

Open Spaces

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PVPLC Develops New Strategy to Preserve Forest Land

By Wendy Millet

In its efforts to discover new sources of funds for land conservation on the Palos Verdes Peninsula, the Conservancy is helping to develop a unique financing mechanism that enables timber companies to transition to sustainable forestry practices, and at the same time creates a major new source of funds for preserving forests.

While timber issues seem far from a local issue, Conservancy Vice President Mike Kilroy recognized a unique opportunity to develop a financial strategy that would have wide-reaching benefits for the Conservancy, the Peninsula, and land conservation across the country.

Working with EA Capital, a northern California investment banking firm, Kilroy has crafted an approach known as Conservation Credit Enhancement (CCE). This approach is essentially a financing mechanism which, among other things, enables forest landowners to reduce their annual harvest without reducing their income. The methodology resembles project financing strategies commonly associated with large-scale public benefit projects such as hospitals and schools.

Understanding Incentives

To understand why CCE works, it is necessary to understand the logic of a forest landowner: A forest landowner is in the business to make money, and the forest is harvested when return is maximized. For example, if a forest is harvested at 30 years, the landowner can expect an 8% return, at 50 years 11%, and at 100 years 8% again. Finances being what they are, the majority of landowners logically harvest when trees are around age 50, the point where forest investment return is optimized.

Though cutting at 50 years is economically profitable, harvesting in a 50-year rotation cycle is hard on the environment. The forest has little time to regenerate and aesthetic quality and biodiversity suffer as a result. Changing current practices requires altering the incentive system so that landowners can adopt longer rotations and not lose money in doing so.

The first part of the equation seems easy: a landowner's net timber yield actually increases as he/she moves to longer rotation cycles. Using 100 year rotations with Western Douglas-fir forests, for example, can produce up to three times as much standing forest volume and over twice as much sustained harvest as traditional rotations.

The key to facilitating a transition to the longer cycle, however, lies in coming up with a strategy that offers low-cost capital and relief from capital gains tax so that forest owners can capture the market value of their forests at the lowest cost possible.

How does CCE work?

Typically, timber landowners must borrow money from an investor or bank in order to pay for the costs of a timber harvest. The borrowed money has high interest rates and thus the landowners must cut a lot of timber in a short amount of time in order to pay back the principal and accumulated interest. In addition, when the timber landowners sell forests, they must pay significant capital gains tax.

With CCE, in contrast, the landowner effectively issues a government-backed bond-which is to say borrows money from capital markets that are government supported. Since government backed bonds are far cheaper due to the low interest charges, the landowner need not harvest so much timber nor move so quickly to pay back the money borrowed. In addition, public/private loan guarantees help landowners borrow enough against their lands to attain cash equal to the forest's full market value. Lastly, the landowner is exempt from paying capital gains taxes because the loan proceeds are not taxed. As a result, the landowner gets more money at lower costs and defers taxes.

By allowing landowners to borrow full property value, CCE helps landowners advance their financial goals. But why should taxpayers want to support land owners in this way?

The public's goal for increased forest conservation is also realized through the transaction in the following manner: in exchange for providing CCE loan guarantees to landowners, the government receives a significant cash fee which can be used for the purchase of additional forest or conservation lands. In addition, government receives a working conservation easement that preserves some land outright and assures a phased transition to long rotations on the balance of the private forests. Finally, the bonds are secured by the forest land itself: if the land owner fails to pay off the loan, the public gets the property.

CCE - A win-win strategy

Clearly, the benefits of CCE accrue at many levels. The gains for the forest landowner and for forest biodiversity have already been mentioned. Increasingly, it also appears that CCE is the ideal mechanism for resolving the complex, value-driven conflicts occurring between environmentalists, timber landowners, and timber communities. CCE receives praise for its fair treatment for landowners and private property rights, and its ability to meet the public's demand for forest conservation.

Though CCE is currently being applied solely to forest conservation, once it is fully developed, the strategy will require only moderate alterations for use with other natural resource assets. Notably, the cash fees generated for government in exchange for guaranteeing the loans can be used to preserve land far away from the forests-maybe even here on the Peninsula.

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Land Managers for Hire: Nonprofit Stewards Save Public Dollars

By Wendy Millet

Excerpted from an article by Serena Herr which appeared in "On Saving Land: A Newsletter for California Land Trusts."

Some local and state agencies in California are experimenting with freeing up needed staff and funds by outsourcing the management of their resource lands to nonprofit groups and land trusts. Stewardship for hire, in effect.

It's an approach that can make a lot of sense. The agency gets a caretaker that has the freedom to hire staff and contractors without going through government regulatory processes, and so can often implement the management plan more quickly and efficiently. The nonprofit can also muster volunteers and raise private funds more easily than the agency because the group is part of the local community.



Photo: Volunteers weeding on the Linden H. Chandler Preserve

And it makes sense from the nonprofit's point of view, too. Many land trusts already manage their own preserves or trails, and so have the staff and volunteer infrastructure in place to handle new projects. And in some cases, the stewardship commitment is what enables the group to fulfill its mission of getting the land protected.

The Nature Conservancy (TNC), for example, recently negotiated a 25-year master lease on the 37,540-acre Gray Davis Dye Creek Preserve that was probably the only way the

land's complicated management goals could have been met. TNC is responsible for operating the habitat area, including paying property taxes, enhancing the resource, and administering the grazing and hunting leases that bring in revenue to run the project.

This way, the state got a preserve without removing it from the county tax roles and TNC not only protected an important resource but also manages it.

New Role for Land Trusts?

TNC plans to manage Dye Creek for the long haul, but in most cases land trusts are taking on public land stewardship on an interim basis, and plan for the public agency to eventually reclaim the management of its land.

Even so, these cases are far different from the standard acquisition model of a land trust simply holding a property and making sure it's undisturbed until an agency can purchase and manage it. This is active stewardship, with full-scale resource management plans, restoration programs, facility construction and maintenance, and educational programs.

The Peninsula Open Space Trust in San Francisco, for example, is experimenting with a program by which they are paid to manage publicly-owned easements, rather than public land.

Here's a look at the challenges and benefits of several nonprofits and land trusts that have taken on the role of public steward.

Mitigation Mavens

"Developers will work out a deal to set land aside as habitat for an endangered species, and then give the land to the local public works department," says Brenda Pace of the Center for Natural Land Management (CNLM). "Many times those agencies can't take care of the land for the intended biological purposes."

That's the case with Lake Mathews Preserve, an 11,000-acre property near Riverside, that is owned partly by the Metropolitan Water District of Southern California and partly by the Riverside County Habitat Conservation Agency. Two years ago the water district hired CNLM because a habitat conservation plan called for the land to be managed for mitigation. "That meant monitoring and restoring to a degree that they weren't comfortable with," says Pace.

Nonprofit Efficiency

From 1988 through 1992, the State Coastal Conservancy (SCC) put together the acquisition of Point Cabrillo, a 300-acre property just north of Mendocino, with the understanding that the Department of Parks and Recreation (DRPR) would take over the land once it was acquired. But as the purchase was completed, it became clear that DPR, hit with severe budget cuts, would not be able to manage the property. The SCC got to work forming the nonprofit North Coast Interpretive Association (NCIA) to manage the resource. The group now runs the preserve under a management agreement with the SCC: the conservancy pays the nonprofit about \$100,000 in operating costs a year, including \$12,000 for insurance.

"Time was an issue; we needed onsite management immediately," says Julie McGiver, project manager for SCC and board member of the new nonprofit. She says hiring staff is one area where a nonprofit can move faster than a government agency. NCIA hired a site manager, a maintenance manager, and a halftime maintenance assistant very soon after the preserve was acquired. To create those same positions as State employees, the SCC would have had to go through a months-long process of getting the positions and funds approved by Sacramento.

In another example, the group recently put new roofs on all the preserve's outbuildings. Had the SCC been managing the land, it would have had to go through a rigorous statewide bidding process. In contrast, the NCIA solicited bids from local contractors and got the job done before the rains came.

The group is working now to rebuild an old farmhouse as a visitor center, using a program at the local high school to recruit volunteers, and launching a fund-raising effort to bring in private dollars. McGiver says this last project is an example of how nonprofits can tap into the local community more easily than agencies. "Volunteers and donors take a certain amount of care and feeding, and I think that's easier for a nonprofit to do," she noted.

There's an added benefit to working with the community: "It's not just about preservation," she says. "Part of what we're about is trying to foster a different ethic for dealing with land, and that means fostering community involvement."

A Big Responsibility

The Pacifica Land Trust started out with San Pedro Point: 200 acres of scenic coastal habitat near Pacifica as its first project. Seven years later, the State Coastal Conservancy (SCC) owns about 130 acres, the city of Pacifica owns 70, and the land trust is managing the entire property.

The land trust's willingness to accept management responsibilities, even on an interim basis, is probably what made the project possible. "If we hadn't been there to take this on, I think the Coastal Conservancy would not have funded the acquisition," says Director Radford Hall. "They wanted the assurance that we would manage it until another agency could buy it."

To date, the land trust has prepared a restoration plan (funded by SCC) and, with a team of enthusiastic volunteers, has begun implementing an erosion control plan, removed trash from the property, and repaired damage done by a motorcycle club that had rented part of the land.

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Douglas Stern Leaves Board to Run for RPV Council

Conservancy Vice President Doug Stern has resigned from the Board to run for the City Council of Rancho Palos Verdes in the November election. Stern is one of three candidates competing for two Council seats.

Stern has been a key member of the Board through some critical periods. He provided pro bono legal advice during the acquisition of the 28.5-acre Chandler preserve in Rolling Hills Estates and the 160-acre Forrestal property in Rancho Palos Verdes. He drafted legal documents associated with both acquisitions and was a key member of the negotiating teams. He received a President's Award, the Conservancy's highest honor, in 1994 for his work on the Chandler acquisition.

We will miss Doug as he moves to a new level of community service, and we wish him well in his future endeavors.

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NCCP: The Process is Moving on the Peninsula

It is the spring of 1999, the Peninsula is sprouting its glory of colors, the gnatcatchers are breeding, and developers and conservationists are working together to protect and restore the native habitat of endangered birds and wildlife.

The scene described is, hopefully, how the Peninsula will look after the Natural Communities Conservation Plan (NCCP), a collaborative planning process designed to protect sensitive habitat, is finalized at the end of 1998. The Peninsula NCCP, the only one in Los Angeles County, hopes to protect the Peninsula's "isolation"--caused once by water and now by development.

Photo: Baby California Gnatcatcher prepared for banding.



The groundwork for the plan is being laid today. The City of Rancho Palos Verdes, the lead city on the NCCP, recently signed a cooperative agreement with the U.S. Fish and Wildlife Service and will receive \$75,000 in federal assistance to develop the NCCP.

As part of this program, biologists from an Orange County-based consulting firm have been working over the last several months to inventory "target" species on the NCCP working groups' list. When the inventories are concluded in June/July of 1998, a map of the critical core habitat areas on the Peninsula, and the linkages between them, will be drawn. From there, discussions with landowners about which habitat areas are to be protected, and which may be considered for development will begin.

Because of the presence of so many rare species on the habitat in question, without the NCCP it is unlikely that developers would see a green light for their development plans in the near future. Through the NCCP process, however, landowners of critical natural habitat may receive an early-on picture of what they can and cannot do in terms of development and habitat disturbance.

The NCCP is a unique planning process. Some environmentalists and citizen groups feel that NCCP is a concession to private developers and subverts true endangered species protection. Others see the NCCP as the only fair way to resolve the conflict. Many feel that success in meeting the complex challenges of ecosystems and economies needs policies and programs that promote cooperative, effective solutions.

It is hoped that the final plan will provide a permanent and fair resolution to the ongoing conflicts between conservationists and developers and protect many acres of valuable habitat in the process.

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Farmer Ants: "Leaving" the Nest for Food

by Joseph K. Slap

In general, animals have culinary preferences. Many animals, such as wildebeests, seasonally migrate to where supplies of desirable foods are adequate. Leaf-cutter ants are not migrant organisms; they farm in order to maintain their supply of food.

An organism that feeds solely or mainly on fungi is referred to as "mycophagous." Many of the leaf-cutter ants can legitimately be called mycophagous. The horticultural actions of these ants include stimulating the growth of fungi by feeding the fungi with plant-based nutrients. What the ants do is go out of their nest, locate and cut off bits and bites of certain leaves, bring those leaf pieces to their nest, and place the pieces within the nest to serve as both a substrate and food for the growth of what is known (to us, not to the ants) as basidiomycete fungi.

These fungi, forming what can be considered as a fungus garden within the nest, produce filaments called hyphae. The hyphae are meals for the adult ants as well as for their larvae, providing relatively rich sources of energy, plus nitrogen and other important nutrients.

When the ants remove some hyphae, that removal serves food to the eaters, but it also serves as a pruning process. Pruning of many types of plants, coupled with feeding of the plants, stimulates growth, and it does that with those fungi, too.

(In the prior paragraph, it was said that the ants go out of their nest, which could have been stated as "the ants leave their nest". Then, it was stated that the ants bring pieces of leaves into their nest and place them in there, which also could have been stated as "the ants leave their nest", with a different meaning of the word "leave" used as a verb.)

A study of the leaf-cutting ant (*Atta sexdens rubropilosa*) has shown that the mandibular muscles constitute over 50% of the head capsule mass, and over 25% of the total body mass; and those percentages are comparable to the ones that apply to the

"flight engine" of flying insects. Considering the average size of the leaf-cutting ant, and its ability to snip-off pieces of leaves and carry those loads to the nest, one wonders about the ant's metabolism.

Healthy members of every animal species have a normal range of maximum sustainable metabolic rate. In non-flying animals, that range is about 8-12 times their resting metabolic rate. (I'll now refer to the ratio of sustainable maximum to resting rate as the rate ratio). For flying animals, that rate ratio has a range of 20-100, depending on the species. The rate ratios for *A. rubropilosa* were found to be the following: 6.7-9.1 during locomotion after cutting of the leaves; and 33.7-34.6 during leaf-cutting.

In most vertebrates and invertebrates, vigorous walking creates a rate ratio of about 12. Consequently, the 33.7-34.6 ratio is remarkably high, actually setting an animal record for metabolic activity not involving flight, thus proving that the leaf-cutting is an energetically intense activity and also proving that the leaf-cutter ant has a remarkable bodily ability to sustain a high metabolic rate.

If there were an animal Olympics, the leaf-cutter ant might well win an event in which the results are based on bodily ratios. Of course, in the 200 meter dash, it wouldn't defeat a cheetah (over 70 m.p.h.), in the 5000 meter run it wouldn't defeat a pronghorn (about 35 m.p.h. for a long distance), and in the long jump and high jump it wouldn't defeat a gray kangaroo (respectively about 44 feet and more than 11 feet).

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Arundo on Its Way Out

By Anjali Ayer and Wendy Millet

If you've been hiking or riding through Chandler Preserve you've probably noticed the large stands of bamboo-like plants. This exotic, invasive plant is known as arundo donax, and it presents some difficult problems for Conservancy efforts to restore native habitat in the area.



Photo: Worker cuts down arundo on Chandler Preserve

Introduced to Southern California from Northern Africa more than 100 years ago by the Spanish to control erosion, arundo flourishes in the Mediterranean-like Southern California weather. Growing up to 3 inches per day, arundo easily out-competes the native willows, cottonwoods and mulefats common in the riparian areas it prefers. Endangered bird species like the Least Bell's Vireo are deprived of a home as native habitats are overrun.

The riparian community is defined by periodic floods. After a flood, native seedlings allow for diverse species to make their home in this unique habitat. Unfortunately, arundo changes a riparian area from a flood-defined community to a fire-defined community. Burning extraordinarily well, arundo rejuvenates quickly after a wildfire, further damaging native inhabitants.

Arundo also uses three times as much water as native vegetation. According to Mark Iverson of the City of Riverside's water reclamation plant, the 10,000 acres of arundo along the Santa Ana River in 1992 were consuming an estimated 56,200 acre-feet of water per year. In contrast, native plant consumption over this same area would be only 18,700 acre-feet/year. The difference is enough water for 190,000 people.

In addition, arundo changes the pH and the oxygen content of the water it grows near. Native vegetation typically shades the water, keeping it cool. However, arundo, which grows tall and straight, provides little shade. As a result, the temperature of the water increases as it is exposed to more sunlight, promoting algae growth, increasing photosynthetic rates and the pH of the water. As photosynthetic rates increase, the dissolved oxygen content of the water decreases. Both effects harm aquatic life.

With all these problems, it is easy to understand why arundo removal is one of PVPLC's primary stewardship objectives at

the Chandler Preserve. Fortunately, this summer, while doing research on arundo eradication methods, Conservancy intern Anjali Iyer, learned of a company that harvests the plant to make paper.

According to a consultant for the company, the invasive and very fibrous arundo plant serves as an excellent alternative to trees as a fiber source for paper production.

The Conservancy worked out an agreement to put the arundo on the Chandler Preserve and the adjacent Bent Springs Canyon on the company's list of removal sites. The Stewardship Committee then developed a plan for riparian restoration to begin as soon as the arundo is removed. The arundo removal project will require follow-up for another year or two after initial eradication; however, it is hoped that by Spring there will be a healthy native riparian community taking root.

If you want to know more about arundo eradication or would like to help in restoration of the Chandler Preserve, call the Conservancy office at (310) 541-7613.

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