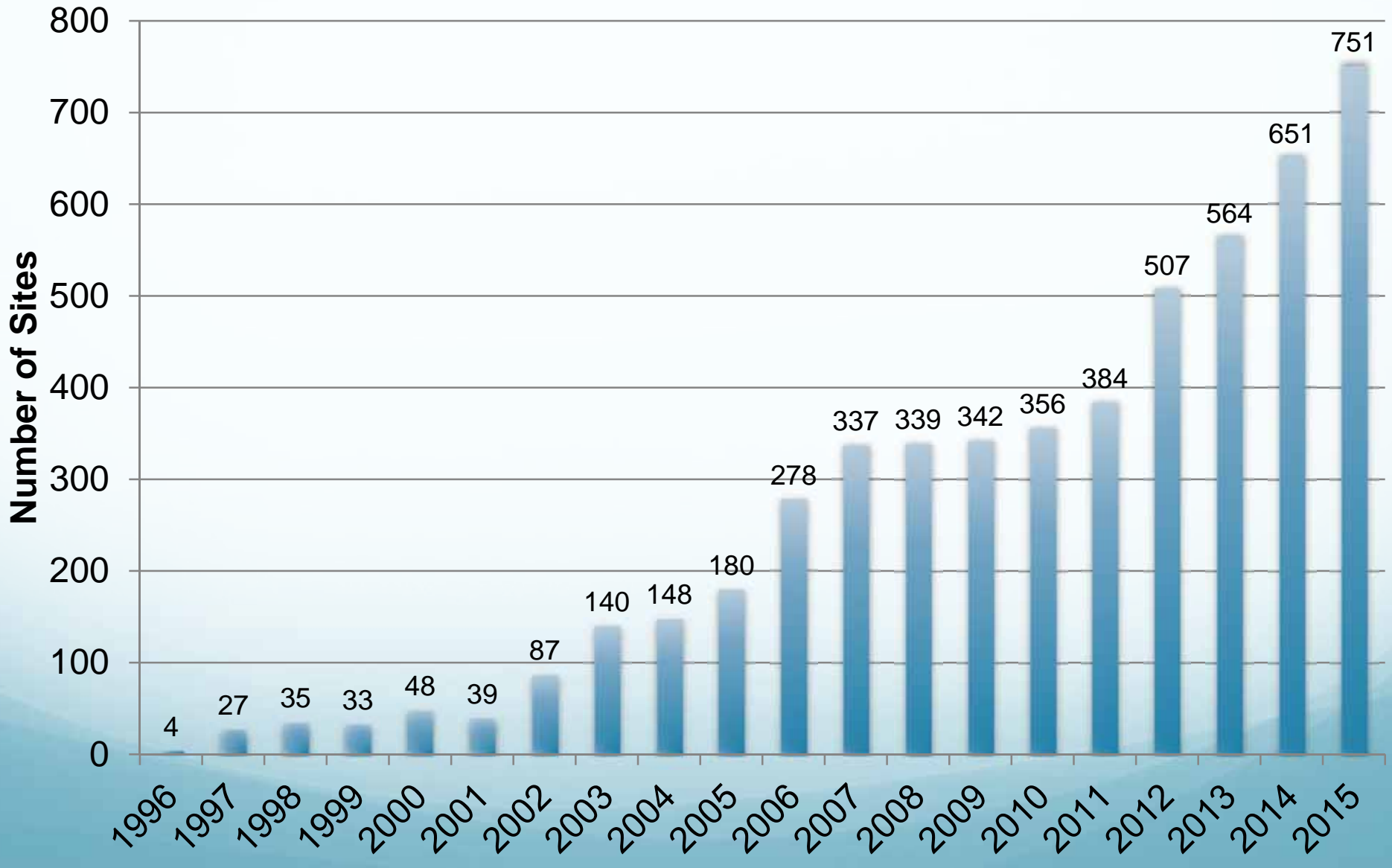
2015

- Added Asian clam monitoring
- 200 total phosphorus sites monitoring
- All volunteers using SWIMS database
- 751 sites monitored
- New Level 1 and 2 Coordinators



Shell: "Corkbeak (clam)" by E.P. O'Regan/Wikimedia Commons

WAV STREAM MONITORING STATIONS OVER TIME



Questions?

