

Science Training and Research Skills (STARS)

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Introduction

- Interested in increasing education/outreach at SCWRS
- Partnership with the National Park Service (SACN and MNNRA)
- 2 components
 - High School/short programs
 - College Students/summer internships
- Pilot program – Need funding for next year!



High School Visits

○ Classroom Visits

- Large number of students reached, pique their curiosity, not an intense experience.
- 3 visits/2 classes each/~180 students reached at Stillwater HS

○ Plans to reach more schools next year.

○ Most inquiries for short programs came from class visits.



Short Programs

- Three-day short program
- Fewer number of students- an intense, **VERY IMMERSIVE** experience.



Short Programs

Classroom learning

- Probe knowledge.
- Establish a common background.



Field component

- Apply classroom learning.
- Develop testable questions.
- Sample aquatic environs.



Lab component

- Apply classroom learning.
- Use scientific equipment.
- Produce and interpret results.

Short Programs

Learning objectives of the short programs:

- Design a basic water quality study.
- Operate scientific field and laboratory equipment commonly used in water quality monitoring studies.
- Explain the larger ecological processes and social issues in the St. Croix watershed.
- Apply key concepts from the sciences to complex issues in the St. Croix system.

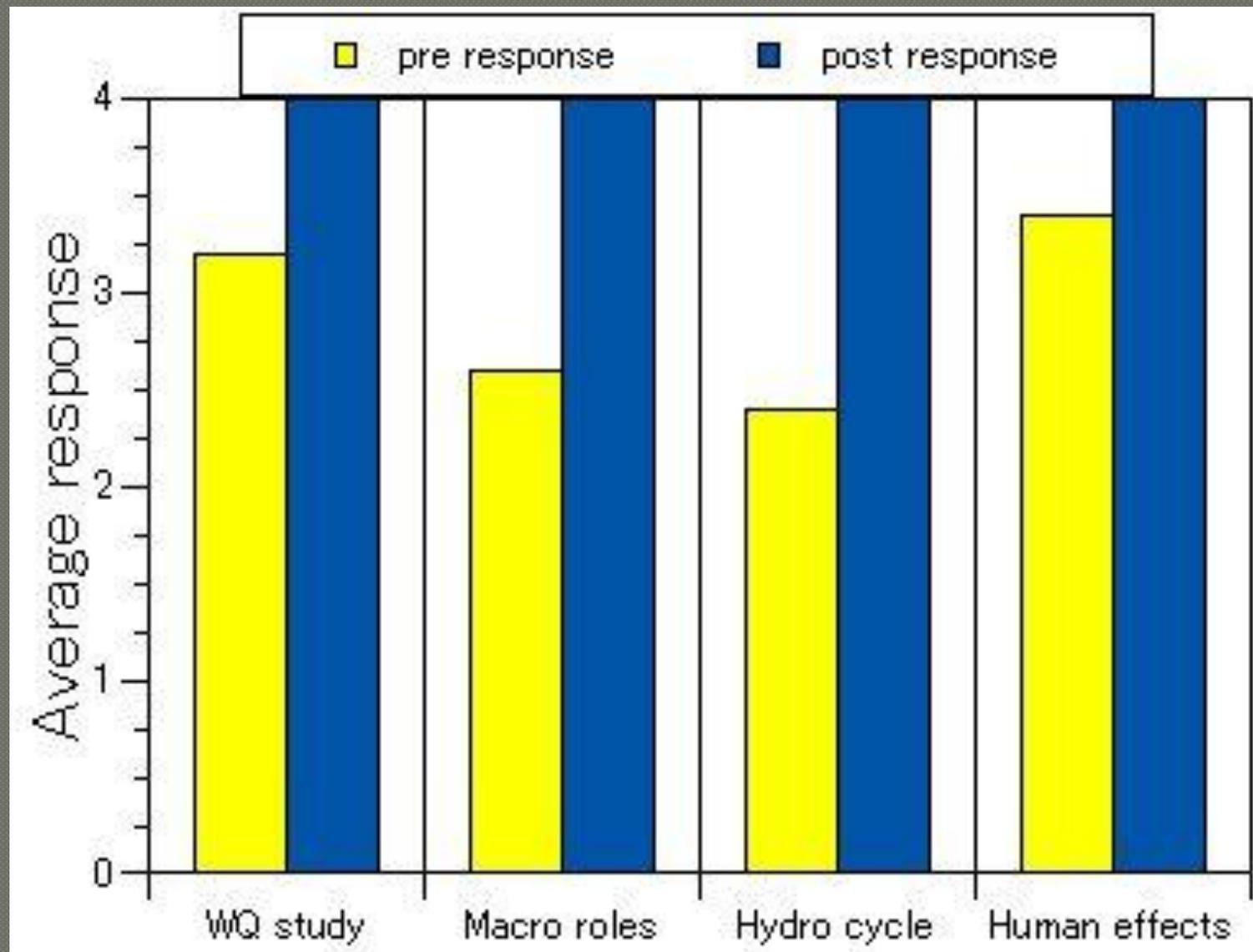


Short Programs



- Write-up in Pioneer Press
 - “Program turns bug-phobic teen into aspiring biologist Hands-on approach engages students” Mary Divine July 12, 2010
- Favorite experiences: canoeing, collecting macros, finding out test results, lab work.
- Student suggestions: LONGER!!, analyzed data themselves, more canoeing, stayed overnight
 - “This is definitely what I want to do with my life.”
 - “I am interested in environmental sciences and water quality. It is something I could see myself doing in the future. “
 - “The size of the group really made the program. It was just the right amount of students to give everyone the opportunity to get involved. The lab day was kind of intense, but I learned a lot and really enjoyed it.”
 - “I would like to do it again because it was fun but I still learned a lot.”

Short Programs



Internship Program

- 4 college students paired with research mentor
- Research in SACN and MNRRA
- Objective: provide students with experience conducting an independent research project



Internship Program

- ◉ Advertised regionally
- ◉ 4 students, 2 in each park
- ◉ 8 week program with a stipend
- ◉ 3-4 days per week working with mentor or independently
- ◉ 1 day per week in seminar



Weekly Seminars

- ◉ 4 STARS interns + 2 interns from SCWRS
- ◉ Learning about the process of science and career building
 - How to design and conduct an experiment
 - Statistical analyses
 - Reading and discussing scientific papers
 - Resumes and cover letters
 - Career panel
 - Applying to graduate school



Presentations



- 4 STARS interns all worked on backwater/floodplain wetland areas
- Important systems that we have limited information on