

Recovery Implementation and Planning on National Wildlife Refuges

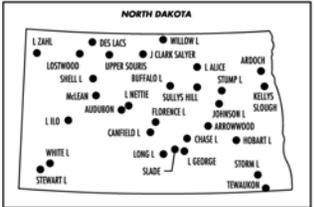
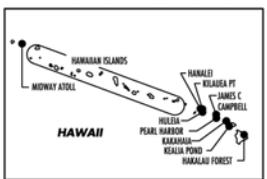
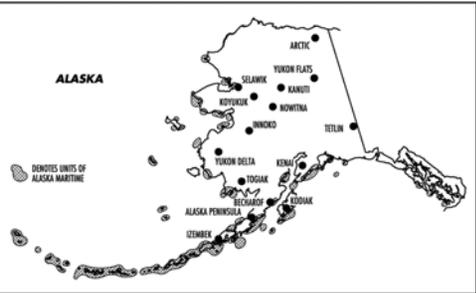
Examples from the San Diego National
Wildlife Refuge Complex



- GUAN JOHNSTON I.
- PACIFIC OUTLYING AREA
- BAKER I.
- JARVIS I.
- ROSE ATOLL

- PUEBLO
- DISNEY
- CULEBRA
- BUCK
- CARD ZENZO
- LAGUNA
- GREEN CAY
- CARTAGENA

- PETTAUSQUOIT COVE
- TRUSTON POND
- MINORCA
- STEWART & MCKENNEY
- MANHATTAN
- BLUCK I.
- ELIZABETH
- A. WORTON
- CONSCIENCE PT.
- LONG ISLAND NEW YORK AREA



Behind the sign . . .



7,700 acres of . . .

Coastal Sage scrub



Host-plant Habitats

Plantago (*Plantago erecta*)



Quino Checkerspot Butterfly (*Euphydras editha quino*)



Plantago & Butterfly Habitat

Coastal Sage Scrub



California Gnatcatcher (*Planiptila californica*)



Tijuana Slough National Wildlife Refuge



San Diego Bay National Wildlife Refuge Sweetwater Marsh Unit and South San Diego Bay Unit



Alternative D Phased Restoration of the Salt Ponds

Habitat Acreages

Intertidal 650 ac.

New nesting areas
36 ac.

Managed water
270 ac.



San Diego National Wildlife Refuge Complex

- Tijuana Slough NWR, San Diego Bay NWR, and Seal Beach NWR
 - California Brown Pelican Recovery Plan (1983)
 - California Least Tern Recovery Plan (1985)
 - Salt Marsh Bird's Beak (*Cordylanthus maritimus maritimus*) Recovery Plan (1985)
 - Light-footed Clapper Rail Recovery Plan (1985)
 - Recovery Plan for U.S. Pacific Populations of the Green Turtle (*Chelonia mydas*)(National Marine Fisheries Service and USFWS 1998)
 - Draft Recovery Plan for the Least Bell's Vireo (1998)
 - Draft Western Snowy Plover (*Charadrius alexandrinus nivosus*) Pacific Coast Population Recovery Plan (2001)
- San Diego NWR
 - Vernal Pools of Southern California (1998)
 - Recovery Plan for *Deinandra conjugens* (Otay Tarplant) (2004)
 - Recovery Plan for the Quino Checkerspot Butterfly (*Euphydryas editha quino*) (2003)
 - Draft Recovery Plan for the Least Bell's Vireo (1998)
 - Recovery Plan for the Southwestern Willow Flycatcher (2002)
 - Arroyo Southwestern Toad (*Bufo microscaphus californicus*) Recovery Plan (1999)

California Least Tern Recovery Plan
Recovery Actions Identified for the San Diego National Wildlife Refuge Complex

Action Number	Action Description	Action Priority
1	1154 Annually maintain and protect north Fiesta Island breeding areas.	Prevent extinction or irreversible decline
2	1153 Annually maintain breeding area at FAA island	Prevent extinction or irreversible decline
3	1166 Develop and implement management program that identify site protection problems for insecure colonies in Ventura, Los Angeles, and Alameda Counties: Terminal Island-Reeves Field and the land-fill site.	Prevent extinction or irreversible decline
4	42 Determine factors affecting choice of locations for roosting, loafing, and feeding during breeding and post-breeding seasons	Prevent significant decline or habitat loss
5	1121 Develop and implement least tern management plans / programs for secure nesting habitat in Orange County: Anaheim Bay (Seal Beach NWR)	Prevent significant decline or habitat loss
6	1122 Develop and implement least tern management plans / programs for secure nesting habitat in Orange County: Huntington State Least Tern Natural Area	Prevent significant decline or habitat loss
7	1123 Develop and implement least tern management plans / programs for secure nesting habitat in Orange County: Bolsa Chica Ecological Reserve	Prevent significant decline or habitat loss
8	1137 Develop and implement management plans / programs for secure nesting habitat in San Diego County: San Diego Bay salt pond dikes	Prevent significant decline or habitat loss
9	1135 Develop and implement management plans / programs for secure nesting habitat in San Diego County: San Elijo Lagoon	Prevent significant decline or habitat loss
10	1133 Develop and implement management plans / programs for secure nesting habitat in San Diego County: Santa Margarita River Mouth	Prevent significant decline or habitat loss
11	1231 Develop and implement management plans / programs in non-secure habitats: Protect and manage San Dieguito Lagoon	Prevent significant decline or habitat loss
12	1112 Develop and implement management plans/programs for secure nesting habitat in 5 northern counties: Bair Island	Prevent significant decline or habitat loss
13	1117 Develop and implement management plans/programs for secure nesting habitat in 5 northern counties: Venice Beach	Prevent significant decline or habitat loss
14	1162 Develop and implement management program that identify site protection problems for insecure colonies in Ventura, Los Angeles, and Alameda Counties: Ormond Beach	Prevent significant decline or habitat loss
15	1165 Develop and implement management program that identify site protection problems for insecure colonies in Ventura, Los Angeles, and Alameda Counties: Playa del Rey	Prevent significant decline or habitat loss
16	1163 Develop and implement management program that identify site protection problems for insecure colonies in Ventura, Los Angeles, and Alameda Counties: Santa Clara River Mouth	Prevent significant decline or habitat loss

98	11413	Protect / secure nesting habitat now in private ownership: Playa del Rey	Other
99	224	Protect important non-nesting, feeding, and roosting habitats in San Luis Obispo and Los Angeles counties: Belmont Shores	Other
100	225	Protect important non-nesting, feeding, and roosting habitats in San Luis Obispo and Los Angeles counties: Identify and protect other habitats as needed	Other
101	51	Protect terns and habitat in Baja California	Other

August 22, 2006

California Least Tern Recovery Actions on San Diego Coastal Refuges

California Least Tern Recovery Plan
Recovery Actions Identified for the San Diego National Wildlife Refuge Complex

Potential Refuge Recovery Actions	Action Number	Action Description	Action Priority	FY06 Refuge Completed	FY06 Refuge Completed	FY06 Refuge Completed	FY07 Refuge Target	FY07 Refuge Target	FY07 Refuge Target
				Tijuana Slough NWR	San Diego Bay NWR	Seal Beach NWR	Tijuana Slough NWR	San Diego Bay NWR	Seal Beach NWR
1	1	42	Determine factors affecting choice of locations for roosting, loafing, and feeding during breeding and post-breeding seasons	Prevent significant decline or habitat loss	1	1	1	1	1
2	1	1121	Develop and implement least tern management plans / programs for secure nesting habitat in Orange County: Anaheim Bay (Seal Beach NWR)	Prevent significant decline or habitat loss			1		1
3	1	1137	Develop and implement management plans / programs for secure nesting habitat in San Diego County: San Diego Bay salt pond dikes	Prevent significant decline or habitat loss		1		1	

California Least Tern Recovery Actions on San Diego Coastal Refuges

4	1	1173	Develop and implement plans / programs that identify special site protection problems of insecure colonies and implement corrective action in San Diego County: D Street Fill	Prevent significant decline or habitat loss		1				1	
5	1	1211	Develop implement management plans / programs to construct and manage new nesting sites in protected areas: Anaheim Bay (Seal Beach National Wildlife Refuge)	Prevent significant decline or habitat loss							
6	1	13	Develop or refine management to provide nesting sites and implement techniques where needed	Prevent significant decline or habitat loss	1	1				1	
7	1	5	Encourage protection of population outside of U.S.	Prevent significant decline or habitat loss							
8	1	1151	Establish and maintain interagency coordinating team to manage breeding sites	Prevent significant decline or habitat loss	1	1	1	1	1	1	1
9	1	61	Evaluate success of law enforcement	Prevent significant decline or habitat loss	1					1	

10	1	45	Identify factors causing colony disruption and nest site abandonment	Prevent significant decline or habitat loss						
11	1	512	Identify least tern population and habitat protection problems	Prevent significant decline or habitat loss	1		1		1	1
12	1	44	Identify potentially suitable nesting sites	Prevent significant decline or habitat loss	1				1	1
13	1	463	Investigate methods to construct adequate nesting sites in potential breeding habitat	Prevent significant decline or habitat loss		1				1
14	1	462	Investigate methods to enhance nest sites in potential breeding habitat	Prevent significant decline or habitat loss		1				1
15	1	461	Investigate nest site requirements	Prevent significant decline or habitat loss						
16	1	31	Monitor population to determine status, distribution, and progress of management during breeding season: Determine breeding success	Prevent significant decline or habitat loss	1	1	1	1	1	1

17	1	32	Monitor population to determine status, distribution, and progress of management during breeding season: Investigate population dynamics, life history, and movement of terns by banding and marking	Prevent significant decline or habitat loss	1	1	1	1	1	1
18	1	11414	Protect / secure nesting habitat now in private ownership: Bayfront end of "D Street Fill", Sweetwater Marsh	Prevent significant decline or habitat loss		1			1	
19	1	6	Utilize laws and regulations	Prevent significant decline or habitat loss	1	1	1	1	1	1
20	1	43	Determine amount of habitat necessary to maintain current populations and recovery objective	Other						
21	1	41	Determine effects of environmental pollutants on least terns	Other	1				1	
22	1	7	Develop and implement a conservation education program	Other	1	1	1	1	1	1
23	1	1138	Develop and implement management plans / programs for secure nesting habitat in San Diego County: Tijuana River Estuary	Other	1	1		1		

24	1	2116	Maintain high water quality, minimize tideland fill and drainage projects, restore or improve tidal flow to wetlands to provide adequate feeding habitat: Tijuana River Estuary	Other	1						
	24				13	13	8	6	14	11	

All Refuges
Tijuana Slough NWR
San Diego Bay NWR
Seal Beach NWR

August 30, 2006

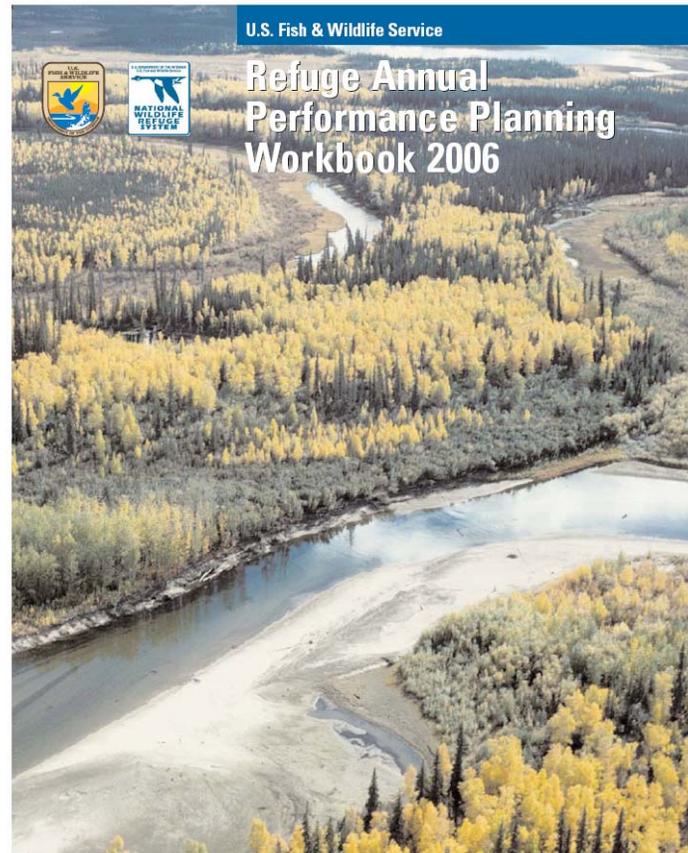
Light-Footed Clapper Rail Recovery Actions on San Diego Coastal Refuges From ROAR

Light-Footed Clapper Rail Recovery Plan
Recovery Actions Identified for the San Diego National Wildlife Refuge Complex

Potential Refuge Recovery Actions	Action Number	Action Description	Action Priority	FY06 Refuge Completed	FY06 Refuge Completed	FY06 Refuge Completed	FY07 Refuge Target	FY07 Refuge Target	FY07 Refuge Target
				Tijuana Slough NWR	San Diego Bay NWR	Seal Beach NWR	Tijuana Slough NWR	San Diego Bay NWR	Seal Beach NWR
1	1	1139	Anaheim Bay: Coordinate with vector control			1			1
2	1	1145	Anaheim Bay: Create next hummocks						
3	1	1144	Anaheim Bay: Improve tidal channel network						
4	1	35	Analyze rail habitat utilization patterns						
5	1	34	Assess rail habitat requirements						
6	1	411	Determine numbers, distribution, population trends on annual basis in U.S.	1	1	1	1	1	1

7	1	312	Determine parameters limiting population at Anaheim Bay	Prevent extinction or irreversible decline						
8	1	74	Develop and implement oil containment strategies	Prevent extinction or irreversible decline	1					
9	1	71	Enforce existing laws and regulations	Prevent extinction or irreversible decline	1	1	1	1	1	1
10	1	4143	Establish and monitor permanent vegetation transects: Anaheim Bay	Prevent extinction or irreversible decline						
11	1	4142	Establish and monitor permanent vegetation transects: Tijuana Marsh	Prevent extinction or irreversible decline						
12	1	33	Examine rail population dynamics	Prevent extinction or irreversible decline						
13	1	32	Investigate Spartina community dynamics	Prevent extinction or irreversible decline						
14	1	313	Investigate factors limiting rail pop. Size in other marshes	Prevent extinction or irreversible decline						
15	1	413	Maintain surveillance for pollutants	Prevent extinction or irreversible decline						

Refuge Annual Performance Planning



REFUGES San Diego Bay NWR

DATE 9/15/2006

RAPP Recovery Actions and Projections

4. Federally listed T&E Species Actions. Here you should first list all recovery actions for Federally listed Threatened and Endangered species that your refuge could potentially accomplish. The actions must be prescribed in approved recovery plans for the species. Next, indicate in the "FY06 Actual" column those actions you actually accomplished in FY06. Then, in the column "FY07 Target" indicate the ones you plan to accomplish next year. Many of the same actions, such as annually erecting predator fences around nest sites, will be indicated for both FY06 and FY07. Field Stations should coordinate with the lead FWS office for the recovery plan to make sure each recovery action assigned to the Service is accurately reported. See [HelpRecoveryActions.htm](#) in the online RAPP for more guidance.

4	Federally Listed T&E Species Actions	Total Potential Actions	FY06 Actual	FY07 Target
	<i>Example: Erect Predator Fence Around Piping Plover Nest Sites</i>		1	1
	D Street nest site preparation C			
	LFCR captive breeding protoco			
	Predator control to protect CLT,			
	LFCR Recovery Actions	48	10	10
	WSP Recovery Actions (see att	56	10	17
	SMBB Recovery Actions	10	2	2
	CLT Recovery Actions	20	10	10
	Total Federally Listed T&E Species Actions	134	32	39

List continued on page 52.

This total answers 1.71 for both FY06 and FY07

These totals answer 1.72

		FY06 Actual	FY07 Target
1.71	Total number of T&E Recovery Actions Identified in Recovery Plans	134	134
1.72	Number of T&E Recovery Actions completed or planned?	32	39

U. S. Fish and Wildlife Service									
FY 2006 Planned Performance Targets									
Operational Plan							CA/NV	Goal or Measure	Where did data originate from?
Performance measure color Indicators:									
(1) DOI Strategic Plan performance measures (Required)									
(2) Program Assessment Rating Tool (PART) performance measures (Required)									
(3) Law Enforcement and International Affairs measures are highlighted in GRAY (Required)									
(4) RDs Other Required Performance Goals (Endangered Species and Refuges)									
(5) All measures without a color designation are program performance or workload measures									
Note: Some measures are both DOI and PART measures									
Resource Protection: Watersheds and Landscapes									
DOI 1	Wetland, Riparian and Upland Areas: Percent of acres or stream/mileage achieving desired conditions where condition is known and as specified in management plans consistent with applicable substantive and procedural requirements of State and Federal water law (Percent for Wetlands, Riparian and Upland areas)								
	DOI 1.1	% of wetlands areas achieving desired conditions (PEM.1.001) (PEM 532)					84%		
	DOI 1.2	% of riparian areas achieving desired conditions (PEM.1.002) (PEM 397)					41%		
	DOI 1.3	% of upland areas achieving desired conditions (PEM.1.003) (PEM 398)					79%		
	1.1.3	# of wetlands acres restored through voluntary partnerships (PIM 1.01.012) (PIM 393)(Refuges)					5,154	Goal	RAPP 1.29
	1.1.3.1	# of wetland acres are restored per million dollars of gross investment(PART) (Refuges)							
	1.1.4	# of wetlands acres achieving desired conditions (excludes Alaska) (= % of acres achieving desired conditions as specified in management plans consistent with applicable substantive and procedural requirements in State and Federal water law (PIM.1.001) (PEM 532))(PART) (Refuges)					64%		
	1.1.4.1	% acres achieving condition					64%		
	1.1.4.2	# acres achieving desired condition					169,985	Measure	RAPP 1.02 plus 1.05
	1.1.4.3	# acres in plan					267,615	Measure	Rollup of refuge wetland acres
	1.2.2	# of upland acres restored through voluntary partnerships (PIM 1.01.012) (PIM 393)(Refuges)					3,242	Goal	RAPP 1.28
	1.2.2.1	# of wetlands and uplands acres enhanced or restored through voluntary partnerships (PIM.1.01.012) (PIM 393) (Refuges) (combined wetlands & uplands already counted in other wetlands & uplands numbers)							
	1.2.3	# of uplands acres achieving desired conditions (excludes Alaska) (= % of acres achieving desired conditions as specified in management plans consistent with applicable substantive and procedural requirements in State and Federal water law (PIM.1.003) (PEM 395))(PART) (Refuges)					79%		
	1.2.3.1	% acres achieving condition					79%		
	1.2.3.2	# acres achieving desired condition					1,529,144	Measure	RAPP 1.01 plus 1.04
	1.2.3.3	# acres in plan					1,944,159	Measure	Rollup of refuge upland acres

U. S. Fish and Wildlife Service									
FY 2006 Planned Performance Targets									
Operational Plan							CA/NV	Goal or Measure	Where did data originate from?
CSF	11.2	The condition of Conservation and biological research facilities, as measured by the DOI FCI, is x. (DOI) (PIM.2.03.003) (PIM 747) (PART) (Refuges)					0.014		
	11.2.2	The condition of Conservation and biological research facilities, as measured by the DOI FCI, is (DOI) (PIM.2.03.003) (PIM 747) (PART) (Refuges)					0.014		
	11.2.2.1	numerator = value of deferred maintenance backlog of dams, impoundments, canals, drainage ditches, WCS, pumping stations, nesting islands having undergone condition assessment					12,010,360	Measure	
	11.2.2.2	denominator = replacement value of dams, impoundments, canals, drainage ditches, WCS, pumping stations, nesting islands having undergone condition assessment					874,287,379	Measure	
CSF	13.3	% of NWRS recovery actions for T&E species prescribed in recovery plans are completed. (PART) (Refuges)					28%		
	13.3.3	% of NWRS recovery actions for T&E species prescribed in recovery plans are completed(PART) (Refuges)					28%		
	13.3.3.1	# of recovery tasks prescribed in approved plans completed(Refuges)					109	Goal	RAPP 1.51
	13.3.3.2	total # of recovery tasks prescribed in approved plans(Refuges)					394	Measure	
CSF	14.2	% of acres infested with invasive plants that are treated (PART) (Refuges) [PEM 444]					12%		
	14.1.1	% of infested acres are being treated to control/manage invasive plant(PART) (Refuges) [PEM 444]					12%		
	14.1.1.1	# acres treated for invasive plants					17,752	Goal	RAPP 1.33
	14.1.1.2	# acres infested with invasive plants					151,906	Measure	RAPP 1.32
CSF	15.8	Invasive Animals: Percent change in baseline in the number of invasive animal populations (PEM 541) (PEM 2.005) (Refuges)					3%		
	15.8.1	# of invasive animal populations controlled during year					7	Goal	RAPP 1.36
	15.8.2	total number of invasive animal populations					201	Measure	RAPP 1.35
CSF	16.2	% of cultural properties in FWS inventory that are in good condition. (PEM.3.001) (PEM 391) (Refuges)					6%		
	16.2.1	% of cultural properties in FWS inventory that are in good condition (PEM.3.001) (PEM 391)(Refuges)					6%		
	16.2.1.1	# in good condition					3	Measure	
	16.2.1.2	# of cultural properties					54	Measure	
	16.3.2.1	Cultural and natural heritage facilities are in good/fair condition as measured by the FCI (PIM.3.4.05) (PIM 748) (PART) (Refuges)					0.074		
		numerator =value of deferred maintenance backlog of historic landmarks/National Register of Historic Properties having undergone condition assessment					1,140,408	Measure	
		denominator = replacement value of historic landmarks/National Register of Historic Properties having undergone condition assessment					15,506,084	Measure	

Annual Work Plans

Annual Work Plan San Diego National Wildlife Refuge Complex Tijuana Slough and San Diego Bay National Wildlife Refuges Fiscal Year 2006				
Assignment	Priority	Action Item	Due Date	Completion Date
RESOURCES/BIOLOGICAL				
CNO 4 RAPP 1.51		Manage contract with Wildlife Services for predator control at California least tern and western snowy plover sites at Tijuana Slough NWR.		
CNO 4 RAPP 1.51		Manage contract with Wildlife Services for predator control at California least tern and western snowy plover sites at Sweetwater Marsh Unit.		
CNO 4 RAPP 1.51		Manage contract with Wildlife Services for predator control at California least tern and western snowy plover sites at South San Diego Bay Unit.		
CNO 4 RAPP 1.51		Prepare and oversee contract for California least tern and western snowy plover monitoring at Tijuana Slough NWR. Participate in monitoring as required.		
CNO 4 RAPP 1.51		Prepare and oversee contract for California least tern and western snowy plover monitoring at Sweetwater Marsh Unit. Participate in monitoring as required.		
CNO 4 RAPP 1.51		Prepare and oversee contract for California least tern and western snowy plover monitoring at South San Diego Bay Unit. Participate in monitoring as required.		
CNO 4 RAPP 1.51		Prepare and oversee contract for gull-billed tern monitoring at South San Diego Bay Unit.		
CNO 4 RAPP 1.51		Prepare California least tern nesting sites at Tijuana Slough NWR.		
CNO 4 RAPP 1.51		Prepare California least tern nesting sites at Sweetwater Marsh Unit.		
CNO 2 RAPP 1.28		Restore 1.0 acres of upland habitat at South San Diego Bay Unit in coordination with Habitat Heroes education program.		

Annual Work Plans

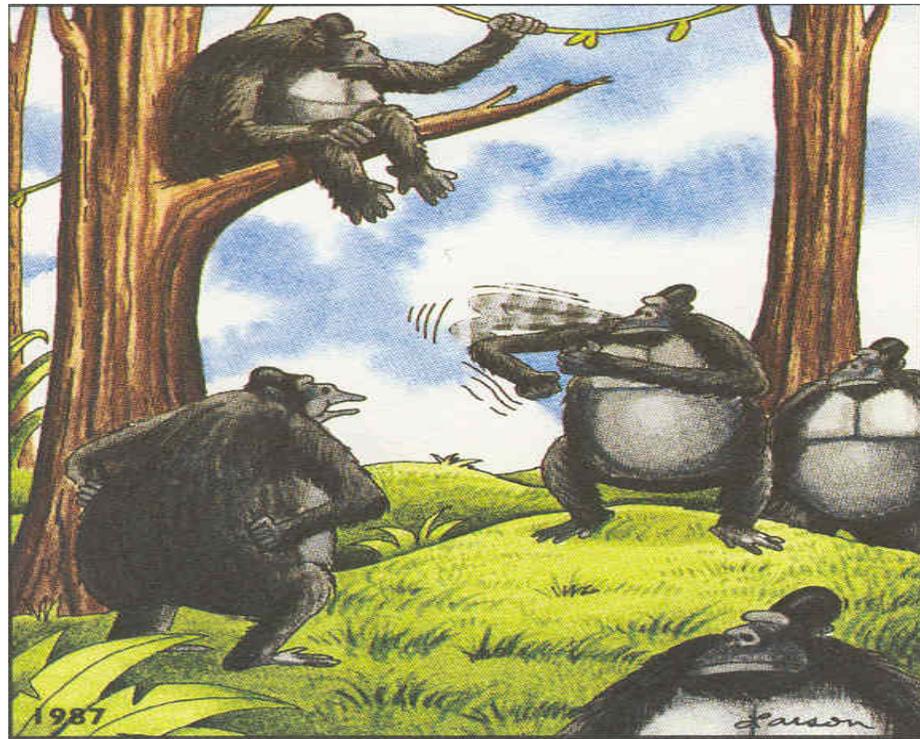
		Implement long-term monitoring of seabird and shorebird use and populations at South San Diego Bay Unit.		
CNO 4 RAPP 1.51		Implement the clapper rail recovery project at Sweetwater Marsh Unit in cooperation with the Chula Vista Nature Center, Center for the Reproduction of Endangered Species, and other recovery partners.		
		Develop long-term plan to control weeds on Refuge lands in the Otay River floodplain at South San Diego Bay Unit.		
CNO 4 RAPP 1.51		Conduct light-footed clapper rail high tide counts at Tijuana Slough NWR.		
CNO 4 RAPP 1.51		Coordinate with the Carlsbad Fish and Wildlife Office-Environmental Contaminants on the investigation of seabird egg shell thinning in South San Diego Bay Unit.		
CNO 4 RAPP 1.51		Coordinate with the Carlsbad Fish and Wildlife Office-Environmental Contaminants on the Refuge clean-up study of F&G Street Marsh at Sweetwater Marsh Unit.		
		Complete Native Plant Restoration garden at Tijuana Slough NWR to support Tijuana Estuary Explorers environmental education program.		
RAPP 1.36		Treat 5.0 acres for invasive plants at Tijuana Slough NWR.		
		Complete Comprehensive Conservation Plan for San Diego Bay NWR.		
		PUBLIC USE - OUTREACH & EDUCATION - VOLUNTEER		
CNO 2 RAPP		Develop and implement a system for documenting public use at Tijuana Slough NWR.		
CNO 2 RAPP		Develop and implement a system for documenting public use at Sweetwater Marsh Unit.		
CNO 2 RAPP		Develop and implement a system for documenting public use at South San Diego Bay Unit.		
RAPP		Provide measurement of 12,000 visits to California Department of Parks and Recreation visitor center or Service contact station at Tijuana Slough NWR.		

Recovery Project Life Cycle Tips

- Proposal Development-sell the concept to your boss
- Funding-learn Federal acquisition rules
- Regulatory Approvals-start early
- Implementation-be a problem solver
- Performance-document the progress of the contract
- Monitoring-accountability
- Records Management-manage the paper and files

Recovery Project Life Cycle Tips

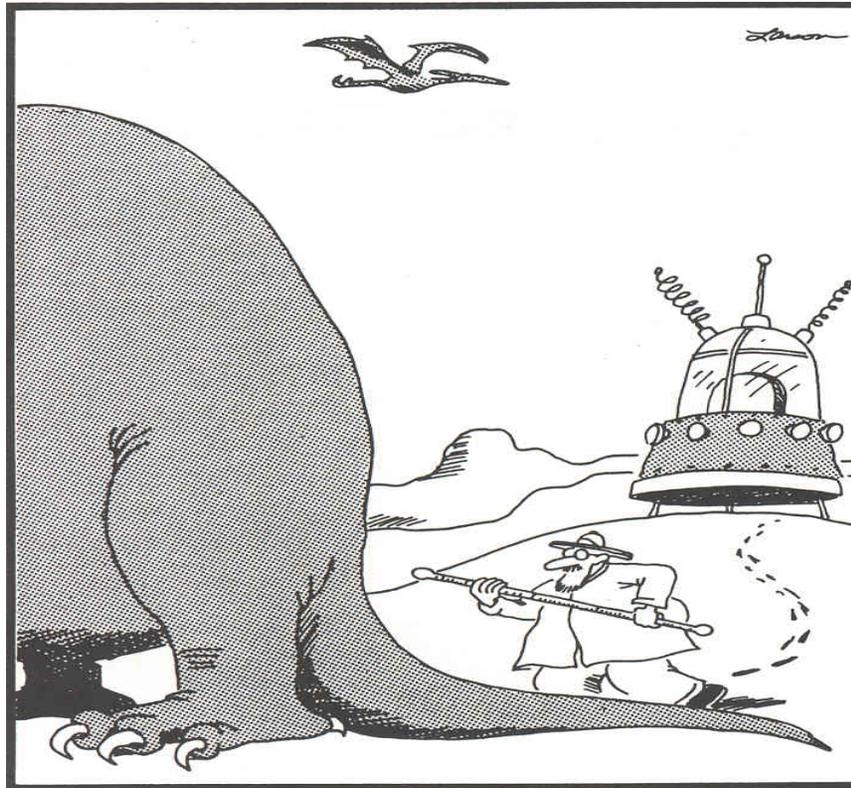
- Proposal Development-sell the concept to your boss



“For crying out loud, Warren ... can't you just beat your chest like everyone else?”

Recovery Project Life Cycle Tips

- Performance-document the progress of the contract



An instant later, both Professor Waxman and his time machine are obliterated, leaving the cold-blooded/warm-blooded dinosaur debate still unresolved.

Regulatory Approvals-start early



"Rub his belly, Ernie! Rub his belly!"

Recovery Project Life Cycle Tips

- Proposal Development-sell the concept to your boss
- Funding-learn Federal acquisition rules
- Regulatory Approvals-start early
- Implementation-be a problem solver
- Performance-document the progress of the contract
- Monitoring-accountability
- Records Management-manage the paper and files

Records Management

LIST-310 Endangered Species Recovery Plan Files (NC1-22-78-1/13)

Includes correspondence, letters and memoranda, internal direction, reports, studies, analyses of raw data, and other substantive technical or scientific documentation used in the development and implementation of recovery plans for the restoration of endangered native species. These plans include but are not necessarily limited to proposals for corrective measures and recommendations for land acquisition, management actions, and other efforts designed to enhance the status of a particular species.

a. Approved Plans. (arranged by species)

Retention: PERMANENT. Separate files into 1-year sets and transfer set to Federal Records Center when it is 4 yrs old. Offer set to NARA 5 yrs after transfer to the Federal Records Center.

b. Material that supports the development and implementation of a specific plan, including preliminary and draft plans.

Retention: TEMPORARY. Destroy 3 yrs after the goals of the plan are achieved; the plan is superseded or otherwise rendered obsolete.

c. Material that reflects repetitive, routine, or housekeeping-type activities.

Retention: TEMPORARY. Destroy when 3 yrs old or no longer needed.