Forestry Source

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Editor's Notebook — *By Steve Wilent*

A High School "Environmental Science" Class Revisited

Last fall, I set out to see for myself whether a high school science class was truly a science class or was, as I've heard some folks say of public school science education in general, nothing but "environmental brainwashing." I wanted to answer that question and others, such as how well high school science classes prepare future college students for studying and understanding the sciences in general, and natural resources sciences in particular, and whether foresters, forest management, and the forest products industry were portrayed in an unbiased manner. (See "A High School 'Environmental Science' Class Heads to the Woods," November, 2011.)

As you may recall, the November article described a yearlong Advanced Placement environmental science class at Sandy High School, in Sandy, Oregon. The instructor, Jeremy Magee, agreed to let me observe and write about the class. The class's focus was a study of the effects of a beaver population on vegetation, water quality, and aquatic invertebrates at the Wildwood Recreation Site, a 550-acre forested park about 15 miles east of Sandy, managed by the Bureau of Land Management (BLM). Key cooperators included the BLM, the Mt. Hood National Forest, and Wolftree Inc., a Portland-based nonprofit organization.

In April, Magee's class spent two days at Wildwood collecting data—the height, diameter, age, and species of trees; an inventory of macroinvertebrates in streams and the beaver pond; and measurements of water quality, such as turbidity and dissolved oxygen—in and around a large wetland. Magee and several mentors frequently asked questions of the students, such as "Why was dissolved oxygen different in this fast-flowing stream than it is in the still waters of the wetland?" and "How might the weather over the last week have affected turbidity?" (That week, including during the field trip, was wet and overcast, with a few snow showers.) And "How does the amount of canopy cover affect aquatic invertebrates?" In most cases, the instructors and mentors led discussions that helped the students arrive at and understand the answers.

The students' presentations were made at Students Speak: A Watershed Summit, an annual event held at the historic Timberline Lodge, high on Mt. Hood. In addition to Sandy High, science classes and teachers from three other northwest Oregon schools attended, as did numerous mentors and cooperators. The three classes' topics were:

▶The relationship of tree species and canopy cover on the presence of the northern flying squirrel in a forested watershed.

▶The effect of water quality on suitability as salmonid habitat in an urban stream.

▶The relationship between urban canopy cover to neighborhood crime rates, racial demographics, and home values.

US Forest Service biologist Wesley Wong helps Sandy High School students sample wetland vegetation as part of an assessment of beaver habitat.

In addition to experiencing the scientific process, perhaps for the first time, these students used tools and technology that foresters are very familiar with—increment borers, GPS receivers, GIS maps and data, and so on, and interacted with scientists from the Forest Service, the US Fish & Wildlife Service, Portland State University, and other organizations. Tim DeLano, a community forestry educator with the Oregon State University Extension Service, was one of several mentors.

Moreover, and perhaps as important, many of these students at the Watershed Summit said that the students now see their world in new and different ways. For example, one of the students who took part in the urban canopy cover project said that they hadn't really looked at Portland's trees before, and perhaps more important, they now had begun to look at the entire city and its people in new ways. This group, from a mostly black urban school, worked with a researcher from the Forest Service's Pacific Northwest Research Station, who helped them obtain and analyze GIS data, among other information.

Another student said, "I never even knew what lichen was before this, and now I'm seeing lichen everywhere I go."

Sandy High's Magee said, "I wanted them to have a connection with the local environment—the environment that most of them live in—and I think most of them got that. And I wanted them to experience the process of collecting data and doing scientific research. One of the students put it really well. He said that 'science is hard,' that it takes a long time to collect quality data. He wasn't discouraged by that. In fact, he says he's going into either science or engineering."

My initial observation of Magee's class was that it would provide an excellent, hands-on introduction to the scientific process, and that it would prepare students very well for studying and understanding the sciences at the college level and later in life. In the months since I wrote that November article, I've seen nothing to change that view. None of the programs at Sandy or the other schools provided anything that might be considered "environmental brainwashing." The fact that the forest at Wildwood is second-growth, for example, was presented as neither positive nor negative, but as fact. None of these schools is considered "elite"—they are average schools in lower- to middle-class urban and suburban areas. In my view (a limited one, perhaps), our children are getting far better educations than we might be led to believe from what we hear in the popular media.

A final note: I feel more strongly than ever that SAF members, through mentoring, leading field exercises, or otherwise being involved with students at every level, from kindergarten through high school—even working with schools to start new programs where none now exist—provide an invaluable service to the Society and society.

My Forestry Hero: Montgomery Meigs Atwater

By Robert Allison Jr.

One of my forestry heroes is Montgomery Meigs Atwater. He has been gone now for 36 years (he died in 1976) and is likely unknown to most of the modern generation. But as one of the US Forest Service's first snow rangers; as the author of 16 books; largely about the Forest Service (now all out of print); as a self-appointed historian and interpreter of the Forest Service; and as one of a small handful of people to first begin serious avalanche research in the Western Hemisphere, he deserves to have modern foresters know about his life story. Atwater championed the Forest Service in all his books and novels and makes you proud to be a forester and a part of the agency.

I first became aware of Monty Atwater in the late 1950s, when I read many of his books, which I checked out from my junior high school library. This was when my family was living in Logan, Utah, where my father, Bob Allison, worked on the Cache National Forest. Monty Atwater also spent time with the Forest Service in Utah.

Monty Atwater was born on October 21, 1904, in Baker City, Oregon, where his father, Maxwell W. Atwater, worked as a mining engineer. Monty graduated from Harvard College in 1926 with a bachelor's degree in English composition.

Atwater didn't immediately join the Forest Service. He spent his first 16 years out of college working at a variety of jobs, including football coach, rancher, trapper, outfitter-guide, and wildlife management volunteer in northern Montana. He wrote his first three adventure novels prior to World War II in the early 1940s (*Government Hunter* in 1940, for example). He enlisted in the US Army during World War II and was an instructor and adviser in mountain and winter warfare.

At the close of World War II, Atwater was hired by the Wasatch National Forest as an avalanche guard, or "snow ranger," at Alta Ski area. He wasn't the Forest Service's first snow ranger, but he was one of the first. Atwater ended up working for the Forest Service at Alta for 11 seasons. He rapidly became one of very few avalanche experts in the United States. In 1948, he set up a primitive avalanche research sta-

("Hero" continues on page 3)