



Identifying and Estimating Management Costs

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In-Lieu-Fee Webinar * June 3, 2013

Biological Goals

- **Preserve the abundance and diversity** of native plant and animal species within the Bank.
- **Protect the Bank** from the effects of adjacent land uses that may adversely impact the Bank.
- **Repair or restore** any adverse condition within the Bank that may affect or potentially affect the Bank.

Conservation is a Long-term Commitment

- The land does not take care of itself
- Bad things happen
- You can't choose your neighbors
- Land Management involves risk
- **You need a Plan!**



The Management Plan

Meridian Ranch Mitigation Bank Operations And Management Plan

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Source document: California Long-Term Management Plan Template

Determining Management Costs

How does one calculate the base amount of funding necessary for perpetual site maintenance?

1. Review CE and Management Plan for actionable tasks
2. Correlate rates to specific tasks/materials
3. Determine re-occurrence interval for actions/items
4. Apply investment rate to calculate total funding for each task/item

Management Actions: Example

- **5.3.2 Thatch Management**
 - Three current methods :
 - **5.3.2.1 Grazing**
 - **5.3.2.2 Mowing**
 - **5.3.2.3 Controlled Burns**



Range of Activities

- **Relatively simple:**
Meridian Ranch –
vernal pool landscape.
Uses grazing as a key
management tool.



- **Relatively complicated:**
Cosumnes – floodplain
restoration. Requires
annual mowing to
remove herbaceous
cover to allow natural
riparian recruitment.



Determining Management Costs

Defining Tasks and Frequency

Management Plan Action	Description of Tasks from Management Plan	Cost Basis
Element A.6 Vegetation Management		
Update Grazing Plan	The grazing plan will be evaluated and updated every 5 years based upon site experience and the most current, best available scientific practices. Estimated cycle of occurrence is every five years for this task.	This task occurs once every five years, and allocates three hours for the Monitoring Biologist, and an hour for the Bank Manager's to review current conditions on the site and to make adjustments to the grazing density or timing and duration of grazing activities.
Grazing Coordination (Implementation)	Implement annual grazing on the Bank to reduce thatch and control existing populations of non-native invasive species. This task occurs every year.	This task occurs every year and consists primarily of coordinating with the grazing lessee. Two hours a year are allocated for the Bank Manager, and four hours a year are allocated for the Monitoring Biologist for this task.
Local agency coordination (Implementation)	Coordinate vegetation management with local agencies. Estimated cycle of occurrence is every five years for this task.	This task occurs once every five years and primarily consists of a review of local ordinances for any changes in requirements for firebreaks or setbacks. One hour of time for the Bank Manager and another hour for the Scientific Technician are budgeted for this item.
Element B.1 Trash and Trespass		
Monitor sources of trash and trespass	During each site visit, record occurrences of trash and/or trespass. Record type, location, and management mitigation recommendations to avoid, minimize, or rectify trash and/or trespass impact.	This task occurs each year and is covered under the hours allotted to the two annual walk-through surveys and is funded by the existing endowment for the Property.
Annual Trash collection	At least once yearly collect and remove trash and repair and rectify vandalism and trespass impacts.	This task occurs annually and is allotted 4 hours for a Field Technician for trash removal and to rectify trespass impacts.
Element B.2 Fire Hazard Reduction		
Mow or graze to reduce to reduce fuel	Graze at levels to reduce vegetation in fire prone areas, and comply with County fire ordinances in a manner approved by the IRT.	This task occurs every year and occurs through implementation of the Grazing Plan and is funded by other tasks within the Endowment.
Monitor nesting birds	A ground nesting bird survey will be conducted if firebreaks are to be cut between February 15th and July 1 st . Areas with nesting birds will be avoided by a minimum of 250 feet until nesting is complete to minimize impacts to these individuals.	Firebreaks are not anticipated as a normal practice and firebreaks are not normally installed prior to July 1st, the official beginning of the fire season. If required before July 1st, contingency funds can be used to create the firebreaks.
Element C.1 Fences and Gates		
Monitor condition of fences and gates	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. Additional focus to be made to the fence along Meridian Road, as it is the primary area for potential public access.	This task occurs every year and occurs through implementation of the Grazing Plan and is funded by other tasks within the Endowment.
Fence, signage, and gate maintenance	Maintain fences and gates as necessary by replacing posts, wire, and/or gates.	This task occurs each year and allots 6 hours for a Field Technician to complete the necessary maintenance.
Fence materials for maintenance		Costs of \$3.7 per linear foot are based upon a current cost estimate from a fencing contractor. 10% of the perimeter fence will be replaced every five years.
Signage		This task occurs every 10 years, and calculates the cost of replacing the perimeter signs for the Bank (14 signs).

Assigning Costs to Tasks

- Recommendation: do you own research
- Sources:
 - Consultants
 - Contractors
 - Local cooperative extension office
 - County agriculture production reports
 - Natural Resources Conservation Service
 - Grant program reports
 - Example: Env. Quality Incentives Program (EQIP)
Cost-Share Figures
 - Local Farmers/Ranchers

Management Plan Action	Cost Unit	Hourly Rates										Fixed Costs		Total	Occurrence Cycle	Annual Cost	Endowment
		Bank Mgr. (\$100)		Monitor Bio. (\$90)		Tech (\$75)		Field Crew (\$35)		Admin (\$50)		Cost	Qty				
		Cost	Hr	Cost	Hr	Cost	Hr	Cost	Hr	Cost	Hr						
Element A.1 Vernal Pools and Associated Habitat Features														\$ -			\$ -
Two annual walk through surveys (funded by PG&E Endowment)														\$ -	1	\$ -	\$ -
Reference Photography (funded as part of walk through)														\$ -			\$ -
Quantitative habitat assessment	Hourly		11	990	42	3,150								\$ 4,140	5	\$ 828	\$ 22,058
CRAM Analysis	Hourly		11	990	11	825								\$ 1,815	5	\$ 363	\$ 9,670
Aerial photo for hydrologic monitoring (paid under PG&E Endowment)												\$1,200	0.0	\$ -	5	\$ -	\$ -
Element A.2 Vernal Pool Invertebrates														\$ -			\$ -
Walk through surveys (funded by Element A.1 walk through surveys)	Hourly													\$ -			\$ -
Vernal Pool Invertebrate Surveys												\$5,600	1.0	\$ 5,600	5	\$ 1,120	\$ 29,837
Implement Habitat improvement actions (funded by Adaptive Mngmt)														\$ -			\$ -
Element A.3 Swainson's Hawk														\$ -			\$ -
Walk through surveys (funded by Element A.1 walk through surveys)	Hourly													\$ -			\$ -
Swainson's Hawk surveys	Hourly				11	825								\$ 825	5	\$ 165	\$ 4,398
Implement Habitat improvement actions (funded by Adaptive Mngmt)	Hourly													\$ -			\$ -
Element A.4 "Non-listed Wildlife Species"														\$ -			\$ -
Implement burn plan	Capital													\$ -			\$ -
Walk through surveys (funded by Element A.1 walk through surveys)	Capital													\$ -			\$ -
Element A.5 Non-native Invasive Species														\$ -			\$ -
Baseline Surveys - (funded by Bank Operator during establishment)	Capital													\$ -			\$ -
Monitor thatch/non-native species (funded by Element A.1 walk through surveys)	Capital													\$ -	1	\$ -	\$ -
Mowing (Invasive Species Control)							8	280						\$ 280	3	\$ 93	\$ 2,575
Herbicide (Invasive Species Control)											\$250	3.0	\$ 750	3	\$ 250	\$ 6,899	
Herbicide application (Invasive Species Control)							16	560						\$ 560	3	\$ 187	\$ 5,151
Element A.6 Vegetation Management														\$ -			\$ -
Update Grazing Plan	Hourly	1	100	3	270									\$ 370	5	\$ 74	\$ 1,971
Grazing Coordination (Implementation)		2	200	4	360									\$ 560	1	\$ 560	\$ 16,000
Local agency coordination (Implementation)	Hourly	1	100		1	75								\$ 175	5	\$ 35	\$ 932
Element B.1 Trash and Trespass														\$ -			\$ -
Monitor sources of trash and trespass (funded by other actions)	Capital													\$ -			\$ -
Annual Trash collection	Capital						4	140						\$ 140	1	\$ 140	\$ 4,000
Element B.2 Fire Hazard Reduction														\$ -			\$ -
Mow or graze to reduce fuel (funded by grazing action)	Hourly													\$ -			\$ -
Monitor nesting birds (if needed - contingency funds will be used)														\$ -			\$ -
Element C.1 Fences and Gates														\$ -			\$ -
Monitor condition of fences and gates (funded by other actions)														\$ -			\$ -
Fence, signage, and gate maintenance							6	210						\$ 210	1	\$ 210	\$ 6,000
Fence materials for maintenance											\$3.75	2800.0		\$ 10,500	5	\$ 2,100	\$ 55,944
Signage											\$20	14.0		\$ 280	10	\$ 28	\$ 682
Gate											\$1,200	1.0		\$ 1,200	15	\$ 80	\$ 1,777
Element D.1 Annual Report														\$ -			\$ -
Prepare Annual Report		4	400	6	540	12	900			1	50			\$ 1,890	1	\$ 1,890	\$ 54,000
Report Materials											\$35	1.0		\$ 35	1	\$ 35	\$ 1,000
Miscellaneous														\$ -			\$ -
Education and Landowner Coordination	Hourly	4	400											\$ 400	1	\$ 400	\$ 11,429
Agency Coordination	Hourly	5	500	6	540									\$ 1,040	2	\$ 520	\$ 14,602
Adaptive Management (Staff Coordination)	Hourly	8	800	4	360									\$ 1,160	5	\$ 232	\$ 6,181
Mileage (Covered under PG&E Endowment)	Hourly										\$0.550	0.0		\$ -	1	\$ -	\$ -
Property Taxes														\$ -			\$ -
Insurance														\$ -			\$ -

Stewardship subtotal	\$45,000	\$432,910
10.0% Contingency		\$43,291
15.0% Administrative	\$64,936	
4.5% Interest Rate		
Endowment Subtotals	\$109,936	\$476,201
Grand Total		\$586,137

Converting Tasks to Dollar Costs

PAR Software -Tasking

Tasking
Phasing

View All
 View Included only

Display Category
 All Categories

Auto-populate the Ongoing Information

Find:

Inc	Cat	Task	Specific Description	Initial Cost					Ongoing Cost				
				Units	Qty	Rate	* #Yrs	Cost	Units	Qty	Rate	#Yrs	Cost
<input checked="" type="checkbox"/>	Acc	Boundary Survey	Survey/staking	Item	5.000	2.00	2	20.00	Item	2.000	2.00	0	0.00
<input type="checkbox"/>	Acc	Conservation Easement P	Conservation Esmt. Cost										
<input type="checkbox"/>	Acc	Escrow	Fee										
<input checked="" type="checkbox"/>	Acc	Funding Efforts	Find Funding For Purchase	L. Ho	35.000	55.00	3	5775.00	L. Ho	35.000	55.00	0	0.00
<input type="checkbox"/>	Acc	Hazardous Materials Inspe	Contract For Haz. Mat.										
<input type="checkbox"/>	Acc	Inspection	Property Inspection										
<input checked="" type="checkbox"/>	Acc	Land Purchase	Acquisition Cost	Acre	200.000	113000.00	1	22600000.0	Acre	0.000	0.00	0	0.00
<input checked="" type="checkbox"/>	Acc	Legal Assistance	Prepare/review Documents	C. Ho	12.000	175.00	1	2100.00	C. Ho	12.000	175.00	0	0.00
<input type="checkbox"/>	Acc	Loan Repayment	Principal & Interest										
<input checked="" type="checkbox"/>	Acc	Negotiation	Negotiation Of Purchase	L. Ho	42.000	55.00	1	2310.00	L. Ho	42.000	55.00	0	0.00
<input type="checkbox"/>	Acc	Property Search	Search Ownerships/maps										
<input type="checkbox"/>	Acc	Real Estate Commission	Pay Realtor										
<input type="checkbox"/>	Acc	Recording Fees	Record Documents										
<input type="checkbox"/>	Acc	Title Insurance	Standard CLTA										

Category: Acquisition	Position: Not Assigned	Person:	Admin Rate: 24.00	Contingency Rate: 10.00	Reoccurring Yr: 0	<input type="checkbox"/> Reinvestment
Task: Boundary Survey	Initial:				Acct Code: 00000	<input checked="" type="checkbox"/> Phased
Specific: Survey/staking	Ongoing:					

Modified Last by: LG Modified: 10/31/2007 10:23:32 AM Assign Position Global Rate Change Financial Summary Duplicate Task Add a User Task

PAR Software - Worksheets

Section 8 - Initial & Capital Tasks and Costs

Property Title:
Budget: PAR

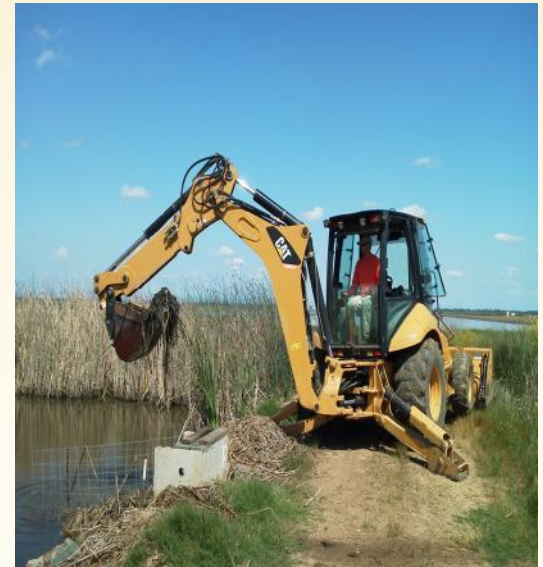
Dataset: CA004

PAR ID: P141VER1

05/17/2005

Task list	Specificaton	Unit	Number of Units	Cost / Unit	Annual Cost	Times Years	Total Cost
ACQUISITION							
Inspection	Property inspection	L. Hours	4.00	43.00	172.00	1.0	172.00
Legal Assistance	Prepare/review documents	C. Hours	6.00	215.00	1,290.00	1.0	1,290.00
Conservation Easement	Acquisition - Lots 46, 172, A	L. Hours	8.00	50.00	400.00	1.0	400.00
Conservation Easement	Acquisition - Lots 46, 172, A	Item	1.00	125.00	125.00	1.0	125.00
Sub-Total							1,987.00
SITE CONSTRUCTION/MAINT.							
Fence	Maintenance/materials	Year	1.00	250.00	250.00	1.0	250.00
Lock	Padlock	Item	1.00	9.00	9.00	1.0	9.00
Fence	Maintenance/labor	L. Hours	16.00	33.00	528.00	1.0	528.00
Sub-Total							787.00
BIOTIC SURVEYS							
Project Management	Plan/coordinate	L. Hours	12.00	43.00	516.00	3.0	1,548.00
Plant Ecologist	Quantitative Monitoring	L. Hours	76.00	43.00	3,268.00	1.0	3,268.00
Plant Ecologist	Qualitative Monitoring	L. Hours	20.00	43.00	860.00	3.0	2,580.00
Ornithologist	CAGN; cactus wren	L. Hours	50.00	43.00	2,150.00	3.0	6,450.00
Science Director	Oversight and Review	Hours	26.00	46.50	1,209.00	3.0	3,627.00
Other	Adaptive Management	Year	1.00	2,500.00	2,500.00	3.0	7,500.00
Sub-Total							24,973.00
HABITAT MAINTENANCE							
Exotic Plant Control	Hand Removal, Labor	L. Hours	24.00	33.00	792.00	3.0	2,376.00
Exotic Plant Control	Herbicide	Item	1.00	140.00	140.00	3.0	420.00
Exotic Plant Control	Backpack Spray	L. Hours	16.00	33.00	528.00	3.0	1,584.00
Exotic Animal Control	Cowbird trapping (5 traps)	Contract	1.00	32,000.00	32,000.00	3.0	96,000.00
Sub-Total							100,380.00
PUBLIC SERVICES							
Patrolling	Monthly	L. Hours	50.00	33.00	1,650.00	3.0	4,950.00
Sign	Boundary	Item	25.00	6.00	150.00	1.0	150.00
Sign	Labor	L. Hours	8.00	33.00	264.00	1.0	264.00
Other	Meetings	L. Hours	16.00	43.00	688.00	3.0	2,064.00
Sub-Total							7,428.00

Ongoing Habitat Management: Beaver Control



Intensive Management: Prescribed Burning



Pensacola Bay Mitigation Bank



Eddy Electric Service

P O Box 108
Courtland, CA 95615

COPY

Invoice

DATE	INVOICE #
12/2/2010	6529

BILL TO
Westervelt Ecological Services 600 North Market Blvd., Suite 3 Sacramento, CA 95834

P.O. NO.	TERMS
Ditch Pump	Net 30

DESCRIPTION	RATE	AMOUNT
12/01 -12/02 Labor - Run new conduit & wire	485.00	485.00
3x70' Wire #1	185.00	185.00T
70' # PVC sch 40 conduit	140.00	140.00T
70' #8 wire	66.00	66.00T
210' #12 wire	90.30	90.30T
10' super strut	45.99	45.99T
1 - slice box 8x8x6 RT	31.32	31.32T
PVC, PVC radius, PVC male adapters, clamps	27.54	27.54T
Sales Tax <i>Vandalism repair</i> <i>[Signature]</i> <i>Consumes - maint</i>	8.75%	51.29
Thank You We Appreciate your Business		
Please Pay From This Invoice. A service charge of 1.5% per month (APR 18%) will be applied on invoices 30 days past due.		Total \$1,122.44

**Unanticipated
Maintenance:
Vandalism**

Adaptive Management Example: Burke Ranch Conservation Bank Well & Trough

- Grazing inherent part of management.
But...
- No developed water source on the site
 - Cattle depended on deepest pools for water
 - Cattle couldn't be used in dry season to help manage thatch

