

## Seeking Environmental Maturity at Starker Forests

*Helping students climb the ladder to responsible citizenship*

by Richard Powell

**S**tarker Forests is a family-owned tree farming business of about 80,000 acres, mostly within an hour's drive in the Coast Range west of Corvallis, OR. For many years, we've taken people on trips to the woods. These might be field trips for school children, university students, visiting foresters/scientists from around the world, or the general public. We've hosted a number of workshops for teachers.

As our society becomes increasingly urbanized, we see people becoming increasingly unaware of the origins of the things they use in their daily lives. We've had high schools students identify their electric hair dryers and modeling clay as not coming from natural resources. A senior remarked that he didn't know Oregon had rock quarries (apparently the concrete floor we were standing on just magically appeared)! A group of high school students weren't even sure what natural resources were but thought a dairy cow might be related to natural resources – although, they weren't sure. As an example of something not related to natural resources, middle school students often point to their classroom's television.

To become a wise user of natural resources, it is imperative that people understand where things come from. Our intent is to help them reconnect with the natural world and, more specifically, get a better understanding of the forest and the origins of all the wood products they use.

At the same time, we find people have little sense of the history of a landscape.



Photo from Oregon Forest Resources Institute (OFRI)

Students are taught the science of the environment but they do not connect that science with the landscape's history. We want people to understand that biology and history have worked in tandem to shape what they see; the landscape is a function of both biology and history.

Of the school groups we take on field trips, most come from elementary schools; a few come from middle schools; only rarely, do they come from high school. Being so close to Oregon State University, we do get some university students and we get a lot of people from the general public. We get a number of foreign visitors – foresters, scientists, landowners, etc.

Even though we take many school classes to the woods, we get very little feedback from the teachers. [The best feedback is that most teachers come back year after year.] The absolute best feedback we get is when we see a child a year or two later. It takes very little time for us to realize we'd seen them before and that they remember quite a bit from their earlier field trip.

With adult groups, we commonly

hear someone remark how a forester has to know about and care for so much more than just the trees. Sometimes, we'll hear someone say they have to re-think what they know about forests and forestry. Now and then, they'll remark how they still don't like some of the things we do in forestry but they begin to understand there is a reason for what we do and it is based on science – it is not just about the money.

Though we take around 2000 people a year to the woods, we are foresters; we are not trained in pedagogy. For years, we've had a nagging question: is what we're doing working? Do people "get" what we are trying to teach? Does any of this stick with them for the long term? Or, are we wasting our time and money?

This past summer, I attended the World Forestry Center's International Educator's Institute (IEI). As an environmental educator without any formal pedagogical or interpretive training, I found this week-long workshop enlightening and very worthwhile.

The part of IEI that I found most useful was called the "Pedagogic Steps in Environmental Maturity". It validated what we're doing.

In essence, the "Steps" is a ladder and, to get to the top rung (i.e., "Environmental Maturity"), one has to climb up from the rung below. For example, it would be futile to talk to someone in Swahili if they had not first learned and become fluent in that

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language. Without that prior knowledge, we'd quickly see a bunch of glazed-over stares and we'd find we're pretty much wasting everyone's time.

### Step #1 --- Learn to enjoy the outdoors.

Just get people outdoors. Adults enjoy a nice drive or hike in the woods. Take the kids hiking or camping or go canoeing on the neighborhood pond or river. Let them have fun. We've always felt people had a good time, but, did they learn anything from their field trip and did any of that learning stay with them?

### Step #2 --- Experience and observe nature.

Smell the flowers, feel the sun's warmth, or get soaked on a cold, rainy day. Explore around a beaver pond and see where the beavers had burrowed into the bank to build their dens; look for a tree's stump or a branch the beavers had chewed. Have people simply stop, close their eyes, and listen; it is incredible what they'll hear for the very first time. In a few minutes time, people will never become an expert at identifying a tree but we can get them to see that the leaders, buds, needles, color, feel, bark, flowers, smell, taste, pollen, etc. vary greatly between tree species (no, they do not all have pine cones nor do they all have pine needles).

### Step #3 --- Understand the ecological web.

Now that we have them outdoors, they are having fun, and beginning to experience and see things, they can begin to understand what they see. Pick up and look at and feel a handful of dirt. As they see and feel the litter layer, moss, worm holes, roots, bugs, fungi, moisture, texture, etc. they begin to understand it is not dirt at all – it is soil! (Dirt is what we wash off our hands before lunch; soil is the good stuff.) Likewise, they can sample the water's pH, dissolved oxygen, and temperature and see how those might affect the macro-invertebrates in the water. They can see a tree's cross-section and associate the narrow growth rings with a dense forest canopy or maybe see that the wider rings are due to a more open canopy.

Once they've seen the differing buds, leaders, bark, leaves, etc., they can begin to see how some tree species are similar while others are different. They can begin to group similar trees into a genus, name those groups and the individual species, and begin to understand a tree.

### Step #4 --- Understand the interplay of man and nature.

Yes, we play in nature and we like to see and experience nature. But, more than that, nature is the source of life's very existence! Nature provides the air, nutrients, energy, and moisture required by all life forms on the planet. Take away any one of these and life ceases to exist; alter any one and life is changed. This is the food chain. Or, put another way, life is totally dependent on the extraction and use of natural resources for its very existence.

In addition to the food chain, nature is the source of everything people use. Iron, sulfur, wood, cotton, plastic, gasoline, concrete, clothing, electricity, coal, food - in some way, all of our wants and needs are extracted from the environment.

Looking back at those tree rings, maybe they can see how those narrow rings became wider. This was likely due to opening up the canopy by either a natural means (a tree died or blew over in a storm) or the forest had been thinned.

### Step #5 --- Make decisions on environmental issues.

This step is one we really wrestle with. We know there are a lot of controversial issues over the use of natural resources so we strive to just stick with the science and the history of the land – on these, there

community service project.

As a practical matter, we see most people for just a brief time and it is hard for us to do steps 5 and 6 with them. With students, we hope to plant some seeds that, during the course of the school year, the teacher can help germinate and grow. With that, the students may make some decisions and then take responsibility.

That said, we've sponsored Tree Planting Day annually for more than twenty years. We take a harvested unit, make sure it is safe, there is a reasonable traffic flow, etc. and then invite youth and their parents to come out and plant a few trees. We've had as many as 400 youngsters and 200 parents on a Saturday morning though 140 youngsters and 90 parents is more the norm. They have fun (step #1); we do this rain or shine and, usually, in the mud (step #2); they plant little seedlings that, hopefully, will grow into large trees (step #3); it's on a unit that was harvested for all the products made from wood (step #4). Further, they've chosen to spend a Saturday morning in the cold, rain, and mud (step #5) and help ensure that that harvested unit is reforested (step #6).

A few months ago, we took a pre-school class to the woods; these were three and four-year olds. Other than having a good time (step #1), what could these little guys possibly get from a mile-long hike in the woods; could they even get above that first step?

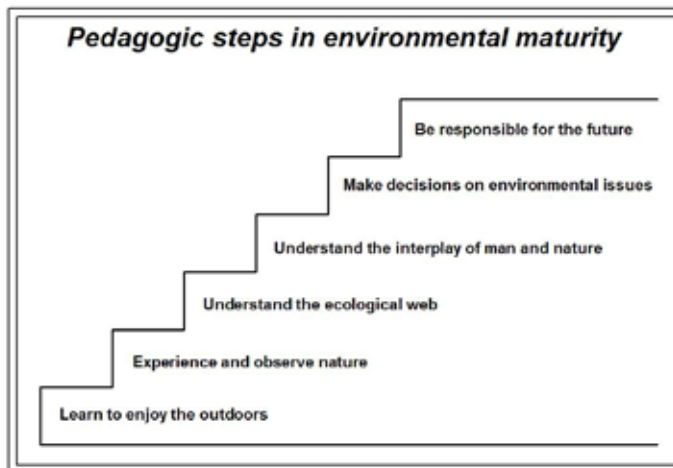
A few days after their field trip, I had a wonderful surprise delivered to my desk. There was a nice poster with a picture of me kneeling down and surrounded by the kids; I was showing them a stick some beavers had chewed on. Concentric, brown circles drawn around this picture gave this poster the appearance of a tree's cross-section.

The good part was on the backside of the poster. The teachers evidently sat down with the kids to debrief and find out/reinforce what the kids had learned.

"We made duck, cougar, bear, beaver, and a raccoon print". [Some years ago, we made some "sand boxes" across the road so kids could make animal tracks with some rubber prints.] --- Step #1

"The bear foot print was the biggest; we heard birds; we learned a fir cone; we saw lots of trees". --- Step #2

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should be little controversy. [Unless asked, we endeavor to keep our biases or personal philosophies/opinions to ourselves.] As Project Learning Tree says, we'd rather "teach how to think, not what to think". We'd prefer to let people take what they saw and learned and make their own decisions.

### Step #6 --- Be responsible for the future.

We'd hope, after going out and experiencing the woods, our visitors are better able to make more informed and better choices. With choices comes responsibility and this would be the perfect time for a

## Seeking Environmental Maturity at Starker Forests *(continued)*

"We count the rings of the tree to find out the age of the tree; trees need water; if trees don't have water, they will not grow; trees need sun, water, air, just like us". --- Step #3

"We saw the letter 'S' on trees. 'S' trees were dead". --- [This particular plantation was on ground that had been burned around 1850 and, post-settlement, it was a pasture. We'd planted this pasture and, since it had not previously been a forest and there were no large trees, snags, downed logs, stumps, etc. for wildlife habitat, we created some snags when we thinned this forest. To help people see these snags, we'd painted an 'S' on several snags.] --- Step #4

We were truly amazed how much these three and four-year olds took home from their mile-long hike. We were especially pleased their teachers had followed up with their students. Their comments in step #3 were especially gratifying.

About a month and a half later, a parent/teacher sent me a note. Her son was one of those pre-school students and he was still talking about this field trip!

It would have been nice if they had gotten to steps 5 and 6 but that would be quite a lot to ask of a three or four-year old.

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