

4-H Virtual Forest

by Dan Goerlich, *Virginia Cooperative Extension*

The importance of forests to Virginia's citizens is well-documented. In addition to their economic significance, Virginia's forests protect water quality, provide recreation opportunities, and provide habitat for a diversity of wildlife species.

Unfortunately, forest management is not well-understood by much of the general public. For example, foresters and forest landowners have continually expressed concern that "what is taught in the schools" about forestry and natural resources is often based on emotion and misinformation rather than science. With 75% of the U.S. population located in urban areas, and the majority of today's youth being raised without a connection to the land, the availability of science-based natural resources educational material is critical.

One way to introduce youth to forestry is to build a virtual environment that exposes students to forest management activities. In fact, research - now several years old - showed that 65% of children aged 3 to 17 live in homes with computers. Between home and school, 91% of 6 to 17 year old youth have access to the Internet. While not a substitute for hands-on field experience, the World Wide Web is a useful medium to present a variety of materials to youth. With this in mind, a team of foresters, youth development specialists and technology experts from Virginia Cooperative Extension and Virginia Tech developed 4-H Virtual Forest.



The 4-H Virtual Forest is an interactive, web-based learning experience that introduces forest management concepts to youth aged 9 through 13. Seven learning modules cover the following subjects: land-use management, renewable resources, photosynthesis, tree identification, old-field succession, tree measurements, and timber harvesting. The 4-H Virtual Forest website also includes user's guides, student activity sheets, teacher answer sheets, additional resources, and the Virginia "Standards of Learning" addressed by each module. In addition, student and adult evaluations can be completed and submitted on-line.

Completed in late-summer 2004 after a lengthy development period, 4-H Virtual Forest has since been marketed on a wide scale. In September 2004, each Virginia Cooperative Extension 4-H agent received a letter, CD, and enough Virtual Forest promotional bookmarks for every third through seventh grade teacher in their counties. Sets of 25 CD's have been sent to each Extension district office, where they will be loaned to agents interested in working with teachers in a computer lab setting, thereby circumventing the initial download time associated with modules on the website. An e-mail announcement was sent to 2,000 members of the group Building a Presence for Science. The Virginia Association of Science Teachers agreed to run information on 4-H Virtual Forest in their newsletter, which is distributed to 1,700 K-12 Science teachers. Announcements were run in the *Halifax Clover Chatter* (distribution 730), *Forestry Forum* (distribution 640), and *Virginia Forestry Association News and Notes* (distribution 1,300). Promotional information was also disseminated to 1,100 southern regional Extension professionals via the Southern Forestry Extension e-mail newsletter, and nationwide to the Association of Natural Resource Extension Professionals (ANREP) membership. Following a formal pilot testing period, newspaper articles were released statewide.

Thus far, school teachers are pleased that 4-H Virtual Forest stimulates student interest in natural resources while addressing natural resources related Standards of Learning. Natural resource professionals appreciate that the project deals with common misconceptions, like the one that harvesting trees will make the earth run out of oxygen. Youth responding to the on-line evaluation have given 4-H Virtual Forest positive marks as well. For

example, 94% percent of youth admitted to learning either "a lot" (56%) or "some" (38%) by visiting the web site. One hundred percent of youth described the site as some variation of cool, such as "extremely cool" (12.5%), "pretty cool" (62.5%), or "sort of cool" (25%). And, 94% indicated that 4-H Virtual Forest increased their interest in forestry either "a lot" (44%) or "some" (50%).



Although designed with Virginia's youth in mind, 4-H Virtual Forest is receiving national and international exposure. A recent search of the web revealed that the following universities and Extension services currently link to - or disseminated information about - 4-H Virtual Forest: North Carolina State, Washington State, Cornell, the University of Minnesota, the University of Georgia, Purdue, Texas A&M, Iowa State, the University of Florida, Oregon State, the University of California, and the University of Tennessee. More importantly, the following public school systems currently link to 4-H Virtual Forest as an SOL reference: Virginia Beach City Public School System, Norge Elementary School (James City County), Francis Mallory Elementary School (Hampton), Harrisonburg City Public Schools, and Cleveland Elementary School (Russell County). Other notable links include North Carolina Project Learning Tree, the West Virginia Division of Forestry, and Virginia Naturally. Web usage statistics show that during the period from July 1, 2004 through July 1, 2005, 4-H Virtual Forest received 498,106 successful requests from 7,980 distinct hosts. These hosts included users from 39 foreign countries. Samples of unsolicited feedback received thus far include the following:

"I LOVE the 4-H virtual forest. I opened the old field succession and it was great. It even had some information about John Smith that could tie in with Virginia Studies SOLs....I plan to use it this afternoon with my entire class using the LCD projector....IT IS GREAT..."

- Christie Barker Lewis, 4th Grade Teacher, Sinai Elementary School

"...this is terrific stuff! I teach in the 4th grades and do a module on forests as part of VA Natural Resources in the fall and in the spring we do a unit on horticulture which includes photosynthesis. I'll be incorporating the virtual forest site in both units!"

- Lynn Elizabeth Grosz, Extension Agent, 4-H Youth Development, Virginia Cooperative Extension

"...I do school programs about trees for kids. I am going to tell the kids I teach, about 2,000 a year, about this website. It will be a great way for them to learn more after my program ends. Thanks for putting this together."

- James Nichnadowicz, 4-H Agent, Rutgers Cooperative Extension

"I LOVED your new interactive 4-H program on the forests! The sounds and animated characters are sure to motivate kids; interactive format will keep them involved, inspired, and thinking; your suggestions for taking care of the environment are well done; information is presented in a clear and educational format; and I really enjoyed the obvious 'kid input!' Congratulations on a job well done!"

- Linda Manka, Education Ranger, Shenandoah National Park

To explore 4-H Virtual Forest, visit <http://www.ext.vt.edu/resources/4h/virtualforest>

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