

Rebuilding a Greener Community through Creative Partnerships

Brian A. Kittler

Introduction

At first glance Vernonia, Oregon appears modest enough, a small historic timber town located along the banks of the Nehalem River in Oregon's Coast Range, but something truly remarkable is happening in this place. As described by the County Commissioner, the 2,380 residents of Vernonia live in a community "surrounded by 28 miles of forest in all directions." The people here live within a sea of some of the most productive forest land in North America, a centrifugal force that has long focused the culture and economy of this community. Despite this wealth of natural capital, the community faces a most uncertain future.

Like many other rural, forest-dependent communities, near double digit unemployment and poverty plagued Vernonia long before the "Great Recession" of 2008. Vernonia had the even greater misfortune of two 500-year floods in an eleven year period, one in 1996 and another in 2007. The second flood, coming after three days of torrential downpours across the mountains of northwest Oregon, destroyed much of the city's public infrastructure including all of the schools, the health clinic, food bank, and senior center. Floodwaters damaged half of Vernonia's 2,200 homes, completely destroying more than 100; the Federal Emergency Management Agency (FEMA) ordered a number of structures to be condemned and relocated outside of the floodplain. Lives were destroyed and dreams put on hold.

As it was before the floods, timber production remains a large part of the



Former Oregon Governor Ted Kulongoski breaking ground at Vernonia's new school complex.

area's culture and economy, with around a quarter of Vernonia residents working in natural resource-based industries in 2009. However, the social and economic complexion of this community is changing. In the past few years approximately 200 jobs have been lost in the forestry, logging, and forest products industries around Vernonia. Since the 2007 flood, Vernonia's population has decreased by 10% as people look to forget the past and go to places with greater chances of employment. Many of those residents who have stayed spend most of their time away from town, commuting to and from Portland-area jobs.

Coming Together to Respond to Crisis

It is difficult to dismiss clichés like, "a community is made of people and not buildings," when seeing how Vernonia has responded since the floods. Oregon Senator Ron Wyden summed it up in a letter to FEMA, saying "This would have crushed most towns, but the people of

Vernonia have worked hard and come together to rebuild. They did not wait for federal or state assistance. They took charge of their destiny." In doing so, the community passed a \$13 million bond measure to kickstart a \$38 million fundraising campaign to rebuild the school system—no small feat given a thin tax base.

The school system is the cornerstone of a community-wide effort to reform itself into a model of rural sustainability. The community envisions a future in which they will be known as much for their longstanding relationship with natural resources as for their innovations in the built environment. Planned as the future core of this community, the new LEED-certified school will be the nation's first to locate kindergarten through 12th grade under one roof. The school district is also developing new natural resources curricula for the next generation of sustainability leaders.

Adjacent to the main school building, the Vernonia Natural Resources Center will combine science labs and public conference space, with advanced research facilities for Oregon's colleges and universities. The Natural Resources Center will be a place where sustainability research is applied and new models of rural sustainability tested, while providing job training programs for the community. The community has reached out to the Pinchot Institute as one of many partners in developing the programs of the Natural Resources Center.

Down the hill from the new school, the "Rose Avenue Project" is being designed as a community services hub in the reconfigured downtown area that will house the new health care clinic, senior citizens center, and food bank. This complex is sited on a two-acre brownfield redevelopment site adjacent to Rose Avenue and will be the first structure you see as you enter into town on the road from Portland. The Pinchot Institute is working with a number of partners to evaluate various options for heating the Rose Avenue Project with a wood biomass energy system, the Vernonia Thermal Energy Center (VTEC).

In June 2011, the Institute and a number of other partners helped Vernonia secure a \$25,000 Woody Biomass Utilization Grant from the USDA Forest Service that will help the city to complete engineering and design work for biomass boilers in the VTEC and the Vernonia Natural Resources Center. The Pinchot Institute completed a thorough wood biomass supply study to support this effort. The VTEC and the new school's biomass boiler will round out one of the nation's first bulk wood pellet distribution networks that already includes deliveries to the biomass heating system at the Tillamook Forest Center in the nearby Tillamook State Forest. The Institute is in the process of developing a biomass monitoring program that is intended to help the

community track the outcomes of these energy investments over time.

The total size of the health care clinic, food bank, and senior center is estimated to be around 25,000 square feet, although a larger thermal energy distribution grid could be expanded over time to provide heating to over 200,000 square feet of commercial and retail businesses in the central downtown business district. The Institute is in the early stages of conceiving of a wood energy education program as a way to teach the public about biomass energy and to advance energy science programs at the Vernonia Natural Resources Center.

Sustainability and Vernonia's Forests

Despite a statewide population increase of more than 83% since 1970, Oregon State Forester Doug Decker estimates that Oregon has lost only 4–6% of its private forest land over that time. With Oregon's population expected to grow by as much as 41% from current levels over the next 30 years, the state's aggressive land conservation policies may not be enough to protect broad tracts of forest from development pressures. While the outright loss of forest land due to conversion has historically been less of a concern in Oregon than other states, the financial challenges private landowners face often drive

management decisions that do not result in optimal silvicultural or ecosystem service oriented outcomes.

As is common across the US, many of Oregon's family forest landowners could be considered land rich and cash poor; with their timber and land being their only asset when there is a sudden need for cash. In a number of landowner interviews across northwest Oregon, Institute studies have shown that health care costs are the number one reason landowners become forced to liquidate their timber assets or even sell their land.

If crisis does indeed breed innovation, then the Forest Health-Human Health (FH-HH) Initiative was born in Vernonia. The FH-HH Initiative is as the nation's first program to exchange forest carbon for direct payments for health care to both participating forest landowners and the communities they live in. In preparation for launching this pilot program, Pinchot Institute Senior Fellow Catherine Mater has interviewed almost a quarter of all non-industrial private forest landowners in the 20 mile radius around the new health care clinic in Vernonia, collectively representing around 10,000 acres. Their offspring were also interviewed for this effort.

Nearly 80% of these landowners own parcels larger than 50 acres and a majority of these forests are at an opportune point in their growth cycle from a carbon storage perspective, with more than 5,000 acres of these coastal Douglas fir dominant forests being comprised of trees 30 year old or younger. Of those landowners interviewed, 48% are between 51 and 64 years of age, with another 23% between 65 and 74. The vast majority of these landowners and their children (80% of both) have no long-term care insurance and no plan in place to address this health care need. Nationwide, one in three Americans that are 65 years or older

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will require long-term care. Of those landowners interviewed, 30% said it was likely or very likely they will have to accelerate a timber harvest to pay for health care costs and 18% said it was likely or very likely they will have to actually sell the family forest to pay for health care expenses. In fact, the land-

owners ranked having to pay for unexpected health care costs a higher driver for family forest loss over payment for retirement and taxes. Equally important, their offspring said the same thing (26% likely or very likely to accelerate a timber harvest to pay for health care costs; 22% likely or very likely to actually sell the family forest to pay for health care expenses).

A majority of those interviewed said that they are interested or very interested in participating in a carbon for health care program. In general, landowners have liked the idea of extending their tree rotations or actively managing their lands to grow and store more carbon. A majority also said that they would participate even if a portion of their carbon payment was redirected from their private accounts to support a community health care clinic.

Landowners participating in the FH-HH Initiative pilot in Vernonia will agree to increase the carbon stocks by sustainably managing their forests in a way that will promote robust growth, shift the timing of harvests, or extend the length of rotations. Participating landowners donate a tax-deductible portion of the carbon revenue generated from their lands to bring in enhanced health services to the local community health care clinic. Currently, the community health care clinic cannot adequately



Progress is being made on the new LEED-certified school building, August, 2011.

meet the needs of the community. It operates on limited hours and is unable to provide specialists. Thus, many have to go outside the community to get their health care. In using a portion of the carbon revenue generated by forest management on their own land, forest landowners have become key partners in rebuilding a better Vernonia.

To move this project forward from an idea to implementation, the Institute has developed key partnerships with organizations like the American Carbon Registry, the American Tree Farm System, Regence Blue Cross Blue Shield, Western University College of Osteopathic Medicine, Oregon State University, local carbon project developers, and international carbon investors. However, throughout all this, the most important partners are the people in Vernonia. Community leaders like School Superintendent Dr. Ken Cox and County Commissioner Tony Hyde are staunch advocates. Commissioner Hyde has pushed people to think about forest carbon for years. Hyde recognizes that his county's forest resources have among the greatest carbon storing potential of any forest on Earth. Forward thinking forest

landowners in Vernonia like Sharon Bernal and Mike Pihl have recognized the potential and have helped move the concept along. These people know that the future of their community is in their hands and are willing to help craft a more sustainable future by thinking outside of the box.

A forest landowner itself, the City of Vernonia recently partnered with the Institute and researchers at Oregon State University to test a new ground-based light detection and ranging (LIDAR) technology on the city's municipal forest lands to see if this technology could bring down the cost of monitoring and verification in forest carbon projects. This technology bounces a narrow beam of light off of objects at thousands of pulses per second to map the physical features of forests with extremely high resolution. Typically mounted on low-altitude aircraft, aerial LIDAR is already used by large industrial and public forest landowners, but this option remains too costly for family forest landowners.



Jeremy Frank, OSU graduate student, inspects a new LIDAR laser scanner that maps forested land to calculate how much carbon is stored there.

Tyler Graf / The South County Spotlight

Firms in the community may one day use this technology to monitor and verify carbon accumulation for landowners participating in the FH-HH Initiative.

Many Communities, Many Opportunities

In reflecting on this small community's response to the crisis, Vernonia School District Superintendent, Dr. Ken Cox, remarked in the local newspaper, "I think people realized that we do need to do something to help Vernonia ... and if we can help Vernonia then we can help any other town that's in the same situation." Thousands of forest-based communities face economic challenges and in some instances, like in the case of

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Vernonia, and more recently along the Mississippi River and in upstate New York and Vermont, these challenges include floods and other natural disasters. In these instances, the affected community has a number of choices to make about "what to do now." Partnerships are how the community of Vernonia makes the

right choices, turning disaster into an opportunity. While there is no recipe for success, two essential ingredients appear to be a commitment to sustainability and a commitment to developing effective partnerships. We need not wait for crisis. A commitment to sustainability and partnerships can make any community all the more resilient should a crisis occur. ■

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For more information about Vernonia and the FH-HH Initiative, please email Brian Kittler (bkittler@pinchot.org) or Catherine Mater (mater@mater.com) or visit pinchot.org/gp/FHHHI

Extending the Ecosystem Crediting Platform to New Geographies

The Pinchot Institute, through its Bay Bank program, designed the Ecosystem Crediting Platform (ECP) to effectively manage emerging payment for ecosystem service systems regardless of their size, location, or complexity. The Pinchot Institute is ideally equipped to assist other groups seeking to take an ecosystem service approach to managing regulated or voluntary investments in the environment.

Through implementing the ECP local groups can:

- Manage an unlimited number of credit types
- Serve an unlimited number of users
- Cover any size area
- Integrate local variations into an overall crediting framework
- Start-up quickly and efficiently
- Make strategic decisions on levels of control and responsibility.



Please contact Eric Sprague at esprague@pinchot.org or 410.267.5734 for additional information about this tool or for a demonstration of its functionality.

From the US Department of Energy

2011 US Billion-Ton Update: Biomass Supply for a Bioenergy and Bioproducts Industry, details US biomass feedstock potential nationwide. The report examines the nation's capacity to produce a billion dry tons of biomass resources annually for energy uses from both agricultural source and wood biomass.

- Supports the conclusion of the original *2005 Billion-Ton Study* with added in-depth production and costs analyses and sustainability studies.
- Uses more rigorous models and data analysis to test the feasibility of increasing biomass production to help meet the nation's renewable energy needs.
- Conducts in-depth analyses of land-use changes and competition among food, feed, and energy crops.



A copy of the report can be downloaded at:

http://www1.eere.energy.gov/biomass/pdfs/billion_ton_update.pdf

2010 USDA National Report on Sustainable Forests

The *2010 National Report on Sustainable Forests* describes conditions and trends in US forests based on indicators of national progress toward the goal of sustainable forest management. The report is designed to promote informed public dialogue, decision making, and action on shared goals.



A copy of the report can be downloaded at:

http://www.fs.fed.us/research/sustain/2010SustainabilityReport/documents/2010_SustainabilityReport.pdf