THE GREAT OUTDOORS

Open-Air Classroom

Fourth graders break free from the classroom for a day of immersive learning, thanks to Wild About Cumberland, now in its second decade.

There's no better way to prepare the next generation as it heads out into a world of environmental challenges than to immerse them in nature now. Here, students have an outdoor adventure as they walk a diked berm along a massive wetland complex on a previous Wild About Cumberland event. CU file photo

By Jane Morton Galetto, CU Maurice River

This week Maurice River is taking fourth grade children into the wilds of the Delaware Bayshore to learn through nature. A primary goal of CU Maurice River is to have children appreciate the outdoors. So many children today suffer from outdoor deprivation and lack of exposure to wildlife. Over three days we will host some 600 students in an event called "Wild About Cumberland," a program CU has been hosting for 18 years (with three missed years due to the pandemic).

We select an area that allows instructors many habitat types and interpretative opportunities. We begin our hike viewing a plowed farm field, then traverse a former farm reverting to forest, and finally we walk a raised road in a hardwood swamp and stroll a dike overlooking thousands of acres of tidal marsh. This provides instructors opportunities to explain what ecotones are, and how these transition areas are critical for animals. We share how the forest complex that skirts our Bayshore marshes hosts a wide range of species, both common and rare.

We will see signs of animals that use these habitats, although with 25-plus school children in each group we are unlikely to see the plethora of animals that actually use the area. This doesn't mean we won't have lots to interpret.

We normally spot eagles, turkey vultures, ducks, bluebirds, and a few song birds. We often see scat from otters, deer, coyotes, geese, wild turkeys, and other animals that frequent the site. We find nests, hollows in dead trees, animal runs, bones, carcasses and lots of other cool stuff.

As one of many volunteers, and often as a trainer for the event, I brush up on habitat types, tracks, and overall identification skills before leading the school children in the field.

Geography and New Jersey location skills are embarked upon in fourth grade, so most students have no idea how to read a map, nor do they even know where they are physically located. So we begin our day with some orienting – ie., we are on Planet Earth, in North America, bordered by the Atlantic and Pacific Oceans, until we have honed in on Cumberland County and finally Commercial Township on the Delaware Bay.

In general science, one of the other key concepts that we share with children is the flow of energy. We discuss biotic factors and who/what are the *producers, consumers, and decomposers*.

Let me show you how this works. By sharing it with you I can brush up for the field, so thank you!

A student points out a bald eagle to fellow students on a Wild About Cumberland hike. Cu file photo

I announce, "Okay, class, listen up! All ecosystems need a constant flow of energy to keep their inhabitants alive and thriving. And all living things fall into one of three

categories based on how they get their energy - *producers, consumers, and decomposers*."

So far everyone is clueless; after all, they are fourth graders.

Pointing to grasses, shrubs, and trees I inquire, "What are these called?

Correct – plants."

"These are also known as *producers* and it is how we get our energy. Where do you think producers get their energy?"

I point to the sun and suddenly everyone is an expert.

"Right, producers get their energy directly from the sun. They produce their own food through photosynthesis. They use light energy from the sun, carbon dioxide, and water to grow."

These elements transform the sun's energy into chemical energy. Plants play a key role in keeping an ecosystem thriving.

Then we will move to the *consumers,* which can't get their energy directly from the sun and rely on *producers* and *other consumers* to acquire it. Consumers are defined as "organisms that get their energy from consuming other organisms."

We are *consumers,* as are most members of the animal world, because we can't make our own food. We may have to talk about a BLT sandwich – the lettuce and tomato are *producers* but the bacon comes from a pig, another *consumer*.

An enthusiastic CU Maurice River teacher points out a praying mantis ootheca (egg case) to students, explaining the difference between native egg sacs and exotic invasive mantid nests. Cu file photo

Remember this is all about the flow of energy and healthy ecosystems. The *producer* gets its energy from photosynthesis, and then when an animal consumes the plant the energy is transferred to that creature. When a consumer eats a consumer, once again energy is transferred.

Energy in its most basic state must first come from the *producer*. So for example if you eat chicken it's likely that it first ate grain. Either way your reliance on a *producer* is still inherent in the equation.

Consumption produces waste, whether feces, dead plants, dead animals, or even your food's packaging.

Last come the *decomposers,* our final category in the energy process. *Decomposers* are critical to an ecosystem's survival. They get their energy by breaking down waste products and the remains of dead organisms and returning nutrients back to the environment. Decomposers include bacteria, fungi, and some animals. Examples include earthworms, millipedes, and dung beetles.

Decomposers are the clean-up crew, allowing other organisms to access the nutrients they have returned to the soil. There they are further consumed by bacteria and fungi. Fungi are the only organism that can break down wood from dead trees; this is why we often see mushrooms growing on dead or dying trees. Without decomposers we would be buried by fallen trees and feces. So don't poo-poo them (couldn't resist!).

It all starts with plants, the sun, water, and nutrients, without which we would not exist.

Thanks; I feel so much better prepared! Possibly you learned something too.

We normally bring some skeletal remains to the location (usually a deer's bones). These enable us to introduce the concept of the systems of the body. Just by looking at the bones students can normally define many of them all. Surely someone will know that the spinal cord runs through the vertebra or that a brain (the nervous system) is in the skull, that the ribs protect the lungs (the respiratory system), and that the bones hold us erect. Before we are finished they will have recognized a number of the body's systems even though most students have never been introduced to these formally as yet.

This is experiential learning, and some need this learning style. But all students learn better in a setting that is "real" because it gives greater relevance to a topic when one is immersed in it. This is why fieldtrips are so very important. Many children will remember what they were introduced to along our Bayshore's marsh plain. I'll bet most adults reading this article can remember the facts learned on fieldtrips much better than those learned during a day in the classroom!

Experiential Learning

CU Maurice River has been instrumental in facilitating Wild About Cumberland since 2006. It was begun as *Raptor Discovery Days;* at that time, we coordinated the out-of-door activities associated with the county Eagle Fest. In 2011 and 2012 CU Maurice River took over the entire agenda and it was renamed *Eagle Fest Education Days,* and since 2013, when the two events were separated, we have used the name *Wild About Cumberland.*

CU brings together a host of partners to make the event possible, including Woodford Cedar Run Wildlife Refuge, Bayshore Center at Bivalve, The Nature Conservancy, and PSEG. Approximately 25-30 volunteers help each year. Teachers, students, and chaperones are treated to sessions that emphasize "sense of place," since environmental education focuses on our local habitats and the species attendees might encounter. Between 600-700 youngsters are given indoor lessons for half a day and outdoor field studies the other half of the day.