

# Integrating Volunteers into State- and National- Level Lake Surveys

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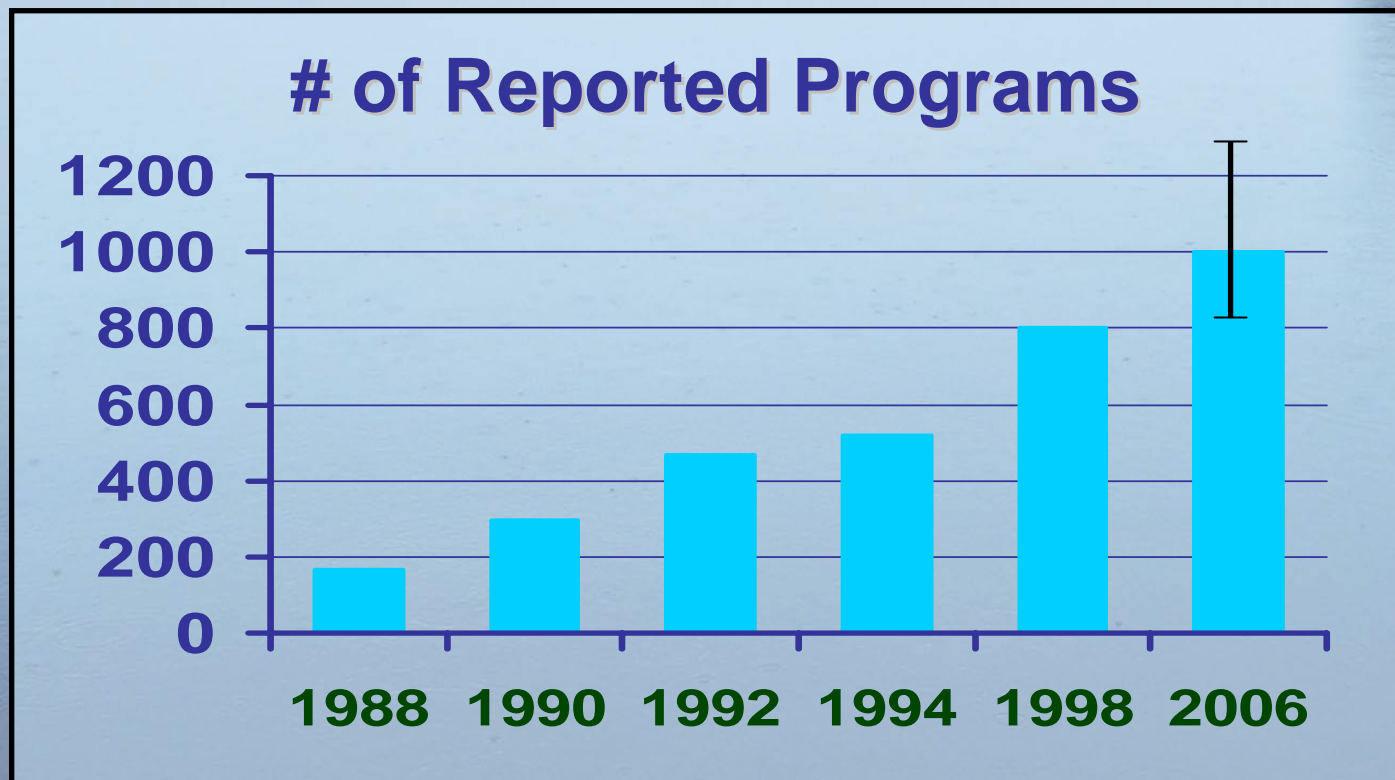
URI College of the Environment and Life Sciences

Enhancing the States' Lake Management Programs

April 27, 2007



# Volunteer Monitoring Came of Age in the 1990s\*



\* Nat'l Dir. of Envir. Mon. Progs. - 5th Ed. & '06 guesstimate

# Volunteer Monitoring



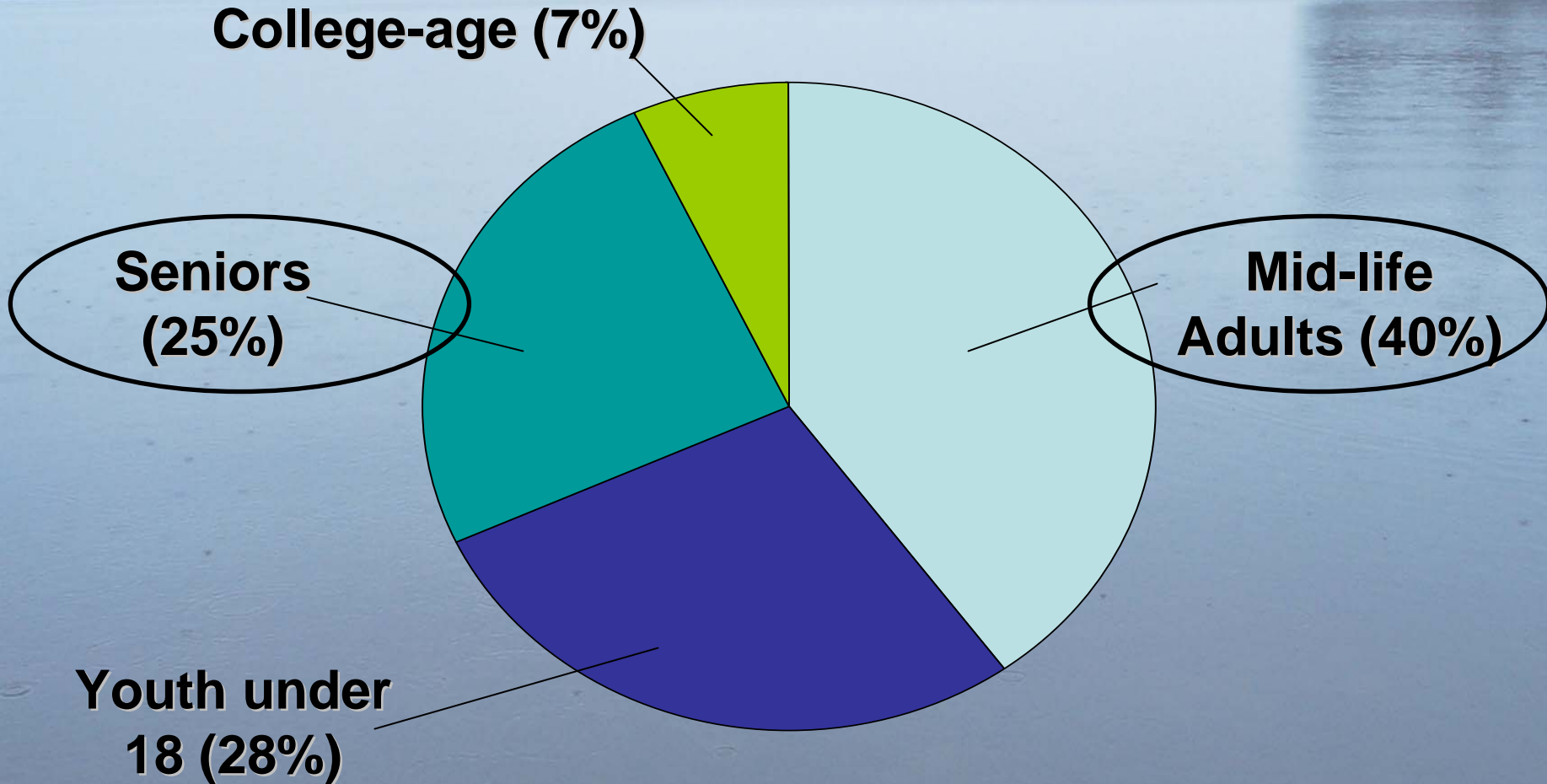
- Improves participant's understanding of the science of lake and watershed assessment and restoration
- Supports lake and watershed assessment by providing good data
- Advances both science and policy by providing follow-up monitoring
- Encourages active participation in protection and restoration activities

# Successes



- Huge increase in number of locations monitored (~10 vol mon to 1 agency site)
- Source of long-term data (15, 20, 25 years...)
- IDs the high quality waters as well as problem areas
- Provides agency personnel the opportunity to get out in the field
- Can provide support for agency initiatives

# Who Monitors?



# Top Ten Lake Parameters\*

<b>Parameter</b>	<b>% of Programs</b>
Secchi transparency	88%
Water Temperature	74%
Phosphorus	66%
Dissolved oxygen	58%
Chlorophyll	51%
pH	45%
Nitrogen	35%
Exotic/invasive species	34%
Aquatic vegetation	27%
Flow/water level	26%

# Characteristics of Successful Programs



- Well-organized
- Sound scientific basis
- Report results
- Strong institutional support
- Make a difference

Strong programs need strong organizations

# Agency Questions (probabilistic)



- ✓ What is the **condition** of the nation's surface, ground, estuarine, and coastal waters?
- ✓ Where, how and why are water quality conditions **changing over time**?
- ✓ Are water quality **goals and standards being met**?
- ✓ **Where** are problems related to water quality?
- ✓ What is their **cause**?
- ✓ Are **programs** to address problems **working effectively**?

# Community and Individual Concerns (focused monitoring)



- I want to find out what's in my water.
- I think there's something wrong with my lake, it was crystal clear 5-10-20 years ago
- Is it safe for my dog to go in the water?
- Is it safe for my kids/grandkids to go in the water?

# Main Uses of Volunteer Data\*

- Water Quality or Watershed Education
- Establish Baseline /Document Existing Conditions
- Research / Problem Identification
- Advocacy / Community Organizing / Local Decisions



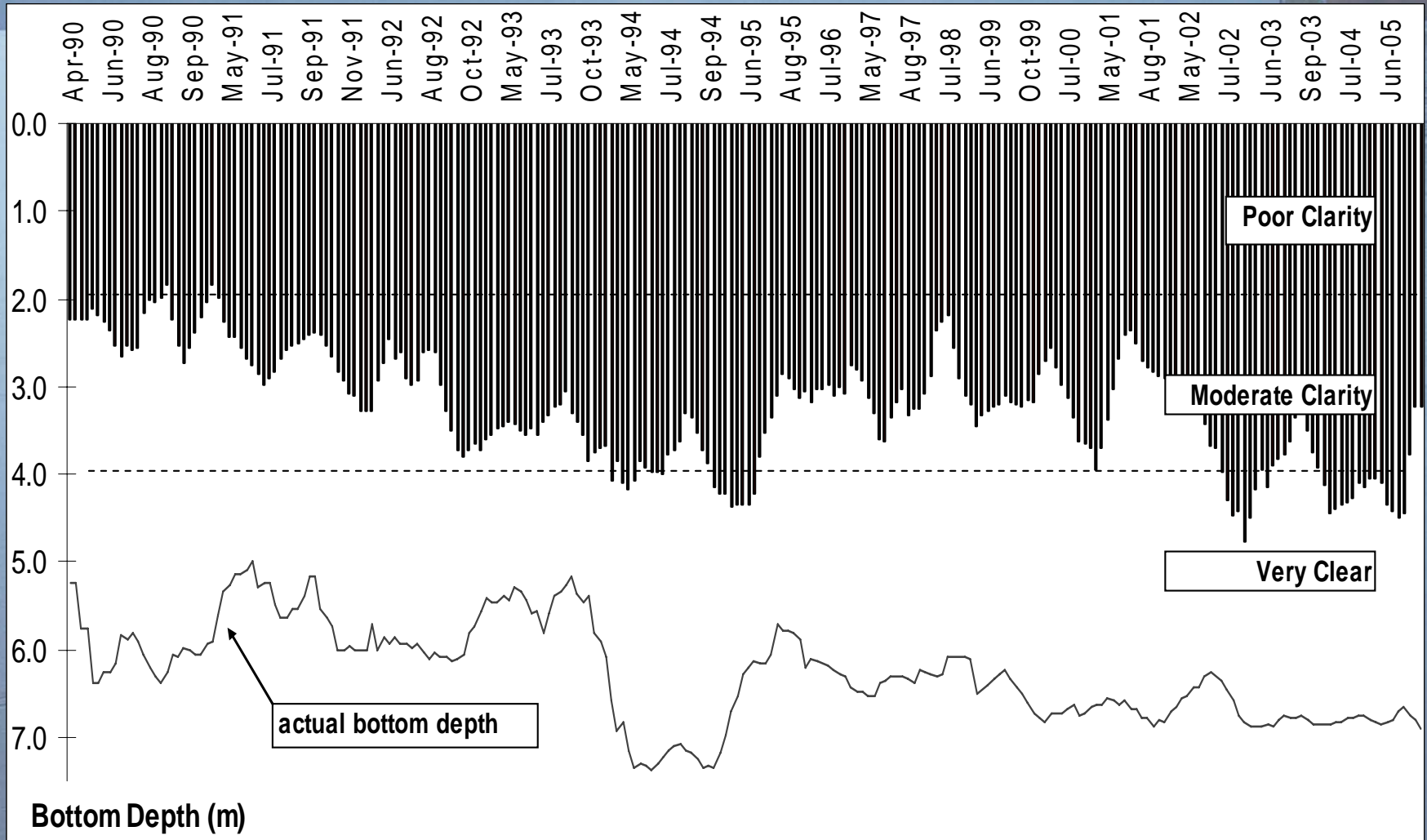
\* Nat'l Dir. of Envir. Mon. Progs. - 5th Ed.

# Continuum of Monitoring Data Use

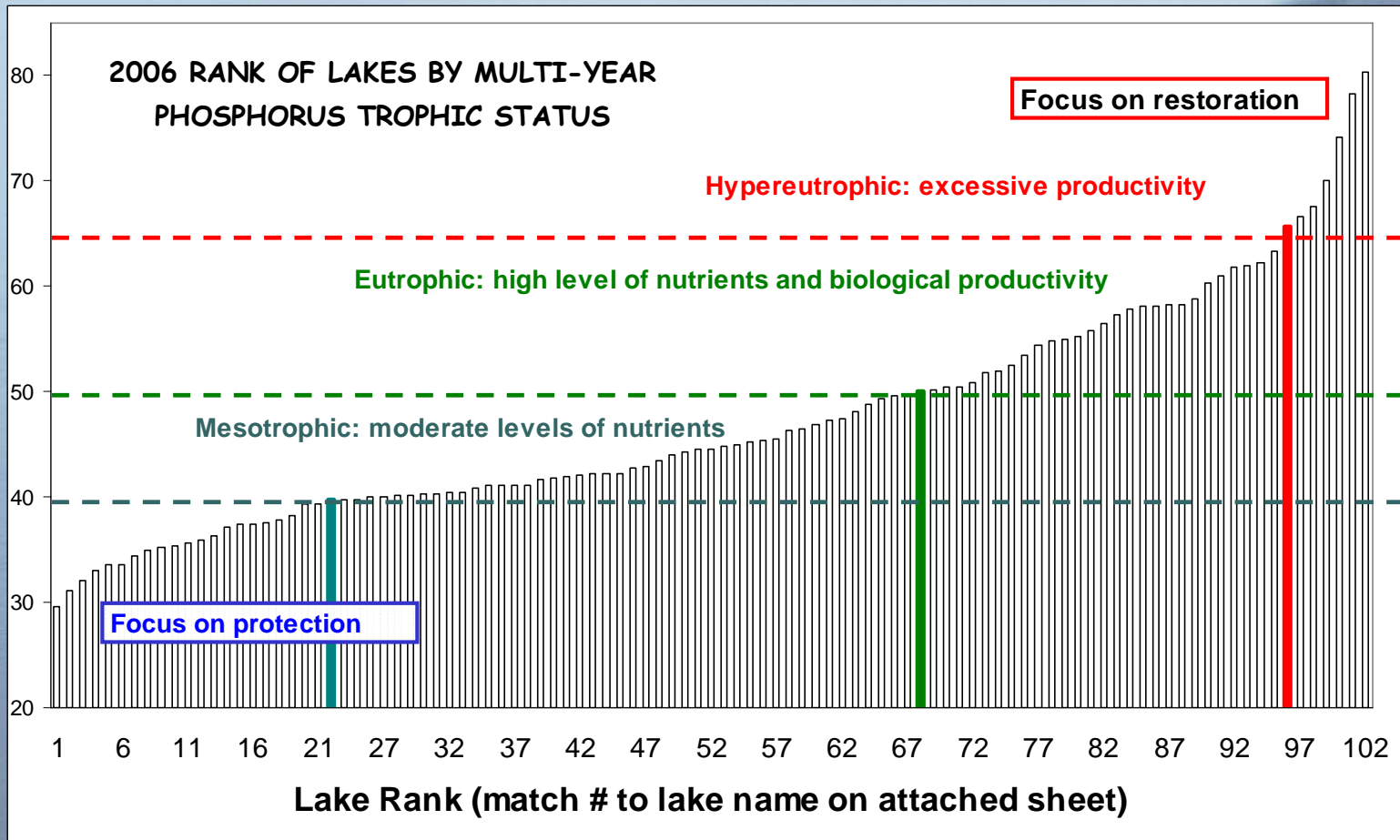


**Increasing Time - Rigor - QA - Expense \$\$**

# Intensive, long term data



# Distribution of Lakes by P TSI

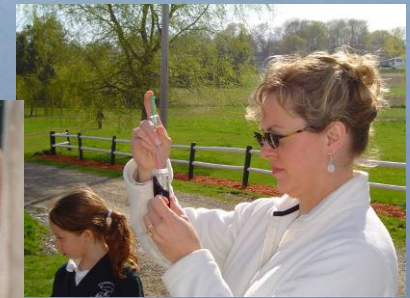


# Instead of Using Volunteers...



★ *Involve*

★ *Integrate*



# What's in it for EPA/states?

- Access to launch sites
- Another set of hands & boats
- The opportunity...
  - to provide information, knowledge and expertise
  - to learn details about the lake
  - to gain support for state/federal environmental initiatives
  - to be a sounding board for all that's wrong with government

# WIIFML?

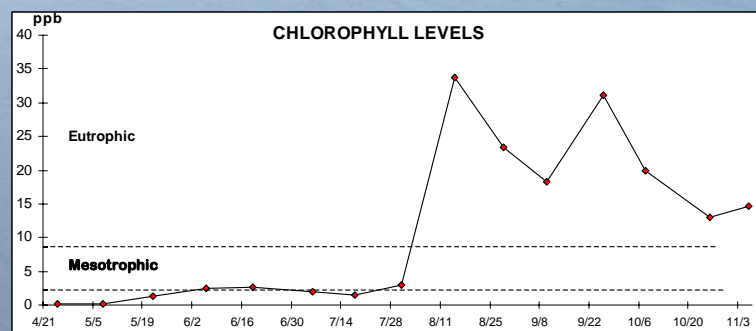
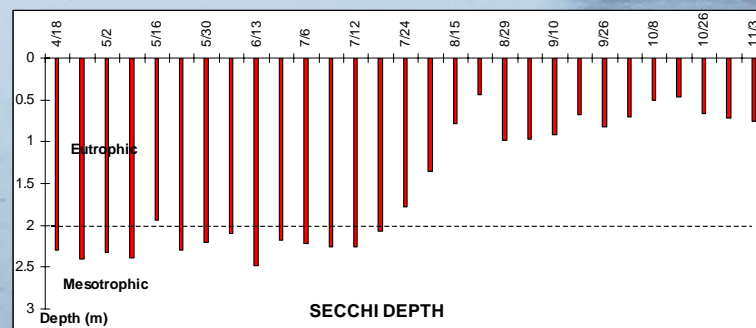
## What's in it for my lake?

An opportunity...

- to bring real scientists to my lake
- to see high-tech gizmos used
- to have lots of fancy tests done
- to talk about the real problems with my lake with experts
- for my town to realize how important this lake is
- A way to make the town realize we need to spend \$20 million on sewers/stormwater etc...

# Synergy of Working Together


- Side-by-side testing
  - compare techniques
  - compare results
  - compare to current/past monitoring
- Gaining respect for what each program does
- Providing support for each program
  - leveraging resources
  - persuading the reluctant



# Realities of Working Together



- Flexibility
- Advance notice a must
- Will take more time
- Weekdays vs weekends
- Differing purposes
- Realistic expectations

A serene sunset scene over a wide river. The sky transitions from a deep blue at the top to a bright orange and yellow near the horizon. The sun is low, creating a long, shimmering reflection on the water's surface. Silhouettes of trees and buildings line the banks, their forms mirrored in the calm water. The overall mood is peaceful and contemplative.

**“It is in the marriage of credible data and increased stewardship behavior that the true potential and vitality of citizen monitoring begins to emerge.”**

**-Steven Hubbell, Colorado River Watch**



Thanks!

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[www.usawaterquality.org/volunteer](http://www.usawaterquality.org/volunteer)