

Oregon State Bar Sustainable Future Section

Photo: J. Michael Mattingly

The Long View

Ecosystem Services and Markets

By Sara Vickerman

Background

During the last five to ten years, there has been increasing activity and interest in documenting the value—economic and otherwise—of ecosystem services. Ecosystem services are generally defined as the benefits that nature provides. These include climate regulation, carbon sequestration, water retention and filtration, flood control, nutrient cycling, habitat for fish and wildlife, and pollination. Nature also provides tangible products such as food, construction materials, and medicines, but for the purposes of this article, the emphasis will be on those services for which traditional markets do not exist. These are often referred to by economists as public goods.

There have been efforts to establish markets for some of these services, often as an alternative to compliance with existing regulations. Water-quality trading has evolved as an alternative compliance mechanism for meeting water-quality standards under the Clean Water Act. Conservation banks have been created to replace lost or damaged endangered species habitat. Voluntary markets have also gained attention. Voluntary markets work when there is sufficient demand from potential buyers who may be interested in promoting sustainability activities to the public or shareholders, or to prevent additional regulations. Carbon trading in the United States is an example of a voluntary market, since Congress declined to establish a cap-and-trade program similar to the one in Europe. Other voluntary programs include potential precompliance markets for resources that are likely to be regulated in the future, such as sage grouse and gopher tortoise, where there is interest in avoiding listing under the Endangered Species Act by establishing credit-trading programs within the range of the species.

There is also growing interest in public or private programs that offer payments to landowners who provide ecosystem services. For example, Clean Water Services, a special district near Portland, Oregon, pays private landowners to restore streamside vegetation to shade creeks and reduce water temperature. The price tag is about one-tenth the cost of building cooling towers, and the community receives other aesthetic and ecological benefits from the riparian restoration projects.

Properly structured and implemented, market-based approaches and payments for ecosystem services have the potential to make conservation investments more efficient and effective.

Potential Benefits of Market-Based Approaches and Payments for Services

Properly structured and implemented, market-based approaches and payments for ecosystem services have the potential to make conservation investments more efficient and effective, to tap new funding sources for conservation, to expedite development in the right places while discouraging it in sensitive areas, to provide alternative revenue to rural landowners to supplement traditional commodity production, to provide opportunities for private organizations (nonprofit and for-profit) to generate income to support restoration and conservation projects, and to facilitate a transition to the use of more natural infrastructure, where appropriate, to address conservation challenges.

Potential Issues Associated with Payments and Markets for Ecosystem Services

Ecological

Like any policy instrument, programs that compensate people for providing public benefits can be implemented in a manner that inadvertently causes more harm than good. Because ecological values are unevenly regulated, some values may be enhanced at the expense of others. For example, some projects designed to sequester carbon can adversely affect biodiversity. Another risk is that landowners and others who have been supplying ecosystem services at no cost to the public may expect to receive compensation if others are being paid, and sufficient public funds for these purposes are not likely to be available. Efforts to grow markets to an ecologically relevant scale could shift decision-making to investors who are interested in making profits and have little knowledge of or concern about whether the ecological benefits are real. The lack of standardized measurements for ecological values can shift investment to things that are easily measured but may not be the highest priority. The transaction costs associated with building and supporting market infrastructure and quality assurances for the credits being sold may be higher than the conservation value of the conservation actions taken.

(Continued on page 2)

Oregon State Bar Sustainable Future Section

Ecosystem Services and Markets (continued)

(Continued from page 1)

Legal

Generally, ecosystem services created an opportunity to offer larger, landscape-level approaches to conservation, yet many well-established environmental laws and regulations make this no small task. While laws have addressed some of the most visible and egregious sources of environmental degradation, they are focused on specific impacts and individual species and habitats. Also, many unregulated resources are not considered in decision-making processes, thereby leading to their decline and further fragmentation of the landscape. Consequently, building programs around ecosystem services will require a shift in thinking on how to approach environmental problems through existing and future legislation and regulation.

In addition, most ecosystem services have public-good characteristics and therefore present complex allocation questions in current property-law regimes. These ecosystem services will need definition in the private-property-rights context to create value and the incentive to protect or restore the services. Questions remain as to the most effective approach to defining these rights, but it's likely that allocations will differ depending on the service.¹



Oregon Legislative Approach

Oregon has led the country in adopting comprehensive legislation guiding the development of markets and payments for ecosystem services. In 2009, the legislature approved SB 513, which addressed the need for consistent measurement of ecosystem services, improved integration across agencies, and, perhaps most importantly, established a state policy to *support the maintenance, enhancement, and restoration of ecosystem services throughout Oregon, focusing on the protection of land, water, air, soil, and native flora and fauna*. The bill also directed a work group to make recommendations on a variety of unresolved issues. The recommendations include integrating existing conservation plans, using natural infrastructure in place of concrete and steel where appropriate, and considering the impact on ecosystem services in the state's land use program. HB 3109, pending before the 2011 legislature, implements many of the work group's policy recommendations and offers updated guidelines for mitigation programs to make them more effective ecologically.

What's Next?

Many policy issues remain to be untangled, but there are two critical paths ahead for ecosystem services and markets. The first is for the federal agencies to adopt more consistent and effective procedures to support the private sector in its efforts to use market-based approaches and payments for ecosystem services. For example, federal agencies could pool funding to finance the development of consistent, credible, and practical methods to measure water quality and quantity, carbon sequestration, and biodiversity. All agencies need to figure out how to streamline the process for creating, selling, and buying multiple types of ecosystem service credits.

The second important action is to fully implement pilot projects that demonstrate how markets and payments for services can produce improved results at a lower cost than some existing, opportunistic approaches. This will require careful integration with existing conservation programs that are already producing tangible benefits. These pilot projects can also help to further identify the legal implications of ecosystem services programs, and aid in figuring out ways to address laws and regulations that could impede progress, and identify legislative opportunities to support ecosystem services.

This is the worst possible outcome for ecosystem services: *"Conservation has a history of placing great faith in new ideas and approaches that appear to offer dramatic solutions to humanity's chronic disregard for nature . . . only to become disillusioned with them a few years later."*² The best possible outcome is that ecosystem services will add new, effective tools to the conservation toolbox.

Notes

¹For a thorough discussion on some of the legal and policy issues surrounding ecosystem services, see J.B. Ruhl, Steven E. Kraft & Christopher L. Lant, *The Law and Policy of Ecosystem Services* (2007).

²Kent. H. Redford & William M. Adams, *Payment for Ecosystem Services and the Challenge of Saving Nature*, 23 *Conserv. Biol.* 785 (2009). (emphases added)

Sara Vickerman (svickerman@defenders.org)

Gina LaRocco (glarocco@defenders.org)

Defenders of Wildlife, NW Office (503) 697-3222