

An aerial photograph of a wetland area. A winding stream flows through the center, surrounded by lush green vegetation. The surrounding land is divided into numerous rectangular plots, likely agricultural fields, with visible furrows and patterns. The background shows a line of trees and a dirt road.

**Environmental Credits in the United States: A
Particular Emphasis on Wetland and Stream
Mitigation, Conservation Banking and Water Quality
Trading**

**Capitalizing on Natural Resources: New Dynamics in
Financial Marketing**

**September 10-11, 2008
Zurich, Switzerland**

Capital

Financing provided for over 45 mitigation projects



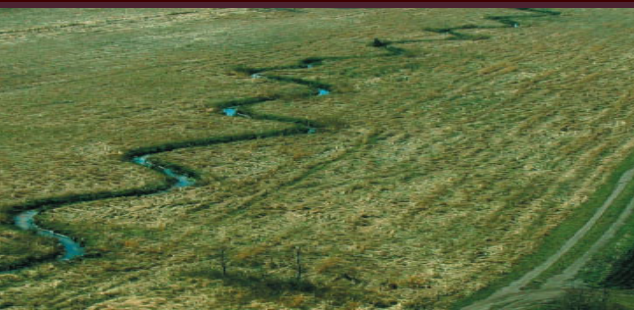
Structured to carry the long term liability associated with mitigation



Invested in and sponsored mitigation banks throughout the US



Funds available for large tract conservation acquisitions



Experience

Founded in 1997, EBX is one of the leading mitigation banking firms in the United States



Over 45 miles of stream and 10,000 acres of wetland, forest, buffer and habitat acres restored or under contract



Long and successful track record working with rural land owners

Expertise

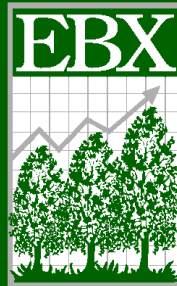
Broad proficiency with the legal, tax, easement and regulatory requirements of mitigation

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Stream, wetlands, and habitat restoration; water quality trading and carbon sequestration

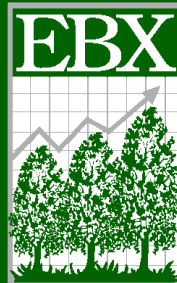
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Build project-specific teams with top engineering and ecological firms



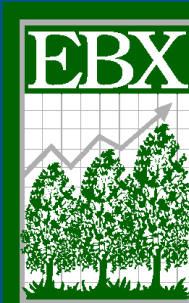
PERSPECTIVE

- Viewpoint of practitioner that has sold over \$75 million in environmental credits
- Entrepreneur that has participated in projects resulting in the restoration and enhancement of over 50 miles of stream 6,000 acres of restored wetlands, and the protection of 7,300 acres of critical species habitat, forest and buffer
- Vice President of National Mitigation Banking Association
- Participant in Nutrient Trading Task Forces in Chesapeake Bay, including serving on the Advisory Committee of the Water Quality Fund for the Chesapeake Bay
- Early stage private sponsor of Ecosystem Marketplace – www.ecosystemmarketplace.com
- EBX maintains a cooperative arrangement – MMA Sustainable Land Investments (conservation land acquisition)
- Primarily focused on U.S. domestic market

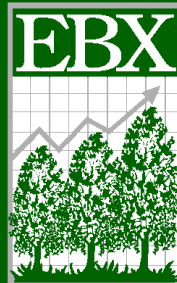
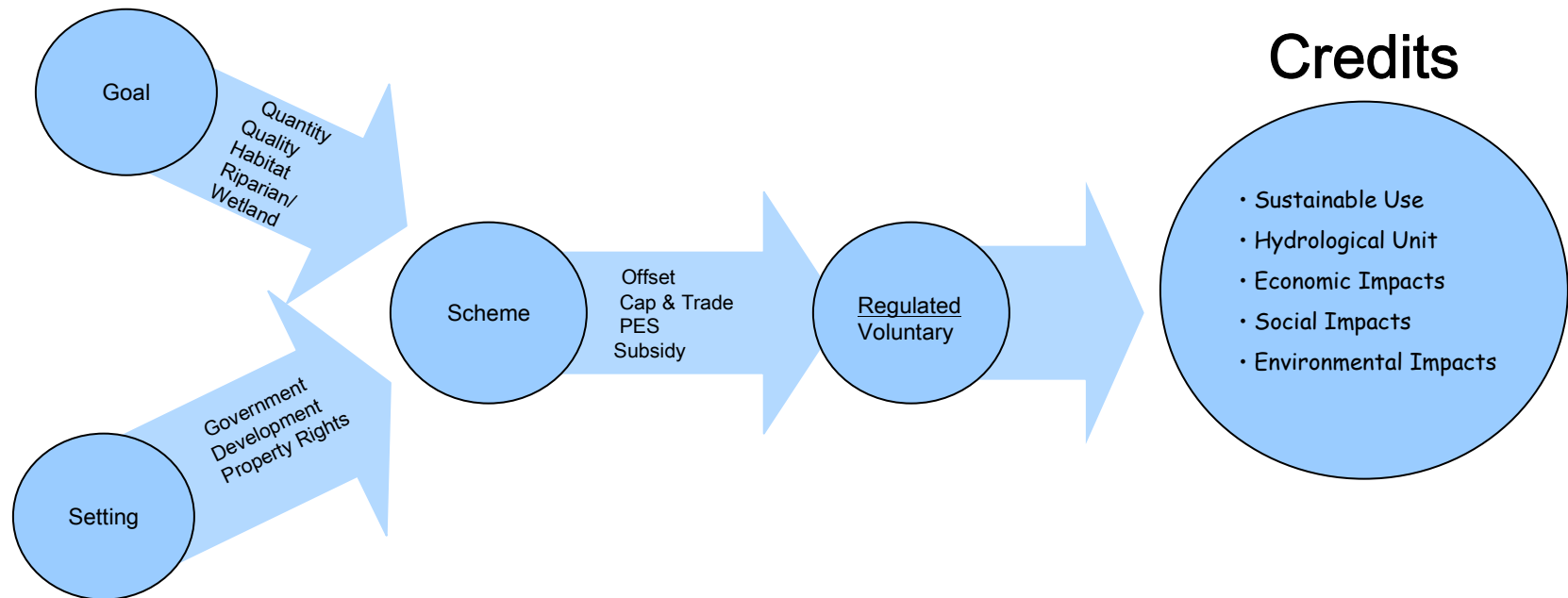


MARKET CONCEPTS

- ***Resource Mitigation/Offsets***
 - Offsetting impacts to resources by restoring and enhancing another similar resource
 - Banking vs. off-site mitigation
- ***Cap and Trade***
 - Trading resource use allowances to achieve a cap on total allowances
 - Air and water quality
- ***Government Incentives and Taxation***
 - Using federal, state and local incentive payments to pay for specific objectives. Using federal and state tax incentives to achieve specific objectives
- ***Payment for Ecological Services***
 - Environmental asset payments

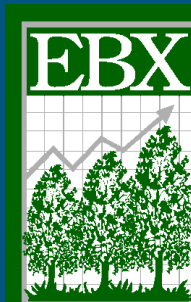


PROGRAMMATIC APPROACHES TO CREDIT MARKET



CREDIT TYPE, GEOGRAPHIC SERVICE AREAS AND CURRENCY (US)

Type	Geographic Service Area	Regulatory Driver	Currency
Wetland	Sub-Watershed	Federal and State	Acres
Stream	Sub-Watershed	Federal and State	Linear Feet
Buffer	Watershed	State	Acres
Habitat	Regions within Recovery Zone	Federal and State	Species/habitat Acreage
Forest	County	State	Acres
Carbon / GHG	National	State/Regional (none at federal level)	Tons CO ₂ e
Nutrient	Watershed	Federal and State	Pounds
Miscellaneous Water Quality	Watershed	Federal and State	Pounds
Stormwater	Watershed	Federal and State	Acres of pervious cover
Renewable Energy	State	State (Federal proposed)	Tradable renewable energy credits
Water Rights	State	State	Acre-feet of water
Aquifer Recharge	State	State	Acres of pervious cover
Development Rights	County	State / County	Development or density units



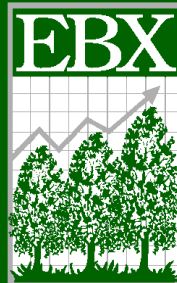
MARKET SNAPSHOT

- According to the Environmental Institute Report entitled, “Mitigation of Impacts to Fish and Wildlife Habitat: Estimating Costs and Identifying Opportunities” dated October, 2007, the annualized mitigation marketplace in the US (based on data between 2003 and 2006) is:
 - Section 404 of the Clean Water Act - \$2.9b
 - Endangered Species Act - \$370m
 - Natural Resource Damages - \$87.7m
 - Federal Power Act - \$210.30m
 - Northwest Power Act - \$207.1m (enhance fish and wildlife in Columbia River Basin)
- North Carolina Ecosystem Enhancement has spent over \$450m since 2002 for wetland, stream and buffer restoration and preservation. This has funded 450 projects resulting in 1.5m stream credits and 14,000 wetland acre/credits.
- Shift of funding toward restoration- Farm Bill; Transportation Bill; WRDA; large-scale recovery efforts (Salmon in Northwest; Great Lakes; Chesapeake Bay; Gulf of Mexico and Everglades)
- Water quality is evolving and there is no real financial data



WETLAND/STREAM MARKET

- Market drivers by Clean Water Act goal of “no overall net loss” of wetland acres and functions announced in 1989. Applies to streams as well.
- From 1989 to 1995, mitigation process was ad hoc. Federal Guidance was issued in 1995, which promoted increased mitigation through private sector.
- Three forms of mitigation: 1) permittee-responsible mitigation, 2) mitigation banks; 3) payment to in-lieu funds. Last two mechanisms are referred to as third-party mitigation, since responsibility and liability for completion is transferred to a party other than permittee.
- New regulations effective June 9, 2008, seeks to promote one standard for mitigation. “Preference” for mitigation banking. New web-based posting mechanism for available credits- “RIBITS”. This standardization has spurred recent investment interest with the advent of at least nine (9) new equity funds dedicated to investment in mitigation projects or conservation lands.
- There are now over 500 mitigation banks in 42 states. Over 70% of mitigation banks are sponsored by private entrepreneurial companies.



CRITICAL MARKET ELEMENTS

- Clear policy goals and strict enforcement
- Evolution to uniform standards
- Rigorous certification process of mitigation process
- Mitigation needs must be easily understandable by impactors
- Understandable currency
- Transfer of liability to mitigation project sponsor



*CONSERVATION BANKING

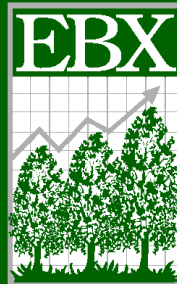
- Endangered Species Act and state counterparts
- California Guidance: 1995
- Federal Guidance: Department of the Interior 2003
- Federal Recovery Credit Guidance: July 31, 2008
- 77 Conservation Banks identified, of which 35 were the subject of Conservation Bank Agreements
- 29 of 35 banks are in California: 2 in Arizona, 2 in Texas, 1 Saipan, 1 Colorado (covering 22 threatened or endangered species)
- 94% are preservation; 91% based on acres of habitat; 65% have greater credit ratios of 1:1; 44% adjacent to existing protected habitat; 66% allow for multiple uses (hiking, hunting, fishing, cattle grazing)
- Bank owners include: Timber companies, NGO's; family ranches and municipalities

* Source: "The Experience of Species Conservation Banking in the United States", Jessica Fox, April 2005



CONSERVATION BANKING MARKET

- Primarily in California and West where there are strong state counterpart laws.
- Mitigation concept for endangered species less clear than wetlands within statutory and regulatory framework.
- States east of Mississippi not yet embrace.
- Variability in enforcement leads to uncertainty in market.
- Less homogenous currency due to multiple species with different recovery needs (i.e., Fairy Shrimp, Red Cockaded Woodpecker, Golden Cheek Warbler, Salmon, Burrowing Owls, Swainson Hawk, Kit Fox, Heelsplitter Mussel, Cheat Salamander, Gopher Tortoise, Scrub Jay, Indiana Bat).
- Ecosystem marketplace – Species.com (template outlining credits, credit location and availability) (due out this Fall).
- Business and Biodiversity Offsets Program (“BBOP”) by Forest Trends/Ecosystem Marketplace 2004.



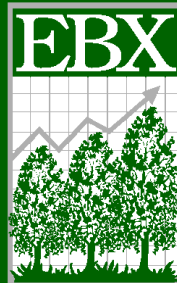
WATER QUALITY MARKETS

- Evolving under Clean Water Act (separate provisions from wetlands)
- EPA Office of Water: Water Quality Trading Policy, January 2003
- Constituents primarily: nitrogen, phosphorus, sediment (not toxics)
- Point to non-point trading (marginal cost savings)
- Examples: Ohio Draft Rules, Pennsylvania Rules Maryland Draft Rules; Virginia Rules; Great Miami River Trading Program; The Long Island Sound Nitrogen Credit Program; Kalamazoo (Michigan) River Watershed Program; The Grassland Area Farmers Program (California); The Piasa Creek Watershed Program (Illinois); The Lower Boise River (Idaho); The Minnesota River Basin Program; The Neuse Nutrient River Program (North Carolina); The Tar Pam River Trading Program (North Carolina)
- New voluntary Water Quality Fund for the Chesapeake Bay being launched by Chesapeake Bay Foundation, World Resources Institute and Forest Trends/Ecosystem Marketplace.



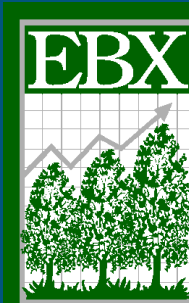
WATER QUALITY TRADING

- Regulatory drivers not in place (need pollutant standards or total maximum daily loads (“TMDLS”) to set cap)
- Uneven enforcement between point source and non-point source (non-point sources not regulated)
- Localized markets limited to watersheds (the greater the scale, the more liquid and commoditized the market)
- No transfer of liability from permittee to project sponsor
- Term of contracts and bankability of credits remain uncertain
- Potential role for insurance in marketplace



CONCLUSION

- Type of market system determined by natural resource goals and objectives and government setting (developed or developing, property rights, etc.)
- Offsets, cap and trade and payment for ecological services are different frameworks resulting in different market results (i.e., commodity-type market versus real estate-type market)
- In the US, regulatory enforcement and implementing policies are the key drivers to creating markets
- Factors such as: clear and uniform standards; uniform currency; transfer of liability ; and rigorous certification process are keys to facilitating market.



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