

NECTANDRA INSTITUTE

Jan 2013, Vol. 13 No. 1

Prelude to an Eco-Loan

Our readers may not know that in Costa Rica, water rights belong to the state. While the government supplies potable water for urbanites, rural residents are on their own. Because wells are costly, year-round running springs are *de facto* the only communal sources of clean water. These springs are almost always located on someone's private land. By law, the land-owner must share water with the neighbors and permit access to the springs, but he/she is not obligated to keep it clean. This is the main motivation for communities to organize themselves in order to buy land with the springs, along with the associated watershed, and thereby be able to control and care for their water.

Nectandra Institute's hallmark approach to cloud forest conservation work has been our Eco-Loan Financing (ELF) Program. In the last six years, the loan program has helped local community water management associations (CWMAs) buy and protect 530 acres of land in the higher elevations of Costa Rica's Balsa River watershed. It's worth pointing out that tropical rain and cloud forests are important water "factories" thanks to their large capacity for absorbing rainfall and other precipitation, promoting groundwater infiltration, and regulating year-round flow.

From the beginning of the ELF Program, Nectandra Institute targeted the CWMAs as the ideal candidates for eco-loans because of their vested interest in protecting the forests that provide the water that is used locally for consumption, domestic and economic activities. Every water-user, *i.e.*, every community head-of-household, is represented in the associations' decisions through voting membership. Thanks to their steady revenue stream from water service tariffs, sometimes supplemented with member-approved watershed protection surcharges, every water association participating in ELF has had a perfect record in repaying their eco-loan principal—no default and no delinquency since the first loan in 2007. Readers familiar with the signature feature of the ELF Program know that, in lieu of monetary interest, Nectandra Institute charges eco-interest for the loans. This is reflected in a legally-binding, written loan contract that stipulates certain activities be carried out in order to protect

the property, restore it with native trees, monitor and document the entire process over time, as well as design and carry out awareness-building activities that help bring the importance of all these watershed protection efforts to the forefront of the general public's attention. In this area as well, the CWMAs have been exemplary partners for Nectandra Institute, dedicating thousands of volunteer hours annually, along with additional monetary and other resources to following through with their eco-interest commitments. At the same time, all the involved organizations are pitching in to collect important geographic and scientific information into a database needed for future decisions. Until recently, the land buyers all have been water management associations, plus one local land conservation organization with the acronym AFAMAAR. Over time, we realized that community water users are only a small fraction of the total in this region. For example, the largest water users are in fact agricultural users and several hydro-electricity co-operatives. Hence, Nectandra Institute has been looking for ways to involve those folks in our conservation program as well.

On the whole, the loans have been straightforward. After each borrowing community decided which property they want to buy, their representatives negotiated the sale price with the owner. In parallel, they would initiate also the pre-qualifying process with Nectandra Institute to see if the water association met our standards for borrowers. Once we said yes, the association would procure all the necessary documents and legal counsel. When all the parties were ready, the closing of the loan and the closing on the property were done at the same time and place. By now, word has spread about the work Nectandra Institute is doing with its partner communities in the Balsa River watershed. Other organizations have enlisted themselves in the collective effort to protect the watershed's forests and rivers. A new and very satisfactory pattern of working has emerged.

As is often the case, there is more to this story than meets the eye, and it's the details of what occurred and led up to the tenth (most recent) eco-loan and property purchase that make an interesting anecdote. The wheels for this particular land acquisition project, eventually involving four participating organizations, really were set in motion more than four years ago. In 2008, the CWMA of the community La Palmita received Nectandra Institute's fourth eco-loan to purchase a 10-acre property above two of the town's several water supplying springs. La Palmita's residents worried about the potential contamination from nearby dairy farming. These concerns were somewhat eased, though not completely, with the purchase of the 10-acre property. La Palmita also depended on other nearby springs to satisfy its water

needs, and those remained unprotected from even more direct exposures to contamination. The ideal solution would be to purchase the 36-acre property immediately upslope from these springs and evict the cows once and for all.

This ideal solution, however, was not readily attainable. The dairy farm owner had been there for years and was not interested in uprooting himself. This was reflected in his unrealistic asking sale price, which was well above the reasonable range for real estate in that area. It was a “take it or leave it” proposition for La Palmita's CWMA, one that left it with little negotiating leverage. Complicating matters was the fact that the CWMA had just assumed a loan. It could not take on more debt, 0% interest eco-loan or otherwise. The residents of La Palmita would have to remain patient for a few more years.

In the interim, Nectandra Institute continued to work with La Palmita's CWMA and those of the other communities towards watershed protection. More eco-loans were made and more land was purchased. Nectandra Institute helped the CWMAs form the Liga CUENCA (League of Communities United for the Conservation of Water). Between the efforts of Nectandra Institute and its partners, watershed protection slowly advanced as a priority for the local population. At around this time, AFAMAAR, the land conservation group mentioned previously, became another important ally with its proven track record in raising funds for its own land purchases. Among its members were successful farmers, community leaders and skilled negotiators. It became participant number two in the continuing story of our tenth loan.

By now, Nectandra Institute was also exploring potential new customers among other types of water users. We learned that the 5,000 member-customers of a local electricity co-op, CoopeAlfaroRuiz, approved a watershed protection surcharge in their electricity bills. AFAMAAR, in particular, played a major role in convincing the co-op of the importance of participating in and supporting actions to protect local water resources. The revenue generated by the surcharge would fund land acquisition. Nectandra Institute proposed that CoopeAlfaroRuiz (participant number three), leverage its watershed surcharge revenue with an eco-loan. Prior to this proposal, CoopeAlfaroRuiz had already had some contact with Nectandra Institute, having sponsored a Nectandra educational event in the past and as well had interviewed the Institute's staff for a local community TV program.

Meanwhile, back at the dairy farm, things were improving for La Palmita. The landowner developed a serious feud with a neighbor that began to take on Hatfield-McCoy proportions. Relocation suddenly was of interest to him. He

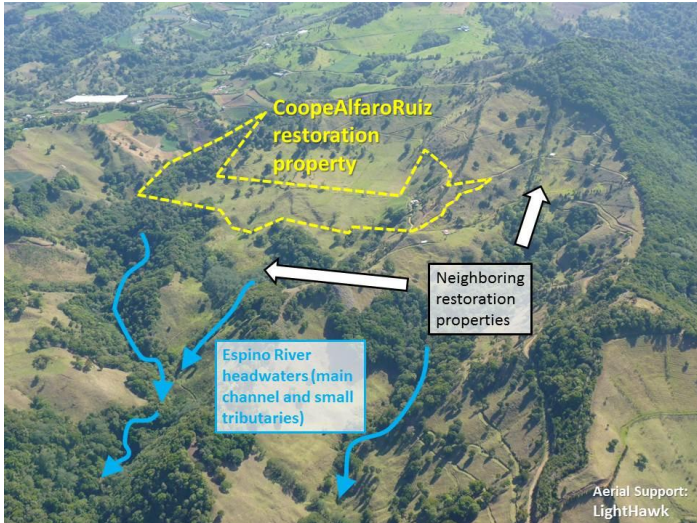
began an earnest and more realistic sale negotiation with La Palmita's CWMA. Representatives of the CWMA and AFAMAAR, which had stepped in to help with these negotiations, appealed to the dairy farmer's conscience and sense of community, urging him to relocate his business away from the town's water sources. They also reminded him that he and his family were also beneficiaries of this water, and it would be in their own best interest to keep it from contamination risk. “Your grandchildren and great-grandchildren will thank you,” they said. So the dairy farmer began to look for alternative properties.

While all this was going on, the president of AFAMAAR, who is friends with one of the members of the governing board of CoopeAlfaroRuiz, suggested a meeting among all the interested parties to further develop the idea of an eco-loan to the co-op. The meeting went well, helped by the participants' clear understanding of Nectandra Institute's working principles and strong reputation in the watershed. The meeting ended with the co-op's request, to AFAMAAR and Nectandra Institute, to suggest candidate properties for acquisition. There were three possibilities, including the property belonging to the dairy farmer. However, Nectandra Institute had insufficient eco-loan capital to help with all three, so a decision had to be narrowed to one property.

At this point, the pace of new developments began to quicken. The dairy farmer found a suitable property to buy and move to, prompting him to lower his sale price even more as relocation became more urgent. This gave his sale the edge over the other two competing possibilities. When the co-op made its purchase offer that fell just short of the reduced asking price, AFAMAAR and La Palmita's CWMA quickly stepped in to fill in the financing gap with resources of their own, even adding a cow to sweeten the deal for the dairy farmer. A purchase option was signed, and a few weeks later, Nectandra Institute disbursed its tenth eco-loan. La Palmita's spring water is now safe and protected in perpetuity, and more land in the upper Balsa River watershed is under protection and management by local communities or organizations.

What should be evident from this narrative is that the win-win results were reached because a group of different participants worked collectively, each doing what they were best suited to do while maintaining good communication during the process. La Palmita's CWMA persistently maintained an open dialogue over several years with the dairy farmer, gently reminding him of the community's need for clean freshwater springs. AFAMAAR used its respected reputation and its knack for

networking to help La Palmita negotiate, as well as bring CoopeAlfaroRuiz into the fold. The members of the co-op, driven by an evolved sense of social and environmental responsibility, were willing to pay for the land and share its environmental services with the residents of La Palmita. La Palmita, in turn, has committed to paying the eco-interest, in the form of time and labor to reforest the property.



Aerial view of the property purchased by a local cooperative with an eco-loan from Nectandra Institute

All the while, Nectandra Institute stuck to our policy of staying on the sidelines during land negotiations, to avoid pricing speculation. This was also to respect the culturally-nuanced manner in which these transactions evolve and ultimately come to fruition in these small Costa Rican communities. The residents often are related or have known each other for years, perhaps since childhood. They will more than likely have to deal with each other in more than just the context of a real estate transaction (*i.e.*, attend the same church, participate in the same community organizations, belong to the same extended family). Playing “hardball” and being very direct is off-putting and makes for uncomfortable interpersonal relations in other aspects of small-town life. So it is not uncommon for these dealings to advance at, what may seem to the uninitiated observer, a snail’s pace and in an aimless manner. But this softer, gentler way of negotiating, involving several casual meetings over coffee and lots of side conversations about the weather or the latest local gossip, ultimately works here. The acceptance and success of Nectandra Institute’s ELF Program, with 530 acres financed and now under protection in Costa Rica’s Balsa River watershed, can attest to that.

-Luis Villa, staff contributor

Other News Highlights

*** Reported by Luis Villa ***

July Each year, community residents [measure a series of tagged trees](#) that were either planted or grew in place naturally on the different properties purchased with [eco-loan](#) financing. The annual data is tabulated and analyzed by Nectandra Institute staff. Several factors are evaluated, including location of the restoration property, species of tree, time elapsed since being planted or tagged for monitoring, planting method, and others. Thus far, we have five years of tree measurement data for the first properties that began undergoing restoration.

August We worked with youths from the community of San Antonio de Barranca to complete a land-use map covering the entire drainage area of the [San Antonio Creek, a tributary of the Espino River](#) which flows into the Balsa River. This and other geographic information system (GIS) maps created in partnership with the Balsa communities are important tools to promote the protection of local watersheds and forests. San Antonio de Barranca’s water management association is restoring a property purchased with an eco-loan in 2011.

Youths from the community of Angeles Norte, the beneficiary of the first [eco-loan](#) in 2007, inaugurated a new bird watching workshop offered by Nectandra Institute. We showed them the proper use of binoculars, sighting techniques, and some basic natural history of the area’s more common bird species. We will continue to work with these young people to study the avifauna in the 27-acre restoration property over time.

September Nectandra Institute and its partners in the [Balsa River Watershed](#) celebrated the 5th annual New Culture of Water Month, a 30-day long festival hosted by a different community each year to spotlight watershed protection and environmental conservation. [This year’s edition](#) included popular holdover events from prior festivals, including the Water Soccer Championship, the New Culture of Water Queen Pageant, and the award ceremony for the winners of the Adopt-A-River and Clean Communities competitions. A very well-received debut event this year was the CRECER competition which saw teams of students from several of the watershed’s different grade schools answering environmentally-themed questions in an academic decathlon-type format and competing for the title of “Eco-Superstars”.

Nectandra Institute made its 10th and most significant [eco-loan](#) to date. All nine previous loans were two-party agreements between NI and the single-entity buyers of the properties, such as water management groups or the Costa Rican land conservation group. The 10th loan, in contrast, was an agreement between NI and a consortium of three organizations brought together by a common interest in [increasing the acreage of protected land](#). The involvement of multiple parties, the steadfast and clear motivation behind their negotiation (among themselves and with NI), the flexibility with which the borrowers were willing to collaborate, their persistence to complete the deal successfully, free of politics, were all very impressive. In the end, we all became winners. (Please read this issue's lead article, *Prelude to an Eco-loan*, for details.)

October Nectandra Institute became [an approved non-profit member with 1% For The Planet](#) – a growing alliance of more than 1000 companies that donate 1% of their sales to a network of more than 3000 approved environmental organizations worldwide. 1% companies donate directly to 1% non-profits without passing through an intermediary. If you have contact with any of these companies, let them know that contributions to Nectandra Institute count towards their annually certifiable 1% goal!

November We worked with members of partner communities to update the [Upper Balsa Conservation Map](#) in our geographic information system. Created in 2009, the map shows the growing mosaic of community-owned and protected properties in the upper Balsa River watershed. It now includes the newer properties acquired with [eco-loan](#) financing from Nectandra Institute. The map's frequent use in our outreach and educational materials has assured that many the watershed's residents are familiar with the featured community-owned protected areas.

December Nectandra Institute co-sponsored and organized the third annual “Conteo Navideño del Bosque Nuboso de Occidente” (Christmas Bird Count in the Cloud Forests of the Western Region). This year, approximately 90 birdwatchers participated in groups of five to six people each and spread out over 16 different routes, one of which passed through [Nectandra Cloud Forest Preserve](#) and another which traversed the first community-owned restoration property purchased with eco-loan financing. The results for this year are still being tabulated, but last year, 331 species and 5213 individuals were spotted along 16 routes by approximately 70 participants. The role of birds as seed dispersers plays a very important part in [forest restoration projects](#).

Nectandra Institute was selected by Pura Vida Ride, a biking and surfing company in Costa Rica, to be a contestant among six participants to receive the company's 1% of its 2012 sale revenue for the year. Whichever contestant receives the most public votes on Pura Vida Ride's Facebook page wins. Although we did not take home the \$2000 prize, Nectandra Institute placed a strong 2nd with 814 votes vs 861 for the winner's. We want to thank everyone who voted and helped spread the word about the contest. The big show of support for Nectandra Institute turned out to be perhaps the biggest prize of all! By the way, we are now on Facebook. Like and follow us at www.facebook.com/Nectandra.

2012 Furry Garden Visitor of the Year



From to time, we find visitors at Nectandra Garden with striking and stunning appearances that defy descriptions. This approximately 5cm long *Megalopyge sp.* caterpillar with a punk do was munching its way on a *Melastoma sp.* bush for about 4 weeks, then disappeared, presumably gone underground to pupate.

The Megalopygidae is one of twelve moth and butterfly families worldwide that can inflict human injuries, sometime severe enough to require hospitalization. They are widely distributed in North and Latin America.

The *Megalopyge*'s long hair is a good physical barrier to predators (such as parasitoid wasps) and provides an excellent covering for urticating, hollow, specialized spines that secrete a proteinaceous heat labile neurotoxin. The dermatitis caused by contact with the larva is severe, with local necrosis followed by vesicular formation on the skin. Other symptoms are systemic, including intense radiating pain, lymph swelling, headaches, dizziness, and chest distress .

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