

# Women in Water Resources: Perspectives from Two Graduate Students

## 1. Jeopardy! Category: U.S. Women in Water Resources

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**Answer:** *In 1935, she outscored all other (male) applicants on a test for the job of junior aquatic biologist, grade P-1, U.S. Bureau of Fisheries (later called the U.S. Fish and Wildlife Service) and became the second woman hired by the bureau for other than clerical positions. By the time of her resignation in 1952, she had become the editor-in-chief of the U.S. Fish and Wildlife Service.*

**Question:** Who was Rachel Carson (1907-1964)? M.S. Johns Hopkins University, marine biology; honorary Ph.D.s from Johns Hopkins University and Oberlin College. Of her book *Silent Spring* (1962), Supreme Court Justice William O. Douglas said she wrote “the most important chronicle of this century for the human race.” Another reader was complimentary in a strange, backhanded sort of way: he raved about Carson’s work but flatly refused to believe she was female — he believed that only “males possess the supreme intellectual powers of the world and he could not bring himself to reverse his conviction.”

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**Answer:** *In 1870, she was accepted as a special student in chemistry at the Massachusetts Institute of Technology, and given tuition free because (she thought) of academic qualifications and financial need. She found afterward that she was given this benefit so that the president “could say I was not a student, should any of the trustees or students make a fuss about my presence. Had I realized upon what basis I was taken, I would not have gone.”*

**Question:** Who was Ellen Swallow Richards (1842-1911)? B.A. Vassar, M.A. Vassar, B.A. and two years graduate studies at the Massachusetts Institute of Technology. She was never awarded the doctorate (from the newly formed M.I.T.), because “the heads of the department did not wish a woman to receive the first D.S. in chemistry.” After serving as an assistant instructor for several years (probably without pay), Richards was appointed instructor in sanitary chemistry in the new M.I.T. laboratory for the study of sanitation in 1884. She held this appointment for the rest of her life, and taught techniques of water, air, and sewage analysis to students in the M.I.T. sanitary engineering program for many years. From 1887-1889, she supervised a highly influential survey of Massachusetts inland waters. She also took on consulting work for government and

industry, performing tests on commercial products, air, water, and soil for harmful substances. Richards was a proponent of the idea that all life forms are interrelated, helping to shape the ideas of the ecology movement then being established by Ernst Haeckel (1834-1919). She also was convinced that the family was the civilizing influence in society — improving the quality of life within the family improves that of society as a whole (similar to “think globally, act locally”). Richards anticipated consumer movements by several decades by calling for the education of women in order to prevent abuses perpetrated on consumers because of their ignorance, and she is perhaps best known as the founder of home economics as a science.

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**Answer:** *In 1933, she was one of three women included in the 250 scientists featured in the 5th edition of *American Men of Science* (emphasis mine).*

**Question:** Who was Ann Haven Morgan (1882-1966)? A.B. Cornell University, 1906; Ph.D. Cornell University, 1912, zoology. After serving as instructor, associate professor and head of the zoology department at Mount Holyoke College, she was promoted to full professor in 1918. She taught during the school year at Mt. Holyoke and during many summers at the Woods Hole Marine Biological Laboratory until her retirement in 1947. In 1933, Morgan wrote the immensely popular *A Field Book of Ponds and Streams: An Introduction to the Life of Fresh Water*. She told one interviewer that “her favorite preoccupation has been and ... will always be mayflies, because mayflies are fine for small boys to fish with.” Morgan spent her retirement years working hard to reform the science curricula in schools and colleges. She was a member of the newly formed National Committee on Policies in Conservation Education, sponsored by the Izaak Walton League.

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As you probably can tell from the above, I am a big fan of the television show Jeopardy!, where contestants get ahead by asking the right questions. After thinking for some time, I have come to the conclusion that a similar approach could be used for the question of women and minorities in water resources, both on a global/analytical/

understanding-oriented scale and in a day-to-day/action-change-producing way. We need to ask the right questions. Many of the questions will be rhetorical; many will be unanswerable; in some cases, we might not even want to know the answer; yet the questions must be asked before we can move ahead as a profession and a society. I don't propose to ask all of the questions here, only to initiate the process, to prime the pump.

First, a question about one of the women described above. Why didn't Ann Morgan say that "mayflies are fine for small boys and girls to fish with?" Morgan personally loved to be knee-deep in water and muck, and actively encouraged female students to study aquatic biology; so why the omission? Did she dislike fishing? Seriously, now. My guess is that, as a product of our society, she had internalized the gender stereotype that inadvertently (I'm certain) emerged in her quote. In a similar manner, if we accept that messages about who is valued most in society (i.e. white heterosexual males) are broadcast to and received by all, then we all are at least somewhat sexist and racist *regardless of our own gender or race*. Those internalized messages inform our everyday behavior regardless of our conscious values and choices about equality and diversity. Consequently, we need to examine the motivations and assumptions underlying our actions in order to create an environment where women and minorities are valued more equally and treated as colleagues.

We can also use questions to diffuse potentially tense situations or to help an individual see that his or her actions are counterproductive. For example, take a recent occurrence in my department, an instance of office humor: a male student showed a female student a sheet of paper whereon the chemical species "woman,  $\text{WO}_2$ " was cleverly described, including comments regarding instability, volatility, reactivity, etc. Now, what if this question had been posed to the male student: "Would this same sort of description be acceptable or humorous if it were about African-Americans? Imagine describing the chemical species  $\text{A}_2\dots$ " Of course, it would not be acceptable, but interestingly enough, gender-based humor is often more acceptable to some (or less obviously prejudicial) than race-based humor. I do not mean in any way to diminish the problems faced by people of color, but women are second-class citizens in every culture or subculture, and it often shows up in our humor.

I realize that the above examples only scratched the surface of the issue, but I hope that I have provoked some thought. In concluding, I would like to present a few other questions that I think deserve some thought, discussion, and action.

- Do we really want women and minorities in water resources professions? Why? What are we going to do about it?
- Why are nearly all the professors in most water re-

sources departments male, and all the support staff female? What sort of message is this to current and potential students?

- Ever notice how female researchers tend to hide their gender by using initials instead of first names in publications when they have the option?

- Has my or any of my colleagues' career been adversely affected because of gender, race, religion, creed, marital status, parental status, sexual preference, disability, or age? What can we do to create a work or academic environment where diverse people feel more comfortable?

- Lastly, why did the female attendees of a recent conference on environmental/water chemistry rejoice when they realized that, for the first time at a professional meeting, they had to wait in line for the restroom?

Regarding the last question, it of course meant that the population of women attending the meeting finally was large enough to require a wait! (Naturally, after getting over their joy, the women began criticizing the architects/engineers who always under-design public facilities, but that's another story.)

## References

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