



WISCONSIN'S VOLUNTEER STREAM MONITORING PROGRAM:

Water Action Volunteers

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GOAL AND OBJECTIVES

- ✘ Established 1996
- ✘ Goal: To help preserve and protect Wisconsin's over 15,000 lakes and 86,000 miles of rivers
- ✘ Objectives:
 - ✘ Educate citizens about water quality
 - ✘ Build a network of informed citizens and empower them to take action to protect and improve natural resources
 - ✘ Obtain high quality water resources data useful for DNR decision-making

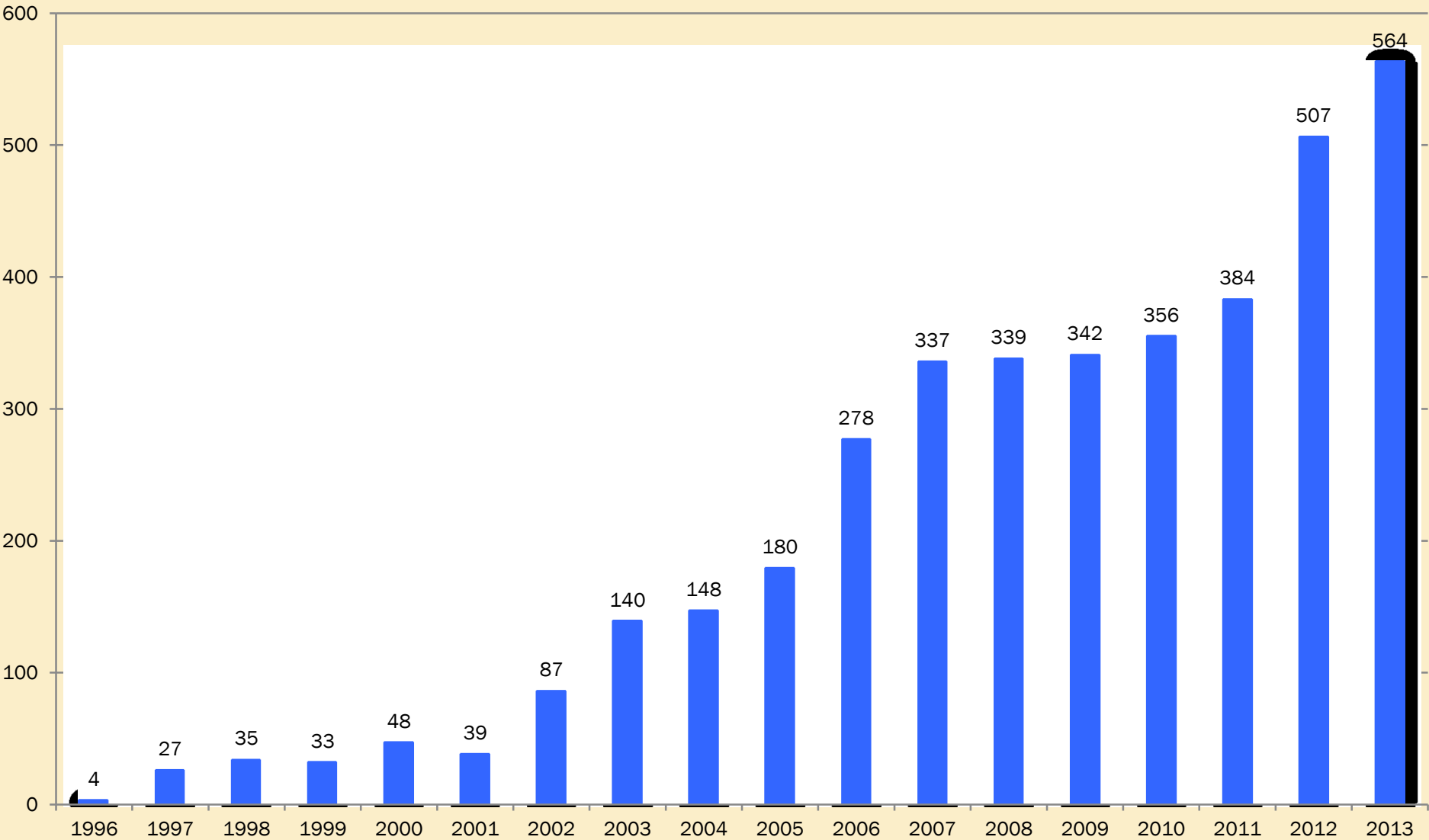


THREE LEVELS

- ✘ Accommodates varied interests & time availability of volunteers
- ✘ Volunteers can assess if stream monitoring is for them
- ✘ Builds trust with staff to invite participation at higher levels



NUMBER OF VOLUNTEER STREAM MONITORING SITES OVER TIME



MULTIPLE LEVELS

✘ Level 1 – Educational

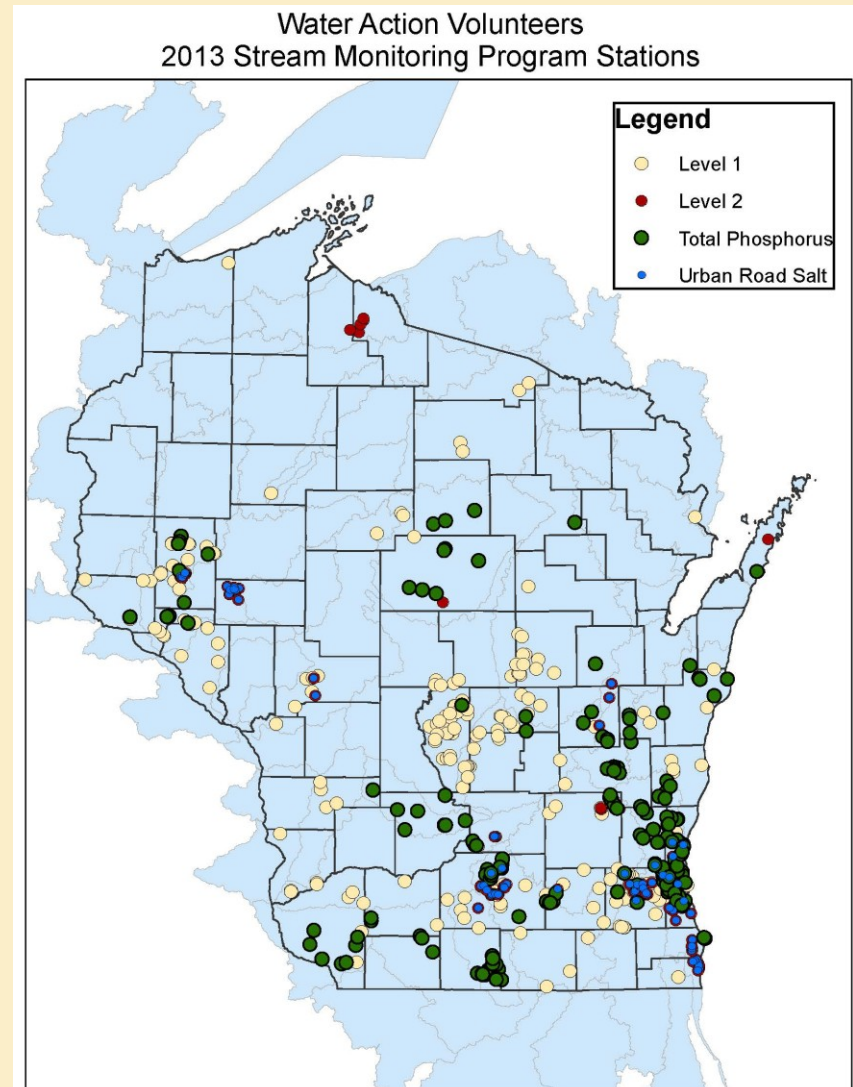
- + Introduction to monitoring
- + Better understand the connection between land use & water quality
- + Self-selected sites

✘ Level 2 – Status and trends

- + Established 2006
- + More intensive monitoring
- + Must follow a specific schedule
- + Utilize DNR methods & databases
- + Primarily self-selected sites

✘ Level 3 – Research projects

- + Address specific issues
- + Researcher-identified sites

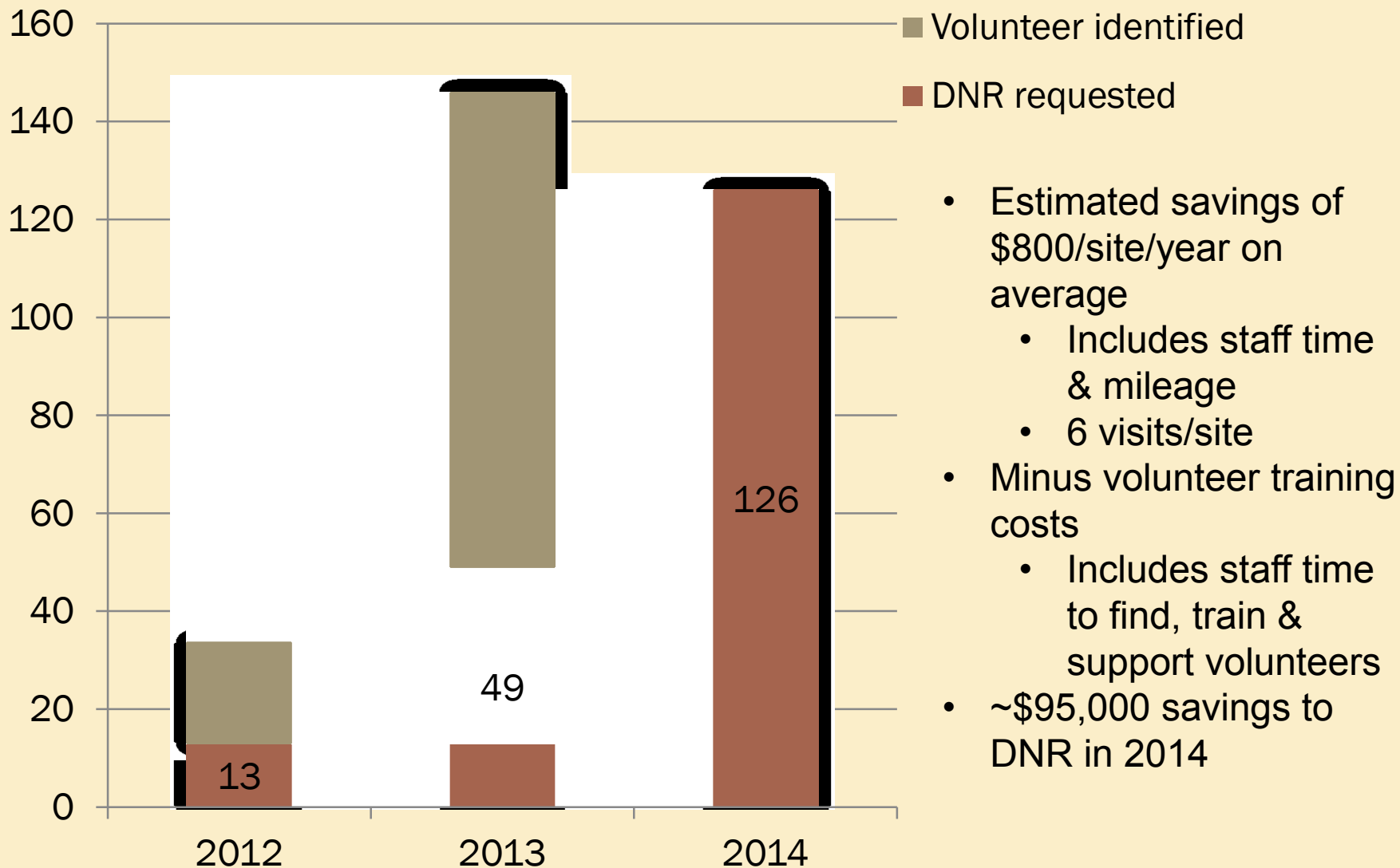


WHAT'S MONITORED?

- ✘ Level 1: Dissolved oxygen, temperature, transparency, habitat, biotic index, streamflow
- ✘ Level 2: Continuous temperature, pH, dissolved oxygen, transparency
- ✘ Level 3:
 - + Projects defined annually
 - ✘ New Zealand mudsnails
 - ✘ Specific conductance/Chloride
 - ✘ Total Phosphorus
 - ✘ Total Suspended Solids (coming 2014)
 - ✘ Macroinvertebrates (coming 2014)



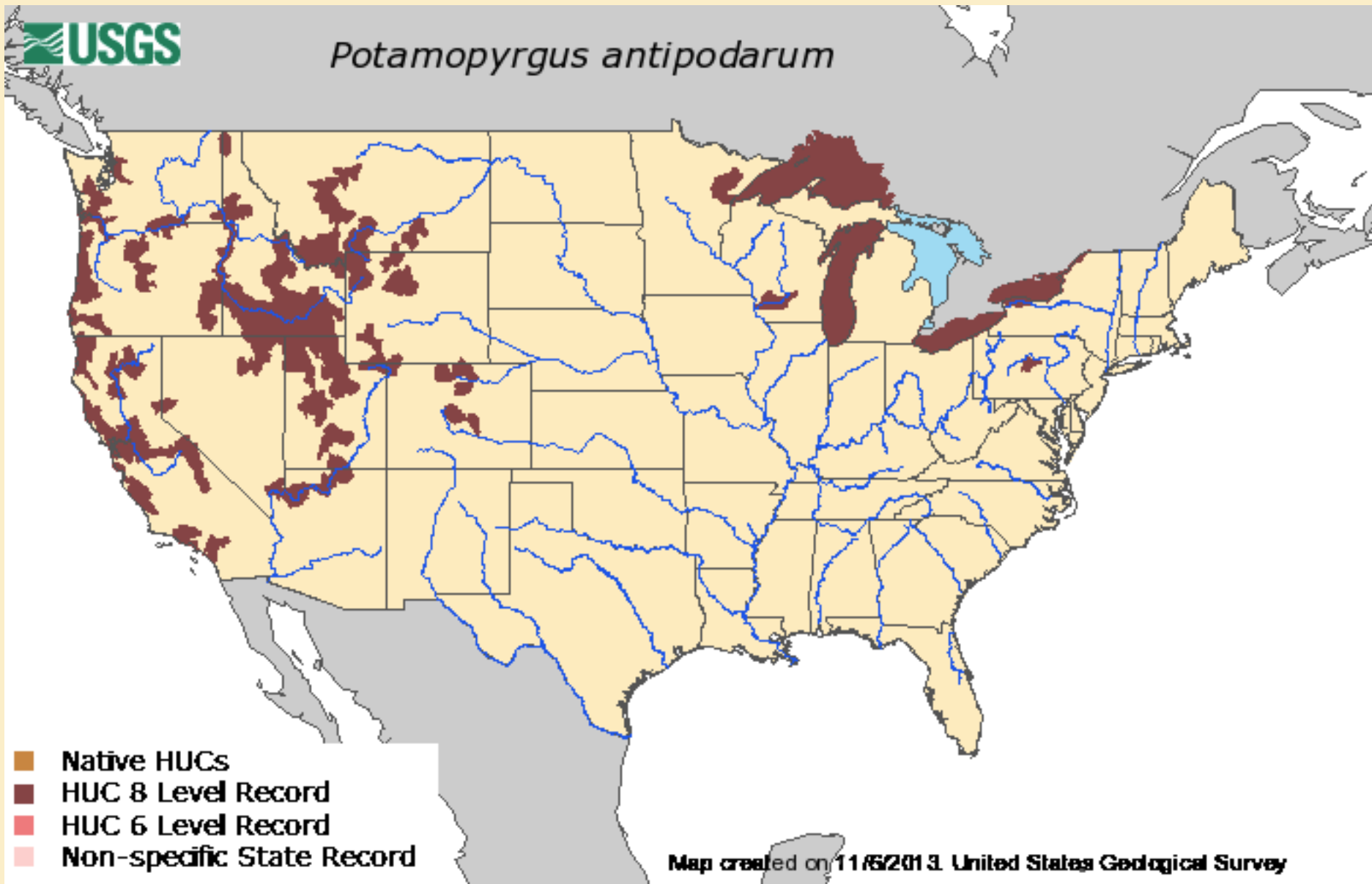
OPERATIONS MODEL – TOTAL PHOSPHORUS SITES



OPERATIONS MODEL – NEW ZEALAND MUDSNAILS



Potamopyrgus antipodarum



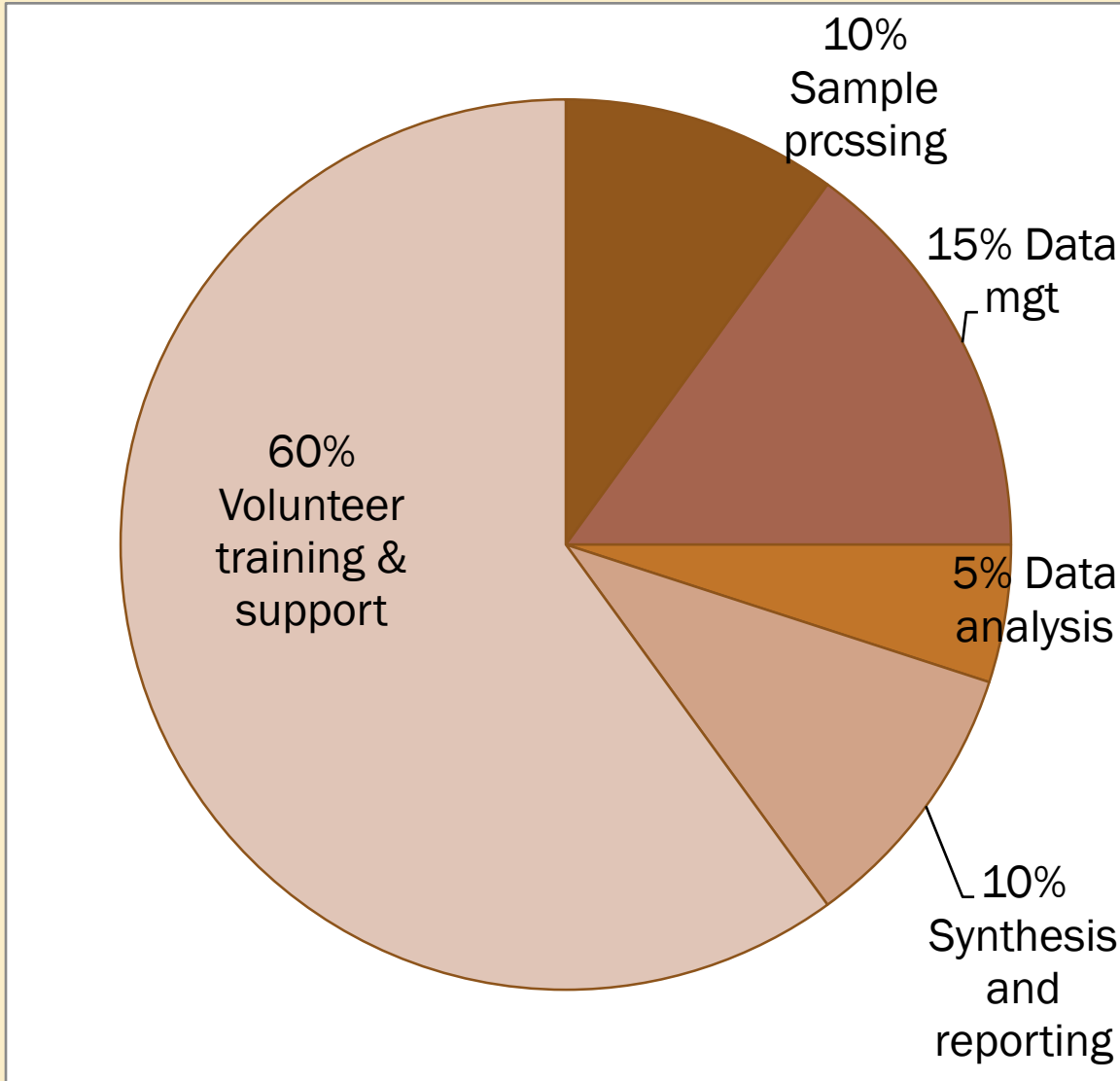
- Native HUCs
- HUC 8 Level Record
- HUC 6 Level Record
- Non-specific State Record

OPERATIONS MODEL – NEW ZEALAND MUDSNAILS

- ✘ Population present at least 1 year before identification
- ✘ Extent of spread now?
- ✘ 150 priority sites identified
- ✘ Volunteers sorting benthic samples
- ✘ ~\$75/sample to sort at contract lab
- ✘ ~\$11,000 savings



VOLUNTEER STREAM MONITORING PROGRAM FUNDING

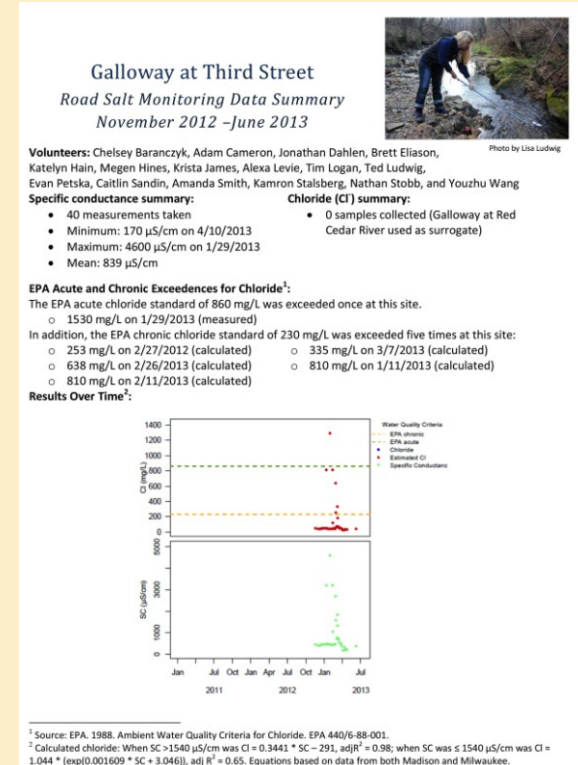


Sources:

- EPA Clean Water Act funds (DNR)
 - ~75%
- State General funds (UW-Extension)
 - ~25%
- Supplemented by:
 - Grants
 - Local groups' \$

DELIVERY OF RESULTS

- ✘ Data are available raw through
 - + A map-based search:
 - + <http://dnrmaps.wi.gov/sl/?Viewer=SWDV>
 - + An Oracle database:
 - + <https://prodoasjava.dnr.wi.gov/swims/>
- ✘ Site-specific annual summary reports
- ✘ Electronically distributed to volunteers and potential data users
- ✘ Downloaded by internal (DNR) data users (e.g., evaluation section staff for impaired waters listings)



USE OF RESULTS

- ✘ DNR and partner agency (e.g., USGS) staff use the information for
 - + Impaired waters listings
 - + Total Maximum Daily Load (TMDL) implementation monitoring
 - + Research papers

TOP THREE SUCCESSES

- ✘ Building partnerships to effectively engage citizens to collect high quality data useful for research and decision-making
- ✘ Achieving 100% volunteer success in following defined monitoring sampling design for total phosphorus monitoring
- ✘ Building a network of trusted volunteers who are well-trained and willing to assist with collecting data

TOP THREE CHALLENGES

- ✘ Identifying and making connections with potential partners and their data needs to which volunteers could effectively contribute
- ✘ Sustaining long-term stable funding for the volunteer monitoring program
- ✘ Building trust of potential partners to allow citizens to contribute to data collection