

CONNECTING TO

Williston Science Teachers Kindle a Spark

“Does every bird have a beak?” This might seem like an odd question, but on a March afternoon in Scott Hall, the “birds” are ninth grade biology students and the “beaks” are forks, knives, spoons, chopsticks, and binder clips. Students are preparing to do a lab that measures feeding rates of different beak types, from which theories of survival and reproduction can be extrapolated.

In the winter, biology labs take place inside, but in the fall, students were outside taking water samples from the Williston Pond before returning indoors to examine their findings. Teacher Ken Choo says the Williston Pond is a great place to begin the biology course. “It’s a living system right in our own backyard.” In the beginning of the year, the course emphasizes ecology and introduces the scientific method. Mr. Choo says that learning about cycles of matter and energy gets students thinking “about how everything is connected.” Then the course shifts to evolution and genetics (the birds and their beaks), and in the spring a study of photosynthesis again lends itself to outdoor sampling when time permits.

“They’re so curious at this age,” Mr. Choo says of his

students. “I don’t mind if the class discussion wanders a bit, because I want to encourage them in future research.” This year he has added a few op-ed assignments that get students thinking about political and social aspects of scientific topics. “It’s important for them to both form opinions and to respect others’ opinions,” he says. “Ultimately, we want to create responsible, thoughtful people for the future of the country and the world.”

While ninth graders can be spotted taking samples from the pond, juniors and seniors taking Outdoor Ecology frequent the banks of the Manhan River. Teacher Paul Luikart takes the class there weekly; along the way they look for signs of animal activity. The content of these nature walks is ever-changing and depends on seasonal events.

One winter morning, the class finds tracks and a two-toned tuft of hair, concluding the hair belonged to a raccoon. At the river they observe two sets of tracks, one possibly from beaver and one possibly from weasel. Walking back through the open floodplain, a discussion of how rivers shape the landscape is interrupted by a flying visitor. Mr. Luikart identifies it as an immature bald eagle due to its feathers and wing

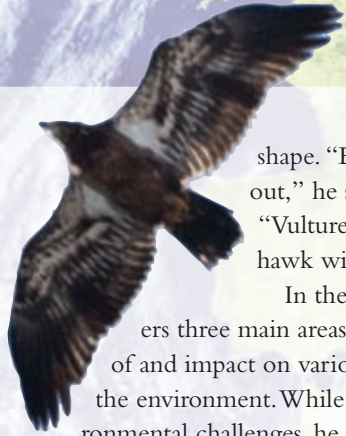
On a weekly nature hike, the Outdoor Ecology class is rewarded with a sighting of an immature bald eagle.



Students in Jane Lucia’s Life Science class thrive with hands-on study. “It all starts with the Middle School garden” says Jeff Ketcham, science teacher and associate head of school.

THE ENVIRONMENT

by Kathryn Good-Schiff



shape. “Eagles hold their wings straight out,” he says, demonstrating with both arms. “Vultures’ wings point up in a V shape, and hawk wings point slightly down.”

In the classroom, Outdoor Ecology covers three main areas: how ecosystems work, human use of and impact on various ecosystems, and stewardship of the environment. While Mr. Luikart addresses many environmental challenges, he also points out positive stories, such as the health of the Manhan River and the return from near extinction of wild turkeys and bald eagles.

Williston students who are passionate about science and interested in life sciences in particular will have a new option available to them in the coming year: AP Environmental Science (APES). According to Associate Head of School and science teacher Jeff Ketcham, APES will round out Williston’s science curriculum so that students can develop knowledge about not only natural systems and resources but also land and water use, energy consumption, pollution, and global change.

While the course will follow the APES syllabus and all students will take the AP Exam, Mr. Ketcham says the school

is offering it primarily as an opportunity for advanced study by passionate students. He also notes that APES is intrinsically interdisciplinary and will lend itself well to the kind of exciting collaborations that are already taking place through the **Williston+** program.

Environmental awareness has been increasing on campus for years, says Mr. Ketcham. The recycling program has grown tremendously over a ten-year period. The 194 Main Street dormitory features an environmentally friendly geothermal heating and cooling system. And, since 2007, teacher Jane Lucia has led Middle School students in planting, maintaining, and harvesting a vegetable garden. The garden helps young people connect their experiences to curricular concepts such as plant and animal life cycles, nutrient cycles, and concepts of ecology and sustainability.

For a student whose interest in life sciences has been sparked by something along the way—whether in the garden, at the pond, or by the river—APES is yet another opportunity for them to go further in pursuit of their passion. It is also yet another means of inspiring Williston students to be thoughtful, interested, global citizens throughout their lives.

Biology students use their “beaks” to gather food in a lab focused on evolution.



Outdoor Ecology teacher Paul Luikart demonstrates raptor wing position: “Eagles hold their wings straight out, vultures’ wings point up in a V shape, and hawk wings point slightly down.”