Taking on the Long-Term Stewardship of Wetland Mitigation Sites

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Webcast sponsored by EPA's Watershed Academy

1

Clean Water Act Section 404 Wetlands Mitigation: *An Introduction and Overview*

Palmer Hough
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Wetlands Division

2

Overview

- Background
- Agency Roles
- Permitting Process
- Policy
- Methods
- Mechanisms

PENNDOT - Old Crow Wetland Mitigation Bank

3

Background

- Clean Water Act of 1972
- §404 requires a permit to discharge dredged or fill materials into waters of the US
- Impacts must be avoided and minimized
- For unavoidable impacts, *compensatory mitigation* is required

4

Agency Roles and Responsibilities

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- State Agencies

5

Activities Regulated Under §404

6

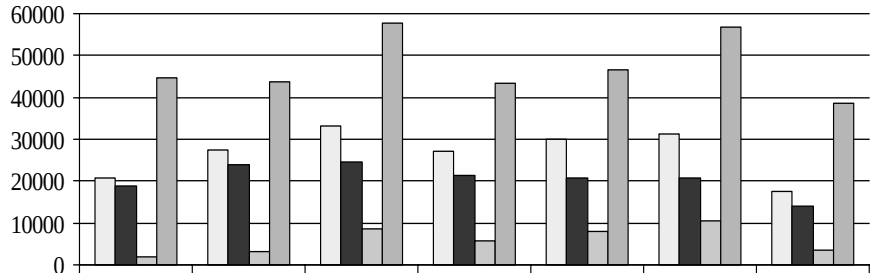
Mitigating Impacts

- Mitigation sequence:
  - Avoid
  - Minimize
  - Compensate
- 1990 Memorandum of Agreement
  - Agreement between the EPA and the Corps that contains the policy and procedures used in determining the type and level of mitigation necessary to demonstrate compliance with the §404(b)(1) Guidelines.

7

Wetland Impacts and Mitigation

US Army Corps of Engineers



	FY 00	FY01*	FY02*	FY03	FY 04*	FY 05*	FY 06*
Requested	20890	27380	33170	27154	29876	31141	17505
Permitted	18900	24070	24650	21330	20754	20754	13887
Avoided	1990	3310	8520	5824	8122	10387	3618
Mitigated	44760	43830	57820	43379	46481	56693	38727

**The values for FY 01, FY 02, and FY 04-06 Requested acres are estimates only, errors in data reporting are being investigated. More accurate data will be provided when available.*

Compensate

- Compensatory Mitigation: Action taken to replace aquatic resources lost to authorized and unavoidable impacts – *"No Net Loss"*
- Functional replacement:
  - Minimum of 1:1
- Methods:
  - Creation
  - Restoration
  - Enhancement
  - Preservation

9

Creation: Freshwater wetland created to compensate for impacts resulting from nearby commercial development (Massachusetts).

10

(Ladd, USACOE)

Restoration: Shallow marsh wetlands restored to compensate for highway impacts (Minnesota).

11

Enhancement: Increased hydroperiod of formerly farmed floodplain wetlands to enhance habitat functions for water birds (Puerto Rico).

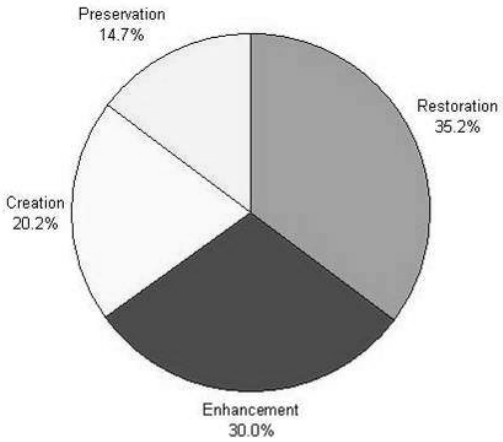
(Pohle, USEPA)

Preservation: Smooth cordgrass salt marsh preserved to compensate for impacts to tidal marshes (Texas)

13

Trends in Compensation Methods

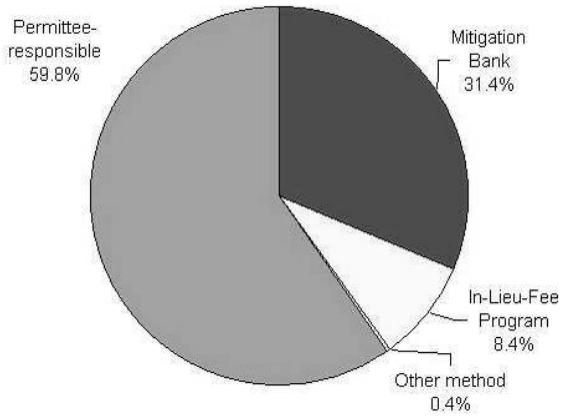
Proportion of required wetland mitigation out of a reported 43,549 acres accomplished nationwide through each of the mitigation methods in fiscal year 2003.



(ELI, 2006)

Compensation Mechanisms

- Permittee Responsible Compensation (PRM)
- Third-party compensation
  - Mitigation Banks
  - In-lieu fee mitigation



(ELI, 2006) [15]

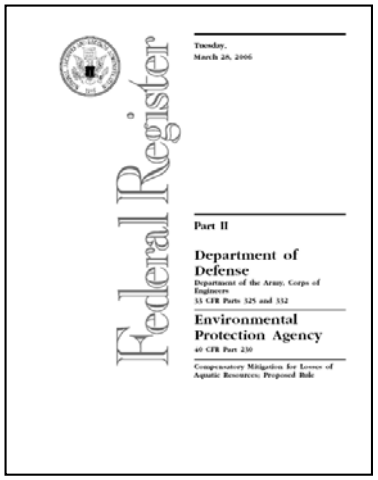
Compensation Guidance

- **1995 Mitigation Banking Guidance**
  - Interagency guidance issued in 1995 to encourage the expanded use of mitigation banking. The document clarifies the agencies' policy on the establishment, use, and operation of mitigation banks.
- **2000 In-Lieu-Fee Mitigation Guidance**
  - Interagency guidance issued in 2000 to clarify the agencies' policy on the manner in which in-lieu-fee mitigation may be used to satisfy compensatory mitigation requirements.
- **2002 Mitigation Regulatory Guidance Letter (RGL) 02-2**
  - Guidance issued jointly by the Corps and EPA in 2002 that clarifies compensatory mitigation policies and procedures in the §404 Regulatory Program.

16

Proposed Compensation Regulations

- Proposed March 28, 2006
- Joint Corps/EPA
- Equivalent and effective standards
- Incorporate National Research Council recommendations
- All three mechanisms
  - Permittee-responsible
  - Mitigation banks
  - In-lieu fee mitigation
- Final rule in 2007

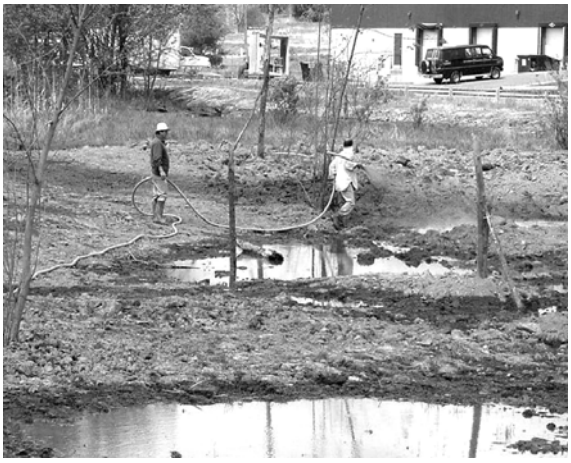


17

On March 27, 2006, EPA and the U.S. Army Corps of Engineers (the Corps) announced proposed revisions to regulations governing compensatory mitigation for authorized impacts to wetlands, streams, and other waters of the U.S. under §404 of the Clean Water Act.

Permittee-Responsible: *How it works…*

- Permittee:
  - Proposes
  - Revises
  - Implements
  - Monitors
  - Remediates
  - Manages
  - Protects



Hydroseeding mitigation site in Portland, ME (Ladd, USACOE)

What is a Mitigation Bank?

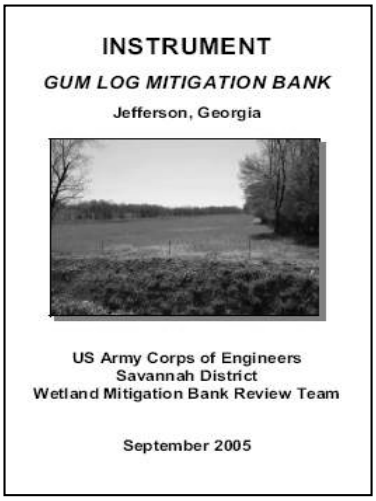
An aquatic resource area that has been *restored, created, enhanced, or preserved,* which is then set aside to compensate for authorized impacts.

Restored perennial and seasonal marsh and riparian forest at Wildlands Mitigation Bank, Placer County, California

19

Mitigation Banks: Key Concepts

- Mitigation banking instrument
- Interagency review team (MBRT)
  - Corps, EPA, FWS, NMFS, and State
- Geographic service area



20

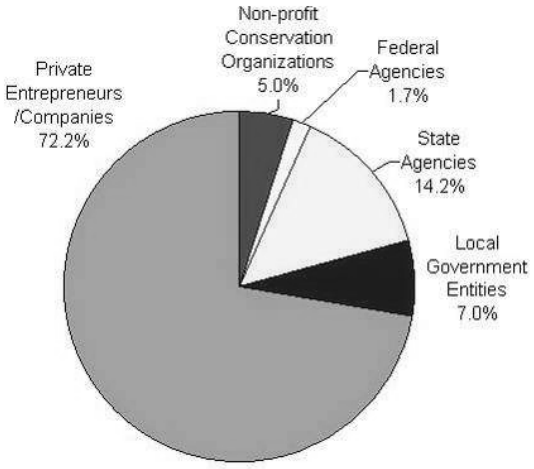
Mitigation Banking: *How it works…*

- Bank's value is defined in mitigation credits
- MBRT approves total potential credits available for sale using Assessment techniques/BPJ
- Credits are released over time as standards and requirements are met

21

Mitigation Bank Sponsors

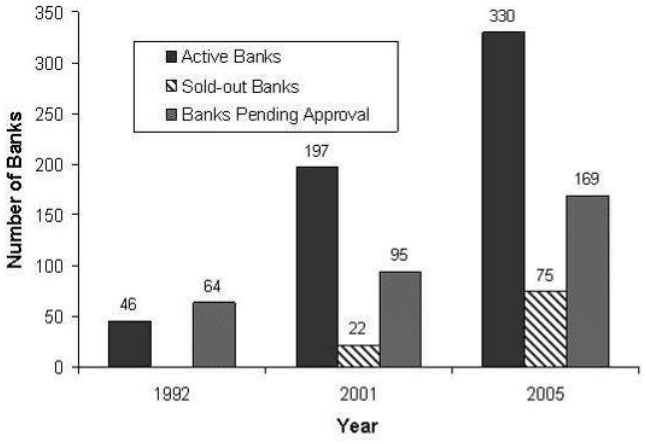
Proportion of approved mitigation banks (2005) that are sponsored by private entities, non-profit conservation organizations, federal agencies, state agencies, and local government entities.



(ELI, 2006) 22

Mitigation Bank Trends

Mitigation banking trends.

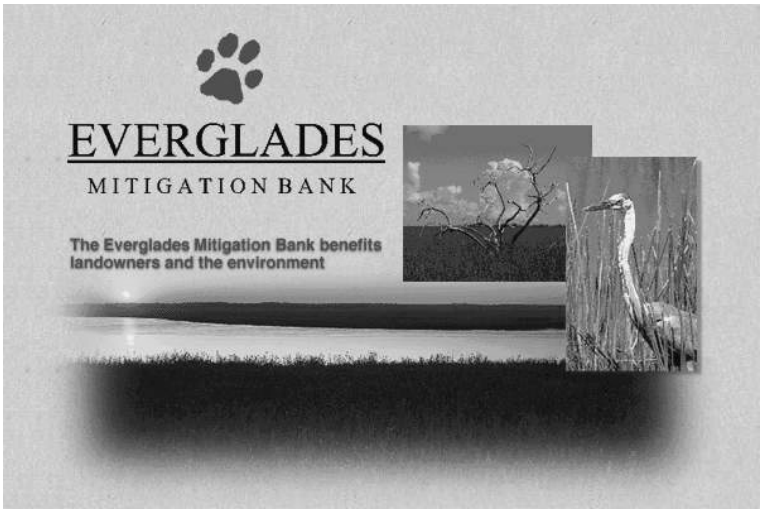


(ELI, 2006) [23]

Geographic Bank Trends

Approved (active or sold-out) mitigation banks in each state 2005.

A Bank Example



25

- 13,500-acre site in South Florida
- Operated by Florida Power and Light
- Phase 1- 4200 acres
- 391 credits (3 types)
- Assessment tool - WATER
- Credit prices:
  - $45,000 (fresh)
  - $75,000 (salt)

Florida Panther [26]

What is In-Lieu-Fee Mitigation?

Funds provided to in-lieu fee sponsor

Third party sponsor:

- Incurs the costs
- Accepts the liability
- May remain liable for long-term stewardship or transfer the liability

27

In-Lieu-Fee Mitigation: *How it works…*

- An in-lieu-fee sponsor (local or state agency, conservation organization) signs an agreement with the Corps
- The sponsor accepts fund
- The sponsor conducts the mitigation when it has collected sufficient funds
- The Corps generally provides review, approval, and oversight of the program and individual projects

28

In-Lieu Fee: *How it Works…*

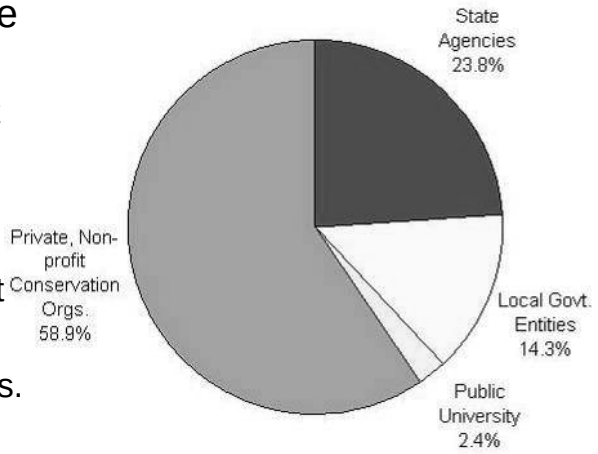
- Mitigation generally not in advance of impacts
- Addresses small impacts

Riparian enhancement, North Carolina In-Lieu Fee Program 29

ILF Sponsors

Approved in-lieu-fee program sponsors

- private non-profit conservation organizations
- state agencies
- local government entities
- public universities.



30

ILF Trends

	1992	1995	2001	2005	Proposed (as of 2005)
ILF Programs	--	8	87	58**	7

**An additional 52 ILF programs were identified as discontinued

(USACOE, 2005) 31

Georgia Wetlands Trust Fund

- Established: 1997 cooperative agreement between the Georgia Land Trust Service Center and the Savannah District of the U.S. Army Corps of Engineers
- The Trust Fund may be used if mitigation on site is not available and if commercial mitigation banks do not have wetlands or stream credits to sell.
- Local partners, land trusts or government agencies, may apply to the Georgia Land Trust Service Center for available funds. Funds are transferred to the local partner upon completion of a Letter Agreement that details how the site is going to be permanently protected.
- The Trust Fund has transferred over $2.5 million to local partners for the permanent preservation of habitat. The tracts preserved to date contain in total over 6.6 miles of stream and 76 acres of wetlands. 32

Hans Neuhauser, Georgia Land Trust Service Center, hansneuhauser@bellsouth.net

Mitigation Project Plans

1. Objectives
2. Site selection
3. Site protection instrument*
4. Baseline information
5. Credit determination
6. Work plan
7. Maintenance plan*
8. Performance Standards
9. Monitoring requirements*
10. Long-term management plan*
11. Contingency Plans*
12. Financial Assurances*

33

Long-term Stewardship is Critical

NRC Mitigation Study recommendations:

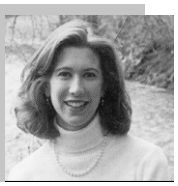
- Compensatory mitigation sites should receive long-term stewardship.
- Third-parties should receive:
  - an easement on or title to the site.
  - a cash contribution for long-term monitoring and management.

34

Questions?

Palmer Hough

Jessica Wilkinson



Deborah Rogers

The Role of Conservation Organizations in Wetlands Mitigation

Jessica Wilkinson
Environmental Law Institute

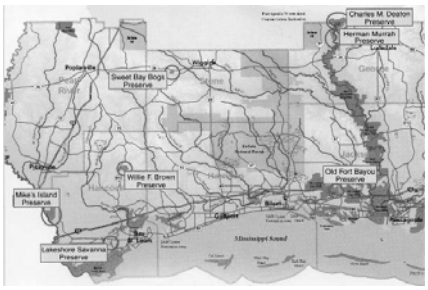
Overview

- Roles for conservation organizations
- Key elements of a mitigation plan
- Things to Consider
- Questions

37

Roles

- Program Sponsor
- Project Partner
- Long-Term Steward



Roles: Mitigation Sponsor

- Bank Sponsor
- ILF Program Sponsor

Great Land Trust: ILF Program Sponsor

The undeveloped 32-acre Fish Creek Estuary in Anchorage, Alaska.

- Established ILF program in 1998
- Program has collected nearly $3 million dollars
- Money has been spent to support large wetland restoration and acquisition projects

TNC: Mississippi Chapter: Mitigation Bank Sponsor

Old Fort Bayou Mitigation Bank managed by the TNC: Mississippi Chapter.

- Old Fort Bayou Mitigation Bank
- Red Creek Mitigation Bank
- Total mitigation = 8,000 acres of restored habitat

Roles: Project Partner

- Assume permit required monitoring responsibilities
- Assume restoration responsibilities
- ILF Project Partner

Solano Land Trust: Project Partner

- Implements projects on land owned in fee
- "Mitigation Program of the Solano Land Trust"

Solano Land Trust's King Ranch Preserve.

www.solanolandtrust.org 43

Roles: Long-term Steward

The habitat steward is responsible for physical and biological stewardship. Generally includes:

- –Monitoring and Maintenance
- –Access Control (e.g. fences, trails, defense)
- –Land owner/ Public Relations
- –Recreation
- –Education
- –Invasive Species Control
- –Fire management
- –Etc.

44

Stewardship Responsibilities

…but all sites will vary.

Congaree Land Trust: Long-Term Steward

- 9 easements on wetlands mitigation sites
- Established partnerships with local land owners and agencies

Mechanisms

- Permittee-Responsible Mitigation
  - Long-term steward of a mitigation site (on-site or off-site)
- Wetland Mitigation Banking
  - Long-term steward of a bank
  - Sponsor a bank
- In-Lieu Fee Mitigation
  - Long-term steward of an ILF site
  - Sponsor an ILF program
  - Sponsor an ILF project

47

Entry Points

- During the Permit Process
  - Consultant, engineer, agency, landowner may ask land trust to sign-on as long-term steward
  - Comment on/assist with design of compensation site
  - Offer mitigation opportunities on land owned in fee
  - Arrange willing land owners in advance of mitigation need
  - Set up mitigation bank or ILF program

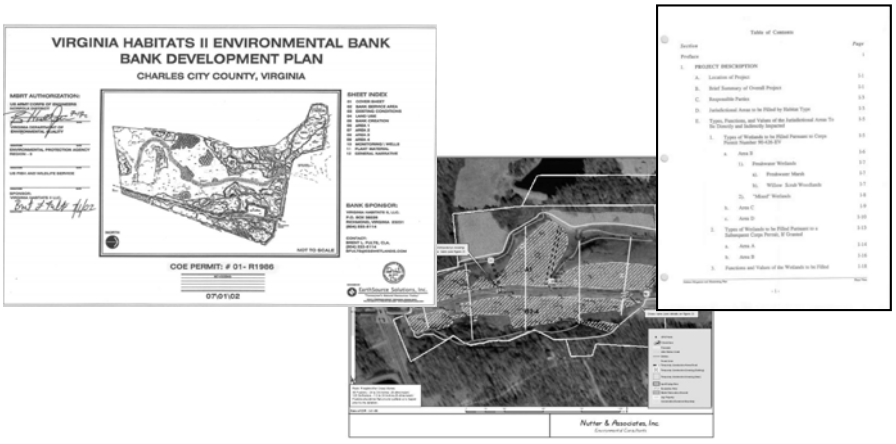
48

Entry Points

- During the Implementation/Monitoring Period
  - Assume restoration/construction activities for a mitigation site
  - Assume monitoring responsibilities within the permit required monitoring period
  - Assume an ILF project
- Long-term Stewardship/Management
  - Assume responsibilities identified in the long-term management plan
  - Draft the long-term management plan

49

Mitigation Project Plans



The permittee or bank sponsor is responsible for complying with all terms and conditions of the plan and would be in violation of their permit if the mitigation fails to comply with the approved plan.

50

Key Elements for Land Trusts

- Objectives
- Site selection
- **Site Protection Instrument**
- Baseline information
- Credit determination
- Work plan
- **Maintenance Plan**
- Performance Standards
- **Monitoring Requirements**
- **Long-Term Management Plan**
- **Contingency Plans**
- **Financial Assurances**

51

Site Protection

- Type of real estate provision
  - Title transfer
  - Conservation easement
  - Deed restriction
  - Declaration of restrictions
- The entity to whom the real estate provision will be transferred
- The date or milestone for transfer of real estate provision

Maintenance and Monitoring

- Maintenance provisions
  - Invasive species control;
  - Prevention of grazing / predation;
  - Repair of habitat / stability structures.
- Monitoring provisions
  - Parties responsible and their roles;
  - Data to be collected, how often and for how long;
  - Assessment tools to monitor progress towards performance standards;
  - Reporting format, frequency, & recipients;
  - Schedule.

Long-term Management Plan

- Long-term management objectives & requirements;
- Identify the entity to take over long-term management responsibilities from the sponsor;
- Source of funds for long-term management;
- Time frame for long-term management activities, if some are temporary.

54

Long-term Management

THE BALLONA FRESHWATER WETLAND SYSTEM
OPERATIONS, MAINTENANCE AND MONITORING MANUAL

TABLE OF CONTENTS

		Page
1.0	Introduction	1-1
1.1	Playa Vista	1-2
1.1.1	Phasing of Construction of the Freshwater Wetland System	1-2
1.2	Regulating Agencies	1-2
1.3	Overview of the Design of the Freshwater Wetland System	1-2
1.4	Purpose of the Operations, Maintenance and Monitoring Manual	1-8
1.4.1	Intended Use	1-8
1.5	Adaptive Management Approach	1-9
1.5.1	Adaptive Management of the Freshwater Wetland System	1-10
1.5.2	Possible Future Scenarios Requiring Adaptive Management	1-11
2.0	Freshwater Wetland System Goals	2-1
2.1	System Dynamics: Balancing Objectives	2-1
2.2	Habitat Objectives	2-1
2.3	Stormwater Management Objectives	2-2
2.4	Water Quality Objectives	2-2
2.5	California Endangered Species Act/Federal Endangered Species Act Compliance	2-2
3.0	Administration of the Freshwater Wetland System	3-1
3.1	Ownership	3-1
3.2	Management Entity	3-1
3.3	Funding	3-1
4.0	Freshwater Wetland System Description	4-1
4.1	Water Sources for the Freshwater Wetland System	4-1
4.2	Riparian Corridor	4-3
4.2.1	Features and Functions	4-3
4.3	Freshwater Marsh	4-3
4.3.1	Features and Functions	4-3
4.4	Treatment of Wet and Dry Weather Runoff Upstream of the System	4-6
5.0	Years One Through Five Operations, Maintenance and Monitoring Overview	5-1
5.1	Overview of Annual Activities	5-2
5.2	Calendar Checklist	5-4
6.0	Task Descriptions	6-1
6.1	Operations, Maintenance and Monitoring	6-1
6.2	Supplemental Task Description	6-1
7.0	Emergency Procedures	7-1
7.1	Tide Gate Failure	7-1
7.2	Storm Drain Blockage	7-1
7.3	Toxic Spills	7-2
7.3.1	Prevention	7-2
7.3.2	Containment	7-2

55

Contingency Plans

- Provisions for responding to unanticipated site conditions or changes
  - Outline remedial actions that each party will take under certain conditions;
  - Outline circumstances that might lead to modification of performance standards;
  - Outline circumstances that might obviate enforcement or remedial actions even if site is adversely impacted.

Financial Assurances

• Financial assurances may be required at two
distinct stages of mitigation projects:

– Contingency funds – during the “active phase” of the mitigation project or bank, typically until either the end of the monitoring period or after all credits have been sold, respectively.

– Long-term management funds – after the mitigation project is established (end of requisite monitoring period) or after the mitigation bank’s credits have been sold.

Long-term Management Funds

- Agreement/contract between permittee or bank sponsor and the easement holder:
  - Financial assurance mechanism;
  - Entity the trust fund will be transferred to;
  - Date or milestone for transfer of the funds;
  - Schedule by which financial assurance may be reviewed and adjusted;
  - Limitations on how the funds can be spent.

58

Finding the Key Elements

Permittee-Responsible Mitigation
- In the permit itself;
- Included as an attachment to the permit; or
- In a plan yet to be submitted.

Mitigation Bank
- Mitigation Banking Instrument (MBI).
  - 1995 Federal Mitigation Banking Guidance;
  - Model Banking Instrument. U.S. Army Corps of Engineers, Institute for Water Resources;
  - Local model instruments provided by Corps District offices.

In-Lieu-Fee Mitigation
- In-Lieu-Fee Agreement/Instrument
- Individual project plans/proposals
  - 2000 ILF Guidance

Things to Consider

- Organizational Stability
- Mission/Board of Directors
- Financial Soundness
- Ability to Perform
- Staff Capabilities and Credentials

60

Things to Consider

- Political ‘leanings’ and involvement
- Professionalism

61

Questions?

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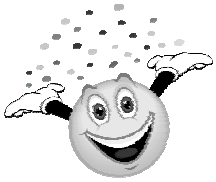
62

Photo by Dwight Hiscano

Check Out Our June 21st Webcast on:

STORET

(Our STOrage and RETrieval Database)



63

Planning for Wetlands Stewardship in Perpetuity


Ballona Freshwater Marsh Preserve

Center for Natural Lands Management

Deborah L. Rogers
Director of Conservation Science

Sherry Teresa
Executive Director

64

Presentation Goals

1. To provide a practitioner's perspective on planning for long-term stewardship
2. To demonstrate the linkage between science-based management and financial planning
3. To introduce a planning tool ('PAR')
4. To emphasize the importance of anticipating future stewardship challenges now

Campbell Ranch Preserve

65

A Practitioner of Wetlands Stewardship: Center for Natural Lands Management (CNLM)

- Founded in 1990
- Section 501(c)3 nonprofit corporation
- Purpose: Protection of biological resources through the long-term stewardship of mitigation and conservation lands
- Staff: Field ecologists, typically with graduate degrees
- California based, at present
- Area under management: Approximately 50,000 acres
- Number of preserves: Approximately 60 (at present)
- Preserve size: 3 to 24,000 acres
- Habitat types: Natural, restored, and created marshes; vernal pools; palm oases; alkali seasonal wetlands; valley foothill riparian; coastal sage scrub; oak woodlands, etc.
- Mitigation banks: 14
- Endowment funds: $40 million

66

CNLM Stewardship Model

- Perform due diligence before acquisition of property interests
- Consult with resources agencies on species/habitat requirements and transactional documents
- Prepare “Property Analysis Record” (PAR)
- Grant third-party enforcement rights to resources agencies
- Document baseline habitat conditions at acquisition of property interest

67

CNLM Stewardship Model, cont.

- Establish stewardship fund:
  - pool funds for investment; preserve-specific accounting
  - legal fund, R&D fund
  - independent auditing of accounts
- Perform scheduled compliance monitoring and reporting
- Use best management practices
- Employ adaptive management methodology
- Prepare and implement five-year preserve management plans (and annual work plans)
- Engage scientific research community for critical research and management consultation
- Confer regularly with resources agencies

68

Stewardship requires financial planning

- Acquisition ≠ stewardship

  Beyond 'protection', objectives may include:

  - restoration of habitat
  - connectivity to other preserves
  - refugia for future displaced species
  - buffering against future disturbances

- Stewardship depends on scientific approach
- Science-based stewardship requires strong financial planning

69

Riparian brush rabbit

Translation of stewardship objectives into:

- Infrastructure
- Activities
- Contingencies

Financial planning

70

CNLM's *Property Analysis Record* (PAR)

- A detailed cost analysis

Input:

- Due diligence (biological, legal, cultural, physical, etc.)
- Costs associated with activities, infrastructures, and risk management to meet stewardship objectives
- Financial parameters

Output:

- Required endowment
- Basis for stewardship plans
- Justification for funding requirements

71

PAR Input I:

Objectives → Activities

1. Acquisitions
2. Site Construction
3. Biotic Surveys
4. Habitat Restoration
5. Habitat Maintenance
6. Water Management
7. Public Services
8. General Maintenance
9. Reporting
10. Office Maintenance
11. Field Equipment
12. Operations

Western snowy plover

72

PAR Input II:

- Stewardship activities
- Risk management
  1. Legal fund
  2. Adaptive management fund
  3. Contingency fund
  4. R & D

73

PAR provides two cost estimates:

for *initial and capital* activities and *ongoing* activities

1. Initial and capital costs
   - Occur once or for a limited period at the beginning of stewardship
   - Allows endowment to generate interest and adjusts for market fluctuations
   - Funded by cash (typically 3-4 years of management activities)
   - Include start-up costs such as:
     - Initial purchase and installation of fencing
     - Creating first management plan
     - Conducting a baseline biological assessment
     - Agency mitigation monitoring

74

PAR provides two cost estimates:

for *initial and capital* activities
and *ongoing* activities

2. Ongoing costs

- Tasks occur repeatedly over time
  - Frequency for tasks may vary from annually to every 40 years
- Tasks become the basis for the longterm stewardship budget
- Some examples are:
  - Fence repair and replacement (annual maintenance or replacement every 30 years)
  - Management plan updates (e.g., every 5 years)
  - Annual biological surveys (yearly monitoring)

75

Financial parameters

Capitalization rate:

- The rate that determines the investment needed to produced a given stream of income in perpetuity
- Reflects the rate of return on an investment compared with the inflation rate
- Calculating the capitalization rate:

e.g., Require $10k annual budget

$10,000/.045

Amount to Invest = $222,222

Cap Rate is a Divisor

76

California red-legged frog

Effect of Capitalization rates

Annual Budget	Capitalization rate	Endowment
$20,000	1.0%	$2,000,000
$20,000	2.5%	$800,000
$20,000	4.5%	$444,444
$20,000	10%	$200,000

77

Inflation-adjusted *Privately invested* Endowment (example)

	Percent	Amount
Endowment	100.0%	$400,000
Investment Earnings	8.5%	$34,000
Inflation Reinvested	4.0%	$16,000
Stewardship Income Used for current expenditures and reserves	4.5%	$18,000

78

Inflation-adjusted *Publicly invested* Endowment (example)

	Percent	Amount
Endowment	100.0%	$400,000
Investment Earnings	6.2%	$26,000 (Bonds only)
Inflation Reinvested	4.0%	$16,000
Stewardship Income	2.2%	$10,000

used for current expenditures and reserves

79

PAR Attributes

- Requires due diligence and definition of stewardship objectives (i.e., a tool only)
- Facilitates communication by translating stewardship into currency
- Flexible (rate based)

80
California tiger salamander

CNLM: Some wetland preserves

Pace Preserve

- 50 acres with 100-acre buffer
- Restored wetlands in tidal delta
- Restored riparian vegetation
- Created for wintering waterfowl, and resting area for migrating shorebirds
- Islands created for waterfowl
- Manual water control structures
- Water levels to be -7 in winter and -9 in summer
- Peat
- Water table at 18”

CNLM: Some wetland preserves

Prichard Lake Preserve

- 43 acres
- Restoration of freshwater marsh wetlands (10 acres)
- Creation of 20 acres of freshwater marsh wetlands and sloughs and 3 acres of seasonal wetlands
- Creation of 10 acres of upland habitat (for listed giant garter snake)
- Close to Sacramento International Airport
- Managed to provide habitat for the garter snake and to minimize attractiveness to large flocks of migratory waterfowl species (i.e., 'hazardous wildlife')

The importance of anticipating future stewardship challenges *now*: Some trends

1. Challenges and costs increase with increasing distance from 'natural' condition

   (i.e., maintenance ⇨ restoration ⇨ creation)

2. Stewardship costs (per acre) increase as preserve size decreases

83

The importance of anticipating future stewardship challenges *now*: Some trends

3. Recreational pressures—both allowed and prohibited— on preserves will continue to increase.

"Off-Highway Vehicular (OHV) use is on the rise. The last 15 years have seen a 1,300 percent increase in SUV street legal 4x4 sales. In the past 5 years, there has been an 85 percent increase in registrations of dirt bikes, and an 87 percent increase in all-terrain vehicle registrations. With the rapidly growing urbanization of California, OHV enthusiasts have fewer places to recreate, while the demand is continuing to grow."

(California Biodiversity Council, 2007)

84

The importance of anticipating future stewardship challenges *now*: Some trends

4. Preserves will experience increasing pressures to serve as:

i) Natural refugia

ii) Recipient sites for translocated species

iii) Research sites

Windemere Preserve

85

QUESTIONS ?

Palmer Hough

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86

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87