

**Note: The California multi-agency Project Delivery Team developed this general outline to assist in the development of the Long-term Management Plan for mitigation banks. Objectives and tasks are provided for illustrative purposes only and may not represent management requirements for a specific bank.
(Template Version Date: May 2008)**

**Long-term Management Plan
For
The _____ Mitigation Bank**

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Long-Term Management Plan

I. Introduction

A. Purpose of Establishment

The _____ (“Bank”) was established by the Bank Enabling Instrument (“BEI”) to compensate for unavoidable impacts to, and to conserve and to protect waters of the U.S., covered species and covered habitat. The Bank property includes _____acres of waters of the U.S. including _____acres [*insert as applicable: of /all of which are*] preserved wetlands, _____acres of created wetlands, _____acres of covered species for [*specify threatened/endangered species*], and _____acres of covered habitat for [*specify threatened/endangered species habitat*]. The BEI Signatory Agencies are the _____ District of the U.S. Army Corps of Engineers, Region 9 of the U.S. Environmental Protection Agency, the _____ Office of the U.S. Fish and Wildlife Service, and the California Department of Fish and Game (“CDFG”)_____ Region. These agencies comprise and are referred to jointly as the Interagency Review Team (“IRT”). Terms used in this management plan have the same meaning as defined in the BEI.

B. Purpose of this Long-term Management Plan

The purpose of this long-term management plan is to ensure the Bank is managed, monitored, and maintained in perpetuity. This management plan establishes objectives, priorities and tasks to monitor, manage, maintain and report on the waters of the U.S., covered species and covered habitat on the Bank. This management plan is a binding and enforceable instrument, implemented by the conservation easement covering the Bank property.

C. Land Manager and Responsibilities

The land manager is _____. The land manager, and subsequent land managers upon transfer, shall implement this long-term management plan, managing and monitoring the bank property in perpetuity to preserve its habitat and conservation values in accordance with the Bank’s BEI, the conservation easement, and the long-term management plan. Long-term management tasks shall be funded through the Endowment Fund. The land manager shall be responsible for providing an annual report to the IRT detailing the time period covered, an itemized account of the management tasks and total amount expended. Any subsequent grading, or alteration of the site’s hydrology and/or topography by the land manager or its representatives must be approved by the IRT and the necessary permits, such as a Section 404 permit, must be obtained if required.

II. Property Description

A. Setting and Location

The Bank is located at _____ [*include address and county*], State of California, designated Assessor's Parcel No. _____. The Property is shown on the general vicinity map (Figure 1) and the bank property map (Figure 2). The general vicinity map shows the Bank location in relation to cities, towns, or major roads, and other distinguishable landmarks. The Bank property map shows the Bank property boundaries on a topographic map.

B. History and Land Use

[*Describe past and present land use including grazing practices*].
The land in the general area of the Bank site is currently _____ [*Describe adjacent land and local area land uses*.]

C. Cultural Resources – (if applicable, refers to Cultural Resources Survey, Exhibit J in the BEI)

[*Describe all existing structures including roads, levees, fencing, and buildings, and their intended future use on the area. If such structures are likely to be considered "historical resources" of the state pursuant to Executive Order W-26-92 and historic resources preservation laws*.]

[*Describe any known archeological sites without providing their specific locations on the property, and include a summary of the results of any site surveys/inventories, including who conducted them. An assessment of the impacts of management should be given for such sites*.]

D. Hydrology and Topography

[*Describe hydrology and topography of Bank site. Indicate whether wetlands are driven by surface flows (i.e., fluvial systems) or groundwater flows from offsite sources. Describe precipitation onto and off of the site*.]

E. Soils

[*Describe soils on the Bank site*.]

F. Existing Easements

[*Include descriptions/locations of existing easements, their nature (buried pipeline, overhead*

power, ingress/egress, etc), authorized users (if known), access procedures, etc. Depict easements, rights of way, ingress, and egress routes on an attached map.]

G. Adjacent Land Uses

[Detail the baseline adjacent land uses. These land uses may change over time; however, the description of the baseline conditions will give the manager some idea of the conditions present when the management plan was first developed. Also detailing adjacent land uses will bring to light areas that may be of management concern or items that may compromise biological integrity over time.]

III. Habitat and Species Descriptions

A. Biological Resources Survey of Bank

[The Biological Resources Survey, Exhibit H in the BEI, shall include a general description of geographic location and features, topography, soils, vegetation (assessment of native vs. exotic species), species present and potentially present, habitat requirements of each species and a quality assessment of all habitat types (i.e. life history requirements of covered species met, habitat diversity, connectivity to other habitats and protected areas), and species presence based on the results of protocol surveys. In addition, provide an inventory list, if available, of plant and animal species which are known or likely to occur on the property. An overview of native plant species present, if applicable, their habitat and management requirement should be presented here.]

A. Summary of Bank Development Plan (if applicable)

[Describe all created and/or enhanced waters of the U.S., covered species and covered habitat. Include acreages and describe plant and animal species that occur within the waters of the U.S. Provide final map showing the location of waters of the U.S., covered species, and covered habitat.]

B. Endangered and Threatened Species

[Describe all endangered and threatened species that occur or may occur on the bank site. If applicable, provide map showing their location.]

C. Rare Species and Species of Special Concern

[Description of rare species and species of special concern that occur or may occur on the bank

site. If applicable, provide map showing their location.]

IV. Management and Monitoring

The overall goal of long-term management is to foster the long term viability of the Bank site's waters of the U.S., covered species and covered habitat. Routine monitoring and minor maintenance tasks are intended to assure the viability of the Bank site in perpetuity.

A. Biological Resources

The approach to the long-term management of the Bank site's biological resources is to conduct annual site examinations and monitoring of selected characteristics to determine stability and ongoing trends of the preserved and created waters of the U.S., including wetlands, [*list covered species and covered habitats*]. Annual monitoring will assess the Bank's condition, degree of erosion, invasion of exotic or deleterious (e.g., thatch producing) species, water quality, fire hazard, and/or other aspects that may warrant management actions. While it is not anticipated that major management actions will be needed, an objective of this long-term management plan is to conduct monitoring to identify any issues that arise, and using adaptive management to determine what actions might be appropriate. Those chosen to accomplish monitoring responsibilities will have the knowledge, training, and experience to accomplish monitoring responsibilities.

Adaptive management means an approach to natural resource management which incorporates changes to management practices, including corrective actions as determined to be appropriate by the IRT in discussion with the land manager. Adaptive management includes those activities necessary to address the affects of climate change, fire, flood, or other natural events, force majeure, etc. Before considering any adaptive management changes to the long-term management plan, the IRT will consider whether such actions will help ensure the continued viability of Bank's biological resources.

[The list that follows is not meant to be exhaustive and some sites may have more elements to consider and some may have fewer.]

The land manager for the Bank site shall implement the following:

Element A.1 Waters of the U.S., including wetlands

Objective: Monitor, conserve and maintain the Bank site's waters of the U.S., including wetlands. Limit any impacts to waters of the U.S. from vehicular travel

or other adverse impacts.

Task: At least one annual walk-through survey will be conducted to qualitatively monitor the general condition of these habitats. General topographic conditions, hydrology, general vegetation cover and composition, invasive species, erosion, will be noted, evaluated and mapped during a site examination in the spring. Notes to be made will include observations of species encountered, water quality, general extent of wetlands, and any occurrences of erosion, and weed invasion.

Task: Establish reference sites for photographs and prepare a site map showing the reference sites for the Bank file. Alternatively, utilize photographic reference sites, if any, developed during interim bank management period. Reference photographs will be taken of the overall wetland mosaic at least every five years from the beginning of the long-term management, with selected reference photos taken on the ground more frequently, _____ times per year (*if applicable*).

Element A.2 Covered Species (if applicable)

Objective: Monitor, conserve and maintain the Bank site's covered species.

Task: As part of the annual site walk-through, the status and any changes to the covered species will be noted. Any necessary tasks will be identified, prioritized and implemented as funding is available.

Element A.3. Covered Habitat (if applicable)

Objective: Monitor, conserve and maintain the Bank site's covered habitat.

Task: As part of the annual site walk-through, the Bank site's covered habitat will be examined for any changes, current condition or pending needs. Any necessary tasks will be identified, prioritized and implemented as funding is available.

Element A.4 Threatened/Endangered Plant Species Monitoring (if applicable)

[Note: This methodology is an example specific to Limnanthes vinculans and may vary for other plant species as determined in consultation with the appropriate agencies]

Objective: Monitor population status and trends.

Objective: Manage to maintain habitat for _____.

Task: Monitor status every year by conducting population assessment surveys. The annual survey dates will be selected during the appropriate blooming period and will generally occur from late March through April depending on the timing of the blooming period each year. Occupied habitat will be mapped and numbered to allow repeatable data collection over subsequent survey years. Abundance will be assessed semi-quantitatively using broad abundance categories, i.e., 0, 1 - 100, 101 - 500, 501 - 1,000, and >1,000 plants.

Task: Visually observe for changes to occupied habitat, such as changed hydrology or vegetation composition. Record any observed changes.

Task: Implement other tasks that enhance or monitor habitat characteristics for _____.

Element A.5 Threatened/Endangered Animal Species Monitoring *(if applicable)*

[Note: Species-specific objectives and tasks will need to be developed in consultation with the appropriate IRT agencies]

Objective: Monitor population status and trends.

Objective: Manage to maintain habitat for _____.

Task: Monitor status every year by conducting population assessment surveys. *[The annual survey dates will be selected during the appropriate period each year.]*

Task: Implement other tasks that enhance or monitor habitat characteristics for _____.

Element A.6 Non-native Invasive Species

[Note: Species-specific objectives and tasks will need to be developed in consultation with the appropriate IRT agencies] Invasive species threaten the diversity or abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat.

Objective: Monitor and maintain control over non-native invasive species,

including but not limited to noxious weeds, that diminish site quality for which the bank was established. The land manager shall consult the following sources for guidance on what species may threaten the site and on management of those species: The California Department of Food and Agriculture (CDFA) list of "noxious weeds" that are subject to regulation or quarantine by county agricultural departments, the [California Department of Food and Agriculture's Integrated Pest Control Branch](#), and the University of California State Integrated Pest Management Program list of "Exotic and invasive pests and diseases that threaten California's agricultural, urban, or natural areas".

Task: Mapping of non-native invasive species cover or presence shall occur during the first five years of bank management, to establish a baseline. Mapping shall be accomplished through use of available technologies, such as GIS and aerial photography.

Task: Each year's annual walk-through survey (or a supplemental survey) will include a qualitative assessment (e.g. visual estimate of cover) of potential or observed noxious weeds or other non-native species invasions, primarily in or around the wetlands. Additional actions to control invasive species will be evaluated and prioritized.

Element A.7 Vegetation Management

Objective: Analyze effects of mowing and grazing on habitat quality. If determined appropriate, develop and implement specific mowing and/or grazing actions in coordination with management at other local conservation sites to maintain habitat quality. [Site specific targets for vegetation may be specified here and task revised or added to achieve those targets].

Objective: Adaptively manage vegetation based on site conditions and data acquired through monitoring to maintain biological values.

Task: Review and explore potential vegetation management regimes as proposals and/or opportunities and funding arise. If determined to potentially maintain site quality, develop specific grazing practices, amend this long-term management plan with the IRT's approval to reflect those practices, and implement grazing actions as funding allows.

Task: Implement vegetation management techniques, if determined

beneficial and as funding allows, to maintain vegetation height and composition similar to baseline conditions or as determined likely to maintain seasonal wetland function [or *threatened/endangered plant species habitat*]. Implementation of vegetation management techniques must be approved by the IRT.

B. Security, Safety, and Public Access

The Bank will be fenced and shall have no general public access, nor any regular public or private use. Research and/or other educational programs or efforts may be allowed on the Bank site as deemed appropriate by the IRT, but are not specifically funded or a part of this long-term management plan.

Potential mosquito abatement issues will be addressed through the development of a plan by the land manager and the mosquito and vector control district in coordination with and approved by the IRT.

Potential wildfire fuels will be reduced as needed by mowing in areas where approved by the IRT.

Element B.1 Trash and trespass

Objective: Monitor sources of trash and trespass.

Objective: Collect and remove trash, repair vandalized structures, and rectify trespass impacts.

Task: During each site visit, record occurrences of trash and/or trespass. Record type, location, and management mitigation recommendations to avoid, minimize, or rectify a trash and/or trespass impact.

Task: At least once yearly collect and remove as much trash and repair and rectify vandalism and trespass impacts.

Element B.2 Fire Hazard Reduction

Objective: Maintain the site as required for fire control while limiting impacts to biological values.

Task: Mow or graze to reduce vegetation in areas required by authority agency(ies), and as approved by the IRT, for fire control.

C. Infrastructure and Facilities

[Fence and gate maintenance and repair frequency will be dependent on trespass and access control issues, as well as whether grazing is utilized as a vegetation management technique and to what extent.]

Element C.1 Fences and Gates

Objective: Monitor condition of fences and gates.

Objective: Maintain fences and gates to prevent casual trespass, allow necessary access, and *[if applicable: facilitate grazing regime and management.]*

Task: During each site visit, record condition of fences and gates. Record location, type, and recommendations to implement fence and/or gate repair or replacement, if applicable.

Task: Maintain fences and gates as necessary by replacing posts, wire, and/or gates. Replace fences and/or gates, as necessary, and as funding allows.

D. Reporting and Administration

Element D.1 Annual Report

Objective: Provide annual report on all management tasks conducted and general site conditions to IRT and any other appropriate parties.

Task: Prepare annual report and any other additional documentation. Include a summary. Complete and circulate to the IRT and other parties by August 15 of each year.

Task: Make recommendations with regard to (1) any habitat enhancement measures deemed to be warranted, (2) any problems that need near short and long-term attention (e.g., weed removal, fence repair, erosion control), and (3) any changes in the monitoring or management program that appear to be warranted based on monitoring results to date.

V. Transfer, Replacement, Amendments, and Notices

A. Transfer

Any subsequent transfer of responsibilities under this long-term management plan to a different land manager shall be requested by the land manager in writing to the IRT, shall require written approval by the IRT, and shall be incorporated into this long-term management plan by amendment. Any subsequent Property Owner assumes land manager responsibilities described in this long-term management plan and as required in the Conservation Easement, unless otherwise amended in writing by the IRT.

B. Replacement

If the land manager fails to implement the tasks described in this long-term management plan and is notified of such failure in writing by any of the IRT, land manager shall have 90 days to cure such failure. If failure is not cured within 90 days, land manager may request a meeting with the IRT to resolve the failure. Such meeting shall occur within 30 days or a longer period if approved by the IRT. Based on the outcome of the meeting, or if no meeting is requested, the IRT may designate a replacement land manager in writing by amendment of this long-term management plan. If land manager fails to designate a replacement land manager, then such public or private land or resource management organization acceptable to and as directed by the IRT may enter onto the Bank property in order to fulfill the purposes of this long-term management plan.

C. Amendments

The land manager, property owner, and the IRT may meet and confer from time to time, upon the request of any one of them, to revise the long-term management plan to better meet management objectives and preserve the habitat and conservation values of the Bank property. Any proposed changes to the long-term management plan shall be discussed with the IRT and the land manager. Any proposed changes will be designed with input from all parties. Amendments to the long-term management plan shall be approved by the IRT in writing shall be required management components and shall be implemented by the land manager.

If the CDFG or USFWS determine, in writing, that continued implementation of the long-term management plan would jeopardize the continued existence of a state or federally listed species, any written amendment to this long-term management plan, determined by either the CDFG or USFWS as necessary to avoid jeopardy, shall be a required management component and shall be implemented by the land manager.

D. Notices

Any notices regarding this long-term management plan shall be directed as follows:

Land Manager (name, address, telephone and FAX)

Property Owner (name, address, telephone and FAX)

IRT, BEI Signatory Agencies:

U.S. Army Corps of Engineers

_____ District

[DISTRICT ADDRESS]

Attn: Chief, Regulatory Branch

Telephone:

Fax:

U.S. Fish and Wildlife Service

_____ Office

[FIELD OFFICE ADDRESS]

Attn: Field Supervisor

Telephone:

Fax:

U.S. Environmental Protection Agency

Region IX
75 Hawthorne Street
San Francisco, CA 94105
Attn: Director, Water Division
Telephone: 415-947-8707
Fax: 415-947-3549

California Department of Fish and Game
_____Region
[REGION ADDRESS]
Attn: Regional Manager
Telephone:
Fax:

California Department of Fish and Game
Habitat Conservation Branch
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
Attn: Branch Chief
Telephone: 916-653-4875
Fax: 916-653-2588

VI. Funding and Task Prioritization

A. Funding

[The list of tasks in Table 1 is not meant to be exhaustive and some sites may have more elements to consider and some may have fewer depending on the attributes of the bank.]
Table 1 summarizes the anticipated costs of long- term management for the Bank. These costs include estimates of time and funding needed to conduct the basic monitoring site visits and reporting, weed mowing, trash removal, fence repair, and a prorated calculation of funding needed to fully replace the fences every _____ years. The total annual funding anticipated is approximately \$_____, therefore, with the current annual estimated capitalization rate of,____ the total endowment amount required will be \$_____.

CDFG shall hold the endowment principal and interest monies as required by law in the Special Deposit Fund, or a subsequent state authorized trustee fund, which consists of monies that are paid into it in trust pursuant to law, and is appropriated to fulfill the purposes for which payments into it are made. These interest monies will fund the long-term management, enhancement, and monitoring activities on habitat lands in a manner consistent with this long-term management plan.

[If CDFG is not the land manager and/or property owner insert: Land manager shall consult with CDFG on a year to year basis to determine the amount of funding available for management and monitoring activities. Following annual management activities, land manager may invoice CDFG for management activities following the invoicing instructions provided by CDFG.]

B. Task Prioritization

Due to unforeseen circumstances, prioritization of tasks, including tasks resulting from new requirements, may be necessary if insufficient funding is available to accomplish all tasks. The land manager and the BEI IRT shall discuss task priorities and funding availability to determine which tasks will be implemented. In general, tasks are prioritized in this order: 1) required by a local, state, or federal agency; 2) tasks necessary to maintain or remediate habitat quality; and 3) tasks that monitor resources, particularly if past monitoring has not shown downward trends. Equipment and materials necessary to implement priority tasks will also be considered priorities. Final determination of task priorities in any given year of insufficient funding will be determined in consultation with the BEI IRT and as authorized by the BEI IRT in writing.

Table 1. Bank Management and Monitoring Activities, Level of Effort, Frequency and Cost.

General Bank Management & Description Monitoring Activities	Description	Level of Effort	Cost per Unit	Cost	Frequency	Schedule	Annual Cost
Element A.1 Waters of the U.S. , including wetlands							
Monitor waters of the U.S.	Walking survey; notes, photos	No. of hours	\$/hour	\$	2-3 surveys per year	winter, spring	\$
Reference photography	Compile and present	No. of hours	\$/hour	\$+ 100 exps.	annual	winter, spring	\$
Element A.2 Covered Species, if applicable							
Monitor Covered Species	Walking survey; notes, photos	No. of hours	\$/hour	\$	once per year	any time	\$
Element A.3 Covered Habitat, if applicable							
Monitor Covered Habitat	Map; assess abundance/health	No. of hours	\$/hour	\$	every year	April (May)	\$
Element A.4 Threatened/Endangered plant species monitoring, if applicable							
	Map; assess abundance/health	No. of hours	\$/hour	\$	every year	As appropriate	\$
Element A.5 Threatened/Endangered animal species monitoring, if applicable							
Monitor species	Map; assess abundance/health	No. of hours	\$/hour	\$	every year	As appropriate	\$
Element A.6 Invasive Species							
Assess weed growth, extent	Walking survey, map; research	No. of hours	\$/hour	\$	1-2 times per year	spring, summer	\$
Weed removal	Hand labor	No. of hours	\$/hour	\$	as needed	late spring, summer	\$
Element A.7 Vegetation Management							

Mowing	Contract mowing	No. of hours	\$/hour	\$	once per year	early summer	\$
Grazing research and management	Research and coordination	No. of hours	\$/hour	\$	as appropriate	as needed	\$

Table 1. Bank Management and Monitoring Activities, Level of Effort, Frequency and Cost, continued.

General Bank Management & Monitoring Activities	Description	Level of Effort	Cost per Unit	Cost	Frequency	Schedule	Annual Cost
Element B.1 Trash and Trespass							
Trash and trespass monitoring	Walking surveys	No. of hours	\$/hour	\$	3 times per year	as appropriate	\$
Trash removal and cleanup	Hand labor	No. of hours	\$/hour	\$	as needed	as needed	\$
Element B.2 Fire Hazard Reduction							
Fire hazard assess and contracting	Survey, contract, supervise	No. of hours	\$/hour	\$	as needed; once per year	late spring	\$
Element C.1 Fences and Gates							
Survey & assess fences	Walk; document conditions	No. of hours	\$/hour	\$	1-2 times per year	as needed	\$
Repair fencing	Hand labor	No. of hours	\$/hour	\$	as needed	as needed	\$
Replace fencing	Materials and labor	number of feet	\$/ foot	\$	replace every __ yr	ongoing	\$
Gate replacement	Materials and labor	1 gate	\$	\$	replace every __ yr	as needed	\$
Element D.1 Annual Report							
Annual report	Analyze & report; maps, photos	No. of hours	\$/hour	\$	once per year	due in summer	\$
Account administration		No. of	\$/hour	\$	as needed	annually	\$

	hours		
Vehicles and supplies		\$	\$
Totals			\$
Current annual capitalization rate			x.x%
<hr/> TOTAL ENDOWMENT			\$
<hr/>			