



Colorado River Watch: Success Over the Past Twenty-Two Years

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How Can River Watch's success teach you?



Today's Presentation

- Brief history of Colorado River Watch
- Strategies that are useful for data-receivers
- Strategies that are useful for data-generators



History of River Watch

- Established in 1989
- Previously, WQCC made decisions with insufficient data
- Partnership between Colorado Division of Wildlife, a teacher, and a new non-profit



History of River Watch

- Mission

To work with voluntary stewards to:

1. Monitor water quality and other indicators of watershed health, and
2. Utilize this high quality data to educate citizens and inform decision makers about the condition of Colorado's waters

Real People, Doing Real Science, for a Real Purpose!

History of River Watch

- Since 1989, we've:
 - Involved 70,000 individuals
 - Monitored 3000 stations on over 300 rivers/streams
- Currently:
 - Over 130 volunteer groups across the state
 - Largest generator of water quality data in the state
 - One of the largest statewide volunteer monitoring programs in the nation



Strategies for Data-Receivers

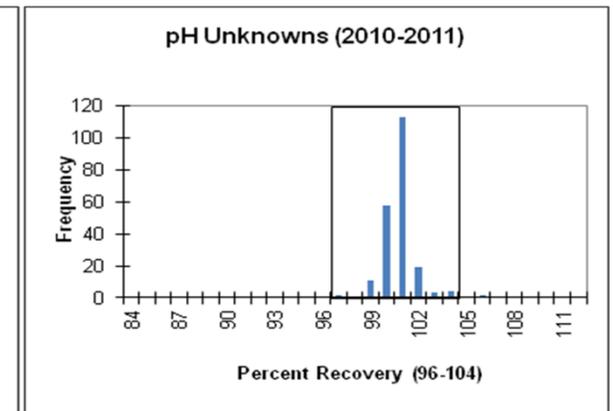
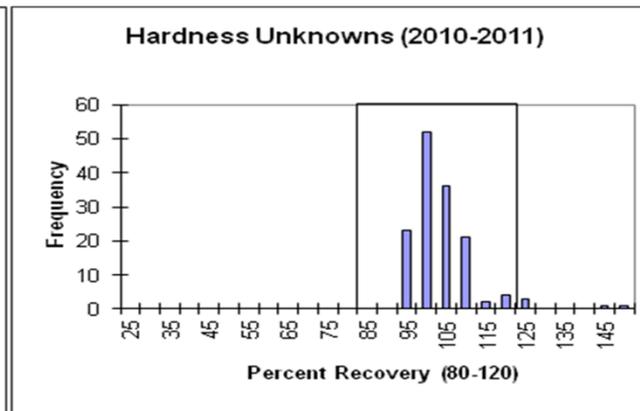
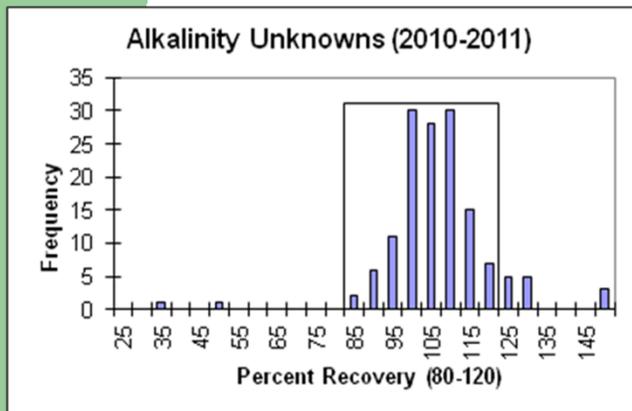
- Who are “Data-Receivers”?
 - Water Quality Control Commission
 - Colorado Parks and Wildlife
 - Colorado Department of Public Health and Environment
 - Watershed Groups
 - School Groups



Colorado Department
of Public Health
and Environment

Strategies for Data-Receiver

- Why do they want our data?
 - It's precise and accurate
 - Strict QA/QC (20% blanks and duplicates)
 - Rigorous training (4 days)
 - Support (River Watch Staff)
 - State-approved methodology



Strategies for Data-Receiver

Comprehensive data: Chemical, biological, and physical monitoring

Field Parameters

Hardness, alkalinity, dissolved oxygen, pH and temperature

Metals

Al, As, Ca, Cd, Cu, Fe, Mg, Mn, Pb, Se, Na, K, Zn

Nutrients

Nitrogen (Nitrate, Nitrite, and Ammonia), Phosphorus (phosphates), Sulfur (sulfates), Chlorine (chlorates), Total Suspended Solids

Physical Habitat

Qualitative Assessment

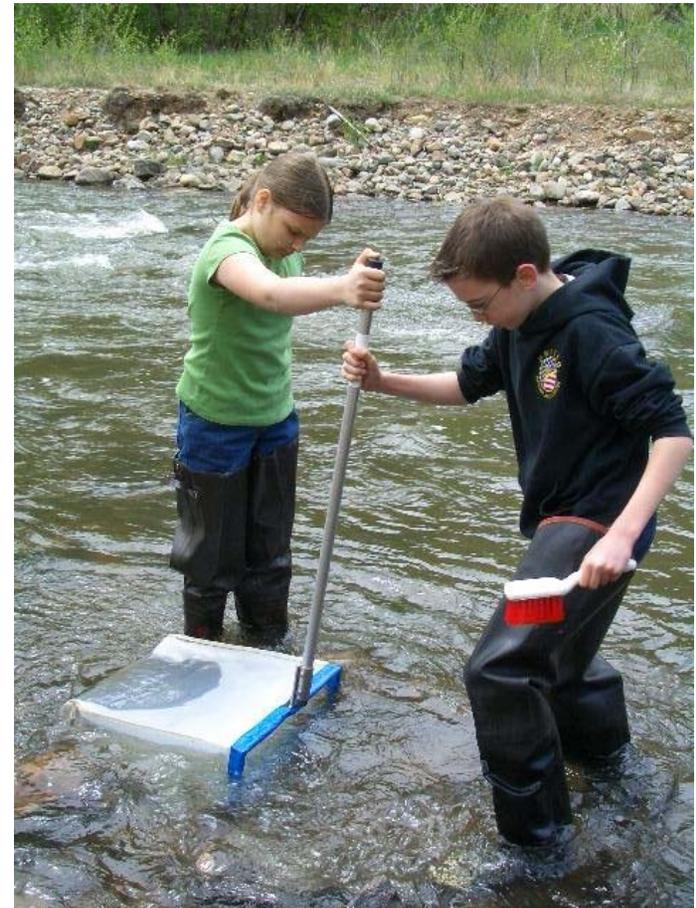
Macroinvertebrates

Analyzed by a consultant

Strategies for Data-Receiver

Can we trust the students?

- 73% of River Watch groups are middle or high schools
- WQCC places Colorado River on 303d list



Strategies for Data-Generators

- Data-Generators = volunteers!



Strategies for Data-Generators

- Provide the tools to generate **USEFUL** information
 - Rigorous training so that volunteers are confident in their abilities
 - RW provides all equipment and supplies
 - Staff support



Strategies for Data-Generators

- Relate how data is used to those who produce it
 - Bi-annual newsletters
 - Email updates
 - Web pages
 - Invitations to WQCC hearings
 - Watershed Gathering



River Watch Riffles

Riffles is a Bi-Annual Publication of the Colorado Watershed Assembly's River Watch Program
Volume 15 Spring 2010

Featured Group

By Sarah Tolan

Once every year, River Watch likes to feature a volunteer group for the great work they are doing and b.) Share with all of you an example of how a specific group implements River Watch into their program.

This year we have chosen to feature Olde Columbine High School. Olde Columbine is an alternative High School in Longmont. I visited the school this February for its annual site visit. The school is unique in that it specializes in small class sizes, allowing teachers to provide students with one-on-one instruction. Another aspect of the school is that it encourages labs and hands-on work as opposed to solely teaching from text books.

The River Watch program here is headed by Jan Hanks, the school's only science teacher. Jan has been involved with River Watch for about 10 years while the school has been in-

olved for 18 years. Two other teachers before Jan ran the program at Olde Columbine High School.

There are only two students in Jan's Field Science course this quarter which is an unusually small number. Jan attributes this to the school's scheduling changes this year. She expects a larger group of students next year.

Her students are Maylyn Roberts and Adam Moody, both juniors. They chose to take this class as an elective science credit. Maylyn has been doing River Watch for the past 3 years because she loves "science and working for the outdoors". Her passion for science and nature has lead her to aspire to be a zoologist.

Adam is doing River Watch for the first time this year and enjoys this class because he likes being in a very small class where he can learn about natural science. Thank you to Jan, Maylyn and Adam for all your hard work. We appreciate everything you do!

Jan Hanks is apparently proud of her River Watch report card (as she should be).

The River Watch group at Olde Columbine High School. Jan Hanks is second from left and is apparently proud of her River Watch report card (as she should be).

Janice Maylyn Roberts preparing to do a hardness titration for an "unknown" sample.

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2010 Training Schedule

The next River Watch training will be held in July at Pingree Park. We encourage you and your students to join us July 26-28 in Pingree Park. Our final 2010 training will be in Cedareoge October 18-21.

Let us know if you're interested! Registration forms can be downloaded from our website or you can contact us at michaela@coloradowatershed.org for more information.

If you are interested in teaching at the next RW training, please contact Michaela for information. We appreciate your help during these trainings.

Reminders

- Spend some time cleaning your equipment. Your flasks should be washed occasionally with soap and not water. Always rinse thoroughly with DI water after you have washed them.
- If your pH is less than 8.3, you should NOT have phenolphthalein alkalinity! If you have phenolphthalein alkalinity and your pH is less than 8.3, WASH YOUR FLASK (see above).
- Soak your probe (only the probe) in KCl solution for at least five minutes before you use it. If your probe is older, try soaking for an hour. Possibly put the probe in solution before heading out to the field to collect the sample.
- When starting the titrations, make sure there is fluid in the tip of the buret. Don't forget to re-zero the buret after letting some titrant run through.
- Blank and duplicate metals should be collected once every fifth SAMPLING EVENT.
- When in doubt, call us and ask! We are here to help you.

Strategies for Data-Generators

- Allow growth within the program
 - Use your water quality monitoring program as a starting point
 - Personalize and explore more issues in your own community



How Can I Use This?

- River Watch has been a heavily-utilized program for over two decades, because the program is valuable to both data receivers and generators.
- High levels of training and support, along with strict QA/QC, means real and useable results.
- Volunteers benefit from a sense of contribution, and allowance of growth within program

Final thoughts

- Questions?
- For further information, visit:
[ColoradoWater.org/River Watch](https://ColoradoWater.org/RiverWatch)

