W E T L A N D S / S P E C I E S

Mitigation

The Ecosystem Marketplace's Daily Coverage of the 2006 Mitigation/Conservation Banking Conference

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The Case of the $150,000 Fly

By Eileen Campbell

Mitigation banking is increasingly used to help developers and property owners proceed with development in places where it threatens endangered species or habitats, while protecting the natural assets on other sites. Banks put environmental protection on an economic footing with development. But is $150,000 too much to pay to save a fly? The ***Ecosystem Marketplace*** *looks at the case of the Delhi Sands flower-loving fly.*

In scattered patches of sand dune east of Los Angeles, California, the larvae of a fly lie below ground. They've been there for a year now, and they're beginning to stir. In the summer, they'll dig up to the surface and emerge as adult flies. When their wings dry, they'll fly off in search of nectar-filled flowers on which to take their first meals. The flies will live less than a week; after finding mates and laying eggs in the sandy soil, they'll die.

The dunes are quiet, but they're at the center of a clamor about the value of endangered species and the best way to preserve habitat. The fly, the Delhi Sands flower-loving fly, was declared an endangered species in 1993, the first fly ever listed and only the 17th insect. Its habitat, once wide-ranging in this arid Southern California area, has been reduced to 2% of its former extent. In an attempt to balance protection of the fly and its habitat with development demands in this fast-growing region, a species bank opened its doors in 2005 and has since sold 1-acre mitigation credits for $100,000 each.

The Delhi Sands flower-loving fly is the first fly ever to be declared an endangered species in the U.S., and only the 17th insect.

(photo courtesy of USFWS)

The price has prompted snorts of astonishment from many. The fly provides an easy target for those who question the value of protecting small, obscure species. "A fly isn't an animal—it's a vector of disease," harrumphs one website. But it does raise the serious question: what are we willing to pay to protect a fly and its habitat?

A Flower-loving Fly

The Delhi Sands fly is large, about an inch long, striped orange and brown, and dotted with dark spots. Its supporters take pains to differentiate it

Banking By The Numbers

As the conference rooms of Portland's Hilton fill up, it seems appropriate to look at what the numbers have to say about the future of mitigation banking in the United States.

Just 46 banks were permitted in 1992 and none of them were targeting private-sector buyers. A decade later, the Environmental Law Institute (ELI) recorded 219 approved wetland mitigation banks throughout the country, with more than half of them registered by entrepreneurs offering credits to both private and public sector buyers. According to the ELI, the number of mitigation banks had doubled by 376% in a decade, raising nationwide totals for banked wetland acres to well over 130,000.

The explosive growth of the mitigation banking industry has hardly slowed since: The National Mitigation Banking Association estimates there are now over 500 mitigation banks in the U.S. (59 of which have sold out of credits). Industry observers predict the number of mitigation banks will double again in the next few years because of the new draft regulations. Judging from the numbers, at least, this year's conference marks an industry at its tipping point.

In 1998, the first National Mitigation Banking Conference was held in Washington, D.C. for a few hundred intrepid souls. Guidance from the Fish & Wildlife Service had led to the creation of the first publicly-sponsored mitigation banks just fifteen years earlier and very few people knew what mitigation banking was. Eight years down the line, the 9th Annual National Mitigation & Conservation Banking Conference in Portland looks pretty different.

Over 370 people have registered for this year's conference (up from just under 300 in 2004), but the biggest shift, say conference organizers, is in who is showing up to exchange ideas and conduct business. Gone are the days of the casually curious wandering in to hear a little bit about a new conservation tool called mitigation banking.

"These days," says Carlene Bahler, conference coordinator, "the conference attracts people who are very, very serious about this stuff."

The $150,000 Fly

(continued from page 1)

from "the common housefly," comparing it instead to butterflies and hummingbirds. Like a butterfly, it uses a long proboscis to probe flowers for their nectar; like a hummingbird, it hovers and darts quickly from plant to plant. Like all nectar-sippers, it pollinates the plants that feed it. Flies are less-celebrated pollinators than butterflies and bees, but many species do provide this critical ecosystem service. California farmers pay as much as $136 per hive to rent bees, without which their crops will not bear fruit. Wild plants depend on their pollinators just as heavily to fertilize their seeds.

Flowers and pollinators often develop exclusive relationships, such that endangering one partner puts the other at risk. Scientists don't know if the Delhi Sands fly has any such obligatory ties to the flowers it visits. In fact, what scientists don't know about this reclusive creature could fill volumes. But it is certain that protecting the fly will also benefit other species sharing its habitat.

The Delhi Sands habitat—named for the underlying geology of fine sand piled up into dunes—once stretched along the foot of the San Gabriel Mountains, covering 40 square miles of San Bernardino and Riverside counties. Also known as the Colton Dunes, they developed a distinct fauna. According to Greg Ballmer, the UC Riverside biologist who authored the endangered species petition, a half-dozen or so unique insects share the fly's habitat and are probably at the same risk as the fly. Other species of concern, though not restricted to the Colton Dunes, also inhabit the area, including burrowing owls, the LA pocket mouse, and a metalmark butterfly. The official status of the flower-loving fly thus serves as an umbrella, protecting other species and the habitat as a whole.

Population Boom

Riverside and San Bernardino counties have long been farmers to urban Los Angeles. Nearly all of the Colton Dunes were converted to cropland in the 1900s, leaving only scattered patches of dune in native cover, and leading experts to believe the fly no longer existed in the area. When two amateur entomologists found a few specimens in a vacant lot in Colton, they notified Ballmer at UCR. Surveying the area and other potential habitat, Ballmer found the fly in a number of places. "And all the properties around the sites had For Sale signs on them," he says.

As housing and commercial development spreads onto former agricultural lands, this area is growing faster than anywhere else in the state. Between 2000 and 2005, Riverside's population grew by 26%. Last year, Riverside and San Bernardino counties ranked second and fifth respectively in the entire U.S. in absolute numbers of new residents. This explosive growth has put the remaining pieces of fly habitat under increasing pressure. The imminent threat to the rare fly's survival convinced the Fish and Wildlife Service (FWS), in 1993, to list the species as endangered.

Between publication of the initial listing proposal and the actual listing, 45 acres of occupied fly habitat—6-13% of that remaining—were destroyed. In the same time, San Bernardino County gave notice that it intended to make use of a further 7 acres of occupied habitat and 69 acres of degraded land to build a hospital. With the listing of the fly, the hospital project was halted to work out a solution that would not consume further fly habitat. Eventually, the hospital re-sited its parking lot by 250 feet, with an added cost to the project of a reported $4 million.

Various other projects in the two counties were required to alter their plans or mitigate their impacts to protect the fly and its habitat, giving rise to a growing rumble of dissatisfaction. The City of Colton, where much of the remaining high-value habitat is located, went on the offensive. A lawsuit arguing that the federal government had no authority to regulate such local matters made its way up the court system until the Supreme Court refused to hear the case in 1998. In 2002, Colton's mayor vowed that the city would do everything possible to get the species de-listed.

Banking in the Dunes

As cities, counties, and developers in the region looked for ways to operate with an endangered species in their midst, the Vulcan Materials Corporation, a sand-and-gravel supply company, acquired 130 acres of prime, known fly habitat, the largest contiguous chunk of the Colton Dunes that remained. The company approached the FWS and, working together with the agency and the Riverside Land Conservancy, set up a mitigation bank that would preserve the habitat and make it available for purchase of credits.

"The land is now dedicated in perpetuity to fly habitat. We hold the title, and the Land Conservancy maintains it," explains Brian Ferris, a Vulcan VP. "It's a unique partnership," says Jane Hendron, a FWS spokesperson: "Industry, a non-profit group, and the government linked for a common purpose."

The bank opened for business in June, 2005, and had sold its first three credits by December. Kevin Klemm, owner of the development company that was Vulcan's first customer, credits the mitigation bank with finally allowing him to proceed with his building project. "The Vulcan Materials people were tremendous. They were business-like and accommodating. They didn't waste any time. The bank is a tremendous value." Several developers are currently negotiating conservation strategies with FWS and may eventually purchase credits from the bank. "We think there's a significant demand," says Ferris—and the per-credit price has since risen to $150,000 to reflect it.

An existing mitigation bank can smooth the process of complying with environmental regulations. Says Klemm, "I spent six years of my life trying to build 18 buildings" before the Vulcan bank opened and provided him a way to mitigate his property. A quicker route is worth a considerable amount to a developer watching building prices escalate week by week.

A Fly's Worth

Jessica Fox, a biologist with Electric Power Research Institute who has studied mitigation banks, says, "It's good that we're assigning dollar values to natural resources. It will make liabilities for some, but opportunities for others." Recognizing an opportunity and a need, Vulcan Materials is turning the endangered species on its land into an economic asset, working out a way to realize a steady income stream from the property while protecting and helping preserve an endangered species.

Is $150,000 too much to pay for protecting a fly? That price per credit is high for a species bank, although some credits for wetland banks sell for nearly twice that. For perspective, the three credits sold so far cost less than a median-priced home in the region. Ultimately, the market sets the price for the mitigation credits. Says Fox, "Fish and Wildlife didn't say, 'Pay this much.' They just said, 'You have to mitigate your property.' Is it a reasonable cost? Well, if the landowners paid it, it was worth it to them, and a better option than any others."

Klemm echoes that assessment. "Responsible developers want to do the right thing. If you take habitat where the species has a fair and even chance to survive, manage it, make sure there's no dumping, make sure there's water and drainage — we're willing to support that, within reason."

The exact value of something like a flower-loving fly is difficult to assess. Ballmer offers a brick wall analogy: "If you keep pulling bricks out, eventually the wall falls down."

(photo courtesy of USFWS)

Developers may see a new resource that allows them to do business, but the City of Colton is still skeptical. In January, they passed an emergency ordinance constraining any party from dealing with fly-affected property unless there is a general plan amendment or they get a conditional use permit. The action took both Vulcan and the FWS by surprise. "This *impedes* the developers from using their land," says Ferris. Because the ordinance prevents Vulcan from selling any credits, the company is suing the city to get it rescinded.

The exact value of something like a flower-loving fly is difficult to assess. Ballmer offers a brick wall analogy: "If you keep pulling bricks out, eventually the wall falls down." You need a critical percentage of bricks to make a sturdy wall, he says, and a critical percentage of species to make a sturdy ecosystem. It's a general sort of theory, but the biologist also has found more concrete hints of how the fly and other dune species are cemented together. It appears that the fly larvae might be tended by ants, like sheep being fed by ranchers, in return for some unknown service.

The deeper biologists dig, the less "common" this fly seems. But beyond its biology, the greatest value of the Delhi Sands flower-loving fly may lie in what people learn in dealing with the endangered species: how to evolve relationships within our complex communities that benefit all its members.

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Get Involved, Get Involved

NMBA Raises the Battle Cry and Details Achievements at its General Members' meeting

By Elizabeth Egan

Craig Denisoff's introductory remarks echoed in the room as he called the meeting to order: "This has been an incredible year for the National Mitigation Banking Association." Running through the many successes of the past year, NMBA's President worked the audience and stirred enthusiasm for the year ahead. "We are ten yards out," he announced. "All we need to do is kick it ten yards into the end zone."

Yesterday's meeting was far from a typical board room gathering as Denisoff praised the proposed mitigation regulations that are now in a final comment period, ending May 30th. Since day one, NMBA has worked with Congress on the proposed rules, stressing the need for equivalent performance standards and financial assurances for all mitigation, a streamlined approval process with deadlines, a formal dispute resolution process, and the phasing out of in-lieu fees. What's next? According to Peggy Strand, NMBA Legal Counsel and Partner at Venable LLP, "The next big steps are getting it done." The association will file comments on behalf of the industry and will have a draft letter available to members no later than May 15.

Spinning off of last year's highlights and listing upcoming activities for the year ahead, Denisoff and other NMBA officers urged members to become engaged and encouraged non-members to join. "We need more energy, more people involved," he said. "Our members are very active. We can only do this for so long."

Strand supported Denisoff in pressing for more member presence on the Hill. "If we walk in the door with someone from a [congressional] district, we're listened to and that's power." Former Secretary Don Ewoldt reiterated Strand's words: "There is nothing in the world that can replace having you get involved in lobbying activities…this is an extremely important part of our efforts."

"This has been an incredible year for the National Mitigation Banking Association"

The cry for participation spread to members as John Ryan, President of Land and Water Resources, Inc., stood up and called for willing individuals to "come up" and "write a check", and be recognized by those in the room. "We're taking the association to a whole new level," Denisoff joked, likening the event to a revival meeting.

NMBA membership has grown over the past years, from 34 members in 2004 to 44 in 2005. New member outreach has inched up as a priority and officers are hoping to have more than 50 members by the end of the year. Craig Denisoff will continue to serve as President with a new board. Upcoming goals and activities for the year include training seminars, supporting energy markets, working to obtain preference in the transportation appropriations bill and other proposed legislation, and finding outside funding sources for the mitigation bank study.

"We're going to get this ball in the end zone," repeated Denisoff as he closed the meeting.

**The proposed mitigation regulations 33 C.F.R. Part 332 and fact sheets are available at the EPA website, www.epa.gov/wetlandsmitigation/

Guest Editorial: Getting Warmer... But Not There Yet

by George Howard

George Howard, vice president of Restoration Systems, LLC and long-time advocate of regulatory changes for compensatory mitigation, tells the ***Ecosystem Marketplace*** *why he thinks the proposed regulations are better, but not perfect.*

On March 28, 2006, the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency (EPA) released their much-anticipated draft mitigation regulations.

When the Associated Press headline appeared describing the proposed federal rules – "Developers Urged to Seek Wetland Experts" – I could sense the collective relief from the mitigation banking industry. The headline writer said it even better than we did with our well-worn talking points.

The new rules are indeed a firm shove from Washington to the amateurs, pretenders and conflicted governments to meet our professional standards for compensatory mitigation. This "shape up or ship out" message from the Army Corps of Engineers and the EPA is important since the under-appreciated challenge of the mitigation business has always been the overwhelming loss of sales opportunities to failure prone (but convenient) forms of mitigation.

Like a doctor and his patient, we don't wish the environment ill in order to improve its health. Consequently, the growth of the mitigation banking industry depends on capturing more of the existing market -- not on increasing damage to the environment.

More specifically, industry growth will be driven by reforms that allow us to compete with other kinds of mitigation providers on a level playing field.

In-lieu-fee (ILF) programs (which accept fees from developers in exchange for promising to undertake mitigation efforts in the future) and developers undertaking their own on-site mitigation projects, historically have not had to meet the same standards as professional mitigation bankers. This double standard has impaired the mitigation banking industry's ability to grow in the past. The new rules provide some significant relief here: The clock is now ticking ominously for ILF programs, which have been told to transform themselves into banks within five years.

Developers performing their own mitigation, however, still enjoy some pretty big breaks that, in my opinion, continue to cry out for reform. In particular, the law that produced the new rules instructed the Corps to "apply equivalent standards and criteria to each type of mitigation." Nonetheless, the proposed rule requires mitigation banks to withhold credits until ecological success is achieved for a given project, but does not hold developer-responsible mitigation projects to the same environmental standard.

As it stands today and under the new rule, the credit (in essence the permission to destroy public waters) provided to a developer performing compensatory mitigation is available upon issuance of the 404 permit, before any of the gains typically expected of a mitigation bank. That's not equivalent, but it may be "practicable," as they say in Washington.

This inequity is the elephant in the living room of the current and proposed system. Many consider this a tolerable hypocrisy. I disagree. Mitigation banks have always suffered from an insistence that they be a perfect solution. As Julie Sibbing of the National Wildlife Federation said in the AP article, mitigation banks are "put on a pedestal." It may not be what she meant, but she's correct, and the environment suffers for it, because it is too easy to default to easier mitigation methods that often don't get mitigation right.

What to do then? You could get rid of the requirement that "a substantial amount of the credit" proposed in a mitigation bank be released only "when performance standards are achieved." This is a flatly hypocritical standard given that non-banked mitigation projects have no equivalent language directed at them. Of course, this would provoke howls of pain by professional wetland advocates that wetland bankers are getting too much too soon.

Or, perhaps, the Army and EPA could tack the other way, and demand that all mitigation simply meet the same criteria as that spelled out for banks. In this case, I think we would see the clout of the word "substantial" severely threat-

ened by reality. America is accustomed to destroying wetland and streams without "substantial amounts" of successful mitigation in place.

Bringing equivalence to the system is easier and less painful than it seems, but requires some new thinking. Mitigation "banks" can no longer, by convention and default, be the only mitigation method universally expected to wait five years or longer to satisfy impacts – especially when impacts are big and are here today. If the alternative is developers undertaking their own mitigation, the rule should be modified to encourage professional banks with short to immediate credit releases (with financial surety and follow-up).

Let me explain further: Extended credit releases are a good idea and altogether appropriate -- when there is plenty of regular impact in a given watershed. Let's call this the "The Florida Rule." In such a busy watershed, an investment in a mitigation bank, like the restored environment, can be expected to reliably mature over time because the mitigation credit needs are reliably forecast and frequent.

But in a watershed where impacts are sporadic and large - for instance in a watershed where a reservoir is being constructed in rural Arkansas – a mitigation "bank" as typically configured is a non-starter. Call this "The Arkansas Rule": Since no long-term business opportunity exists for a bank, the mitigation management and responsibility for a given permit inevitably falls to the unqualified permittee themselves whenever the wetland or stream impact is vastly larger than that generally encountered in the watershed.

"Bringing equivalence to the system is easier and less painful than it seems, but requires some new thinking"

For instance, the local water authority responsible for our Arkansas reservoir, well meaning as it may be, will push through their own poorly planned mitigation (approved concurrent with the impact) long before sponsoring a third-party professional bank. A professional mitigation bank with a credit release that fit the situation -- instead of conventional wisdom – would be a better option for all concerned.

I had a Corps regulator tell me recently that developer sponsored mitigation and mitigation banks are "apples and oranges," and thus a comparison of credit release schedules was invalid. I understand where he was coming from - the paperwork and procedures are very different. But the ecology of the wetland or stream is the same. The system can't treat one as less reliably restored than the other.

"As experts, however, we do ourselves a disservice if we do not continue to work to professionalize the vast amounts of mitigation that ends up managed by developers."

Despite this significant challenge, the rules as proposed are worthy of celebration by mitigation bankers, environmentalists and regulators. They are the result of a tremendous amount of work and sincere effort to improve the system, which they surely do.

As experts, however, we do ourselves a disservice if we do not continue to work to professionalize the vast amounts of mitigation that ends up managed by developers. I remember when Denver Stutler, now Florida Secretary of Transportation, scratched out the concept of "equivalence" as a Washington talking point in 1995. Not long after, Congressman Walter Jones of North Carolina picked up on the concept and included it in his seminal reform bill, which ultimately wrought the rules we see today. They both recognized equivalence as a simple and powerful way to grow the mitigation banking industry and improve the environment. They both were, and still are, right.

George Howard is the vice president of Restoration Systems, LLC.

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www.ecosystemmarketplace.com

The Heartbeat of a Market

by Ricardo Bayon and Nathaniel Carroll

Look closely at the heart of any market and what you find is information. Simply put, information makes transactions possible. If you didn't know who was selling, how could you buy? If you didn't know the price others were paying, how would you know if you were paying too much or too little? If you didn't know the rules of the market, how could you enter it?

Without information, markets cannot function effectively.

And yet, if you look closely at the wetland mitigation and conservation banking markets, there is a definite need for greater information. Who knows, for instance, how many wetland mitigation banks there are west of the Mississippi at any given time? Or, to drill a little deeper, who knows how many banks in Merced County, California are selling San Joaquin Kit fox credits? And do you know how much each one of those credits is worth? What if you needed to know who has purchased them already…could you find out?

If you were asked those questions today, finding an answer might take weeks (or even months) of solid research. That is a problem since those are precisely the sorts of questions that the mitigation and conservation banking markets need to be able to answer quickly and effectively to function effectively in the long-term.

If I am a developer intent on building a mall and need Kit Fox or Tiger Salamander credits, I don't want to spend hours –let alone days or weeks—trying to find out who is selling credits and how much they are going to cost me. And, if I am an investor interested in investing in mitigation/conservation banking markets, I don't want to spend months trying to figure out how these markets work or who is selling what, where.

Coming soon: www.speciesbanking.com

At the Ecosystem Marketplace, we understand the value and the power of information. We also understand that in order for them to grow and thrive, there is a desperate need for someone to collect and disseminate information about the wetland mitigation and conservation banking markets; information people can use, in an easily digestible and searchable fashion. We also understand that someone, somewhere, needs to begin to keep better track of what is happening in these markets; in short, we need a database and registry of sorts on conservation and wetland mitigation.

And so, over the next few months, the Ecosystem Marketplace will be working to construct just such a database/registry, first for conservation banks and then for wetlands banks.

Using our new Species Banking Database, people will be able to get a quick overview of the conservation banking market in the U.S. More importantly, people will be able to search and sort this database according to whatever lines make the most sense to them. If someone wants a list of all the Burrowing Owl banks in California, they can get it; if they want to find out which banks have sold specific credits in a given price range, they can do that too.

Attached to this article you will find a series of screenshots of the database web site (to be located at www.speciesbanking.com sometime after June, 2006). Here you will see that we are not only posting aggregate data (numbers of species banked, number of banks in the US, etc.), we are also allowing users to dig deeper into the database, to find out specific information about all the banks and species on the database, right down to contact details for each bank and each regulator.

We are starting with conservation banking, because we feel the wetland banking task is still a bit to large for us to take on single-handedly. In contrast, the conservation banking market is still small enough for us to really achieve something meaningful in the months to come.

As you can see from these screenshots, the task is already well underway. We hope that you will join us in this endeavor by making use of the database and, most of all, by supplying us with the information we need to make this a reality. Information breeds liquidity, and liquidity will, in the long-term, be good for this industry.

Ricardo Bayon is the Managing Director of the Ecosystem Marketplace and Nathaniel Carroll is a Project Manager at the Ecosystem Marketplace. They can be reached at info@ecosystemmarketplace.com

Hillsboro: Let the River Run

By Cameron Walker

Wetlands and herons are taking over a local landfill on the outskirts of Portland. The ***Ecosystem Marketplace*** *followed along on Tuesday's Hillsboro field trip to find out why.*

The Hillsboro Landfill first greets visitors with the sites and sounds one would expect. Dump trucks chug along with loads of concrete and rubble. Tractors scratch at the dirt before hauling it to their next destination.

Listen more closely, though, and some days you can hear the clacking beaks of young herons in a treetop rookery, said Shane Latimer, senior ecologist for the environmental consulting company Jones & Stokes.

A trip to the top of the landfill reveals a different view – a 174-acre restoration site in several stages of rehabilitation. On Tuesday morning, Latimer and nearly forty conference attendees took the 30-minute drive to the Hillsboro Landfill, due west of Portland, to see this unique mix of landfill, restoration, and future mitigation bank.

"Landfills, particularly in Oregon and wet regions, are great places to build banks," Latimer said. At the Hillsboro Landfill, owned by Waste Management, Jones & Stokes has been at work on a mitigation bank, using a "self-design" approach under the creative direction of the Tualatin River.

Mitigation, and mitigation banking, can help provide what landfills are hungry for: soil. Landfills use soil to create the giant berms needed to border the entire site, and also divide and layer active areas with soil. Landfill construction can create some wetland fills, so the mitigation bank planned by Waste Management is an extra financial perk. "I like to look at it as a wonderful merging of two resources," Latimer said.

Latimer took the group on a two-hour trek along the banks of the site's ponds, through grassy hillsides, and around the prickly arms of Oregon blackberry. The site itself is a floodplain of the Tualatin River that was once farmed for silage corn for a nearby dairy farm. The 725-acre Jackson Bottom Wetlands Preserve sits on the northern edge of the landfill.

In 1989, workers put in 20 acres of mitigation, constructing ponds with islands for waterfowl and trying to improve wetland functions by lowering the water level. But as time went on, mitigation took a new course.

In the second phase of mitigation, from 1995 to 1999, restoration ecologists started switching to the self-design approach, allowing the river's dynamic ebb and flow across the floodplain to focus mitigation efforts.

Latimer points out a 40 to 60 acre area that, in the third phase, will probably boast a mitigation bank. For the time being, the area appears as flat fields and un-vegetated ponds with piles of peat lurking at the edges. The bank will have approximately 40 credits, each selling at market value, which Latimer estimates to be in the $75,000 to $100,000 range.

Relying on the river to do the work has resulted in test sites with anywhere from 200 to 4,000 willow shoots. But that doesn't mean that making wetlands in a floodplain is easy. In winter, six feet of water or more can submerge many sites. Come summer, new plants can get fried.

Reed canary grass provides another of the site's challenges. The plant grows thick roots and can sprout above head-height, making this invasive hard to eradicate from mitigation sites. To address the problem, Latimer and others have tried to keep sites as wet as possible, making it hard for the plant to grow, and tried to pull the grass during its early years of growth.

The invasive's presence – and the site's substantial stretches of open water – concerned Bob Fletcher, with the Ohio Department of Natural Resources. While he was still trying to get a sense of the site's potential, he thought the Corps and other agencies would see this as a problem. The site does have an advantage, he said, in that it complements the Jackson Bottom Wetland Reserve, providing a larger stretch of contiguous habitat.

It's unlikely, though, that landfill-associated banks will have widespread implications for banks where profit, along with restoration, is important. "It's a good project, but it's a special-case scenario," said Donald Ross, president and CEO of the Florida-based firm EarthBalance, after returning from the site. The estimated $4 million yield, which Waste Management may have to wait years to collect, would make it less worthwhile for a wetland mitigation company when one considers the expense of permitting and other costs.

Latimer agreed that the self-design process stretches the timeline into a decade or two. "If you want to a bank to start selling credits in five years, don't do this," he said.

Regardless of the pace, a bank is slowly emerging. This summer workers will put in a corridor to allow wildlife to move from Jackson Bottom to the area south of the landfill. The banking section will be graded and lined with peat. Then Jones & Stokes and Waste Management will wait and see what the river brings.

And where the reed canary grass hasn't taken a chokehold, willows and other species have started to form a shrub-scrub ecosystem that's rarely found anymore in the Tualatin Valley. "Are there other areas that look like this along the river? Not very many," Latimer said.

Cameron Walker is a regular contributor to the Ecosystem Marketplace. She can be reached at cwalker@nasw.org

From Farmer to Wetland Banker

by Nathaniel Carroll

*Tagging along for Tuesday's tour of Mud Slough Wetland Bank, the **Ecosystem Marketplace** got the scoop on Mark Knaupp's conversion from grass farmer to wetland banker.*





As the sun burned through the remaining haze and raptors dodged the harassments of red-winged black birds, Mark Knaupp guided Tuesday's wetland bank field trip through the agricultural lands outside of Oregon's capital, Salem. Speaking to a sold out crowd, Knaupp, a native Oregonian, detailed his story from farmer to banker.

Knaupp, owner and founder of Mud Slough Wetland Mitigation Bank, spent the first 30 years of his career producing high-grade fescue grass seed on his 1,200-acre farm.

In 1996, armed with a love of nature and the land on which he was raised, Knaupp enrolled roughly 330 acres of his farm in the Wetland Reserve Program - it was his first taste of what would soon become a passion: wetland restoration.

Rewarded by his experience with the Wetland Reserve Program, but having reached the limits of federal funding, Knaupp sought more creative means of financing wetland restoration on his farm. Wetland mitigation banking fit the bill.

In September 2000, Phase 1 of the Mud Slough bank established 56 acres as a mitigation offset. With demand high for his credits, Knaupp developed a Phase 2 tract of another 50 acres in 2004. Based on the ecological performance demonstrated in Phase 1, the second phase has already had its credits released for sale.

Standing among the geese, wrens, and mallards in the first 56 acres of his bank, Knaupp explained that this tract's credit ratio is one credit for every two acres, which equates to 27 sold-out credits. He went on to note that most of Phase 2's credit ratio is one to one. And if demand remains strong, Knaupp has plans for Phases 3 and 4.

With development in the Salem area still on an upswing, Knaupp's service area – a 20 x 40 mile area in Polk County – is looking strong. Knaupp has found there is a diverse market for his habitat credit type: mainly restored emergent wet prairie. He has sold credits to commercial and residential developers, transportation agencies, and county agencies.

Knaupp, as he does in his premium seed business, prides himself on the quality of his work. He has gone above and beyond the required restoration standards. The bank's exceptionally diverse native plant community is composed of 104 plant species and includes a sizable population of the threatened Nelson's checker mallow.

One challenge that Knaupp battles regularly is invasive species. From Purple loosestrife to nutria, he has made it his mission to keep Mud Slough 100% free of invasives, even though the banking agreement allows for 15% invasives in the vegetation cover.

Walking through a section of the 10-year-old Wetland Reserve Program restoration, conference attendees got a clear feel for the ecological payoff of Knaupp's passion: Rails stalk prey among the willow trees in an area that Audubon has dubbed an "Important Bird Area of Oregon."

Mark Knaupp's Mud Slough Wetland Mitigation Bank still has two more phases, but 440 acres of wetland suggest he has already navigated the path from grass farmer to wetland banker.

Royal Gardner and colleagues from Florida's Stetson University hide their drinks

Palmer Hough of the U.S. EPA speaks with unidentified participants

Participants visit the Hillsboro Wetlands Restoration project in the morning

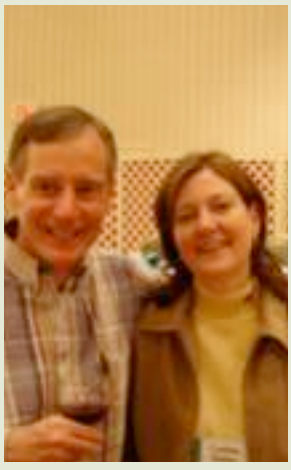
John Ryan of Land and Water Resources Inc. and Judith Taggart of JT&A, Inc.

Steve Morgan, Sharol Moore, and Wildlands colleagues host the reception

Craig Denisoff, newly appointed President of the NMBA makes a point

Dixon Harvey and Fred Danforth of EBX prepare to network

Participants arrive for the evening's reception



Carlene Bahler of JT&A, our fearless organizer

The morning's field trip to Mud Slough Wetland Mitigation Bank

Agenda for Today (Wednesday, April 26, 2006)

8:00 AM - 9:30 AM
Opening Plenary *(G. Ballroom I)*
Moderator: Craig Denisoff,

Welcome. Judith F. Taggart,

Keynote Addresses:

The Honorable Mike Chrisman, State of California

The Honorable Benjamin H. Grumbles, US EPA

The Honorable George S. Dunlop, US Army

9:30 AM - 10:00 AM: BREAK

10:00 AM - 11:30 AM
CONCURRENT SESSIONS
SESSION 1: Ecosystem Banking *(G. Ballroom II)*
CHAIR: Corrie Veenstra, US Army Corps of Engineers
ODOT's Ecosystem-based Banking: William Warncke, ODOT
The Willamette Valley Example of Ecosystem Services: Sara Vickerman, Defenders of Wildlife

Eco-Logical: A Book on an Ecosystem Approach to Developing Infrastructure: Jennifer Moyer, US Army Corps of Engineers

SESSION 2: Tools and Technology *(Galleria)*
CHAIR: Susan-Marie Stedman, NOAA
The Future of E-Banking: Thomas O'Neil, Northwest Habitat Institute
Jumpstart your Mitigation Site: Ken Dalrymple,USFWS,
Stream Mitigation Banking: Calculating Credits: Cynthia Robinson, Robinsong Ecological Services

11:30 AM– 1:45 PM
LUNCHEON -- PLENARY
Federal Regulatory/ Legislative Update *(G. Ballroom I)*
Moderator:: Howard Bleichfeld, Van Ness Feldman

TEA Reauthorization, Water Resources Development Act and Airport Bill: Howard Bleichfeld, Van Ness Feldman

Rolling out the New Regulations — The Nuts & Bolts
Dr. Mark Sudol, US Army Corps of Engineers
Palmer Hough, US EPA
Craig Denisoff, NMBA

2:00 PM - 3:30 PM
CONCURRENT SESSIONS:
SESSION 3: Banking in Uncharted Waters *(G. Ballroom II)*
CHAIR: Lauren Driscoll, Washington State Department of Ecology
Washington State's Wetland Banking Program: Gail Terzi, US Army Corps of Engineers
Banking in Washington State: Jennifer Thomas, Habitat Bank
Mitigation Banking in Alaska: Teri Camery, City and Borough of Juneau, Alaska

SESSION 4: Primer 102: The Business of Banking *(Galleria)*
CHAIR: George Platt, The Wetlandsbank™ Group
Legal and Financial: David L. John, Miller Legg & Associates, Inc.
Land Acquisition: Using the Appraisal: Jeff Kauttu, Kauttu Valuation
Successful Marketing Strategies for Mitigation and Conservation Banks: Sheri Ford Lewin, Mitigation Marketing, LLC,

3:30 PM - 4:00 PM BREAK

4:00 PM - 5:30 PM
CONCURRENT SESSIONS:
SESSION 5: New Opportunities in Banking *(G. Ballroom II)*
CHAIR: Robert Kessler, LG2 Environmental Solutions
Going where No Mitigation Banker has Gone Before!
Wild, Wonderful West Virginia: Rich Mogensen, EarthMark Companies' Mid-Atlantic Mitigation, LLC,
International Market Report: Ricardo Bayon, The Ecosystem Marketplace
Double-dipping or Maximizing Returns: Jessica Fox, EPRI Solutions, Inc.,

SESSION 6: Sustainability: Surviving Disaster *(Galleria)*
CHAIR: Carl Lucero, Natural Resources Conservation Service
State of Banks and Opportunities in Gulf Coast Region: James Barlow, US Army Corps of Engineers
Innovative Cropping System Protects from Floods: William Brian Noyes, USDA Quinton Service Center
Flood, Fire and Drought: Mark Tucker, Tucker and Associates

5:30 PM - 7:00 PM
Reception in Exhibit Area
Hosted by Habitat Bank, LLC and Loafer Creek, LLC

About the Ecosystem Marketplace

The Ecosystem Marketplace seeks to become the world's leading source of information on markets and payment schemes for ecosystem services; services such as water quality, carbon sequestration and biodiversity. We believe that by providing solid and trustworthy information on prices, regulation, science, and other market-relevant issues, markets for ecosystem services will one day become a fundamental part of our economic and environmental system, helping give value to environmental services and thereby helping conserve them.

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The Ecosystem Marketplace is a project of:

FOREST TRENDS

"My lawyer finally got me on the endangered-species list!"