AN ACTION PLAN FOR RECOVERY
OF THE
MODOC SUCKER (*Catostomus microps*)

Revised April 27, 1983

Approved _____ 1-27-84
Regional Manager
California Department of Fish & Game
Date

Approved _____ 5/8/84
Forest Supervisor
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Date

Approved _____ 4/6/84
Assistant Regional Director
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Date

REVISED ACTION PLAN FOR RECOVERY OF THE MODOC SUCKER

The Modoc sucker (Catostomus microps) is a dwarf species of catostomid endemic to eight streams in the Pit River drainage in Modoc and Lassen Counties, California. The species has been recommended for listing under the Endangered Species Act of 1973, and is presently an official candidate for listing as endangered (Federal Register 47(25):58454-58460). It is listed as "Endangered" by the State of California and as "Sensitive" by the USDA, Forest Service, Pacific Southwest Region.

Habitat modification and degradation through channelization, water diversions and livestock grazing are the main factors contributing to the species' current status. Grazing activities have resulted in the removal of riparian vegetation from the streambanks and increased erosion. Streambank damage due to trampling has also occurred resulting in siltation and the filling of the deep pools utilized by the suckers in summer months. The ensuing stream channelization through the meadow systems has eroded natural barriers and has allowed for the movement of Sacramento suckers (Catostomus occidentalis) into areas formerly occupied by Modoc suckers. Hybridization between the two species has eliminated genetically pure Modoc suckers from all streams except Washington and Hulbert Creeks in the Turner Creek drainage and Johnson Creek in the Rush Creek drainage.

The following action plan involves a joint recovery effort for the Modoc sucker. The California Department of Fish and Game, US Forest Service and US Fish and Wildlife Service will have responsibility for the completion of various steps in the recovery of this species. A preliminary action plan was developed by the California Department of Fish and Game and Modoc National Forest representatives in 1980. This revised action plan was developed at a meeting among personnel of the California Department of Fish and Game, US Forest Service and US Fish and Wildlife Service on April 27, 1983. The purpose of the plan is to provide direction and assign responsibilities for the recovery of the Modoc sucker on the Modoc National Forest and adjacent private lands within its historic range.

The immediate objective of the plan is to provide enough suitable, secure habitat in both the Turner-Hulbert-Washington creeks drainage and the Rush-Johnson Creeks drainage to ensure viable populations of the Modoc sucker in these areas. When the above objective is met and secure populations have existed in these drainages for three consecutive years, the species could be reclassified to rare or threatened status. In order to delist the species, secure populations need to be established throughout the Turner-Hulbert-Washington creeks drainage, the Rush-Johnson creeks drainage, and at least two other streams outside the above drainages but within the species historical range. All populations must have naturally sustained themselves through drought and wet years to make delisting possible. The overall goal of recovery and delisting of the Modoc sucker could be completed by the early 1990's. Success of the recovery efforts will be measured in terms of habitat quality and quantity as well as numbers of genetically pure Modoc suckers residing within their historical range.

The recovery effort involves:

1. Securing habitat and establishing viable Modoc sucker populations throughout the Turner-Hulbert-Washington Creeks drainage during 1983.

2. Securing habitat and establishing viable Modoc sucker populations throughtout the Rush-Johnson Creeks drainage during 1984.

3. Securing habitat and establishing viable Modoc sucker populations in other streams during 1985-1990.

This action plan provides a timetable for completing the immediate objective of reestablishing pure Modoc sucker populations in the Rush-Johnston and Turner-Hulbert-Washington drainages. Preliminary actions necessary to secure viable Modoc sucker populations in additional drainages are also set forth. A future revision of this action plan will be necessary to complete reestablishment of the species in four or more drainages. This action plan is also intended to provide guidance for project work plan development and budget considerations.

It should be emphasized that this action plan is only an outline of the recovery effort with a targeted completion date of 1990. This could be delayed primarily because of inadequate funding or manpower deficiencies. It does, however, provide a chronology of events that will direct the overall recovery effort.

ACTION PLAN FOR RECOVERY OF THE MODOC SUCKER

	ACTION	LEAD AGENCY	DUE DATE	ACHIEVED OR DELAYED
1.	Evaluate fish ladder on Rush Creek (Hwy 299) for use as a Sacramento sucker barrier. Complete design plan to preclude fish passage.	DFG	9/83	
2.	Evaluate durability and effectiveness of Turner Creek barrier. If structurally inadequate prepare revised design.	DFG	4-5/83	
3.	File pesticide use applications for Turner, Hulbert, Washington Creeks (prepare EA addendum, if necessary).	FS/DFG	5/83	
4.	Construct barrier on Rush Creek at fish passage structure at Highway 299.	DFG	9/83	
5.	Sample populations in Turner-Hulbert-Washington creeks to determine stream reaches for rejuvenation. Determine need foor temporary holding facilities during rejuvenation.	DGF(FS)	9/83	
6.	Evaluate natural barriers on Washington, Hulbert and Johnson Creek.	DFG/FS	8/83	
7.	Fence 3.5 miles of streamside zone on Washington Creek (completes fencing requirements for Washington Creek).	FS	9/83	
8.	Rejuvenate Turner Creek system based on sampling results of item no. 5.	DFG FS/FWS	9/83	
9.	Evaluate effectiveness of Turner Creek system rejuvenation (within 2 weeks post treatment). Retreat and reevaluate if rejuvenation is not totally effective.	DFG FS/FWS	9/83	
10.	Reestablish Modoc sucker population using fish from Turner Creek system. If necessary reestablish additional suckers in unpopulated portions of the creek.	DFG FS/FWS	10/83	

ACTION PLAN FOR RECOVERY OF THE MODOC SUCKER

	ACTION	LEAD AGENCY	DUE DATE	ACHIEVED OR DELAYED
11.	Prepare Land Adjustment Plan to identify parcels of private lands with essential habitat and actions necessary before improvements can begin (easements, exchange, acquistion).	FWS/ DFG/FS	3/84	
12.	Prepare Monitoring Plan to monitor population trends habitat improvement effectiveness and maintain needs.	FWS/ DFG/FS	4/84	
13.	Evaluate effectiveness of Rush Creek barrier.	DFG	8/84	
14.	File pesticide use application for Rush Creek system.	FS/DFG	5/84	
15.	Sample populations in Rush/Johnson Creeks to determine stream reaches for rejuvenation. Determine need for temporary holding facilities during rejuvenation. Evaluate alternatives to chemical treatment of Rush Creek.	DFG/ FS/FWS	8/84	
16.	Rejuvenate Rush Creek system based on sampling results of items no. 15 (chemical or electro fishing).	DFG FS/FWS	9/84	
17.	Evaluate effectiveness of Rush Creek system rejuvenation (within 2 weeks of treatment). Retreat and reevaluate if treatment is not totally effective.	DFG (FWS)	10/84	
18.	Reestablish Modoc sucker population using fish from Rush Creek system.	DFG FS/FWS	10/84	
19.	Survey Ash and Willow Creeks watersheds for suitability as essential habitat and location of barrier sites.	DFG	8/84	
20.	Determine habitat improvement potential for private lands - Hulbert, Turner, Rush, Johnson, Dutch Flat Creeks.	DFG	9/84	

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	ACTION	LEAD AGENCY	DUE DATE	ACHIEVED OR DELAYED
21.	As necessary, enhance natural barriers at:			
	Washington Creek	FS	10/84	
	Hulbert Creek	FS	10/84	
	Johnson Creek	FS	10/85	
22.	Begin habitat improvement on National Forest lands:			
	Washington Creek	FS	8/83	
	Johnson Creek	FS	6/83	
	Rush Creek	FS	7/86	
	Turner Creek		NA	
	Dutch Flat		7/86	
23.	Begin habitat and watershed improvement on private lands:			
	Turner	DFG	9/85-86	
	Hulbert	DFG	9/85-86	
	Johnson	DFG	9/85-86	
	Dutch Flat	DFG	9/85-86	
24.	Complete all habitat improvements on Rush, Johnson, Turner, Hulbert, Washington and Dutch Flat Creeks	FS/DFG/ FSW	10/90	
25.	Construct barrier and introduce Modoc suckers into one or two other historic streams identified in item no. 19. Attempt to use indigenous stock.			
26.	Consider reclassification to threatened upon establishment of pure, safe populations (for 3-5 years) throughout Rush and Turner Creeks watershed.			
27.	Consider delisting upon establishing safe, pure populations in two other historic streams (in addition to item no. 22).			

ACTION PLAN FOR RECOVERY OF THE MODOC SUCKER (Revised 3/84)

	ACTION	LEAD AGENCY	DUE DATE	ACHIEVED OR DELAYED	REMARKS
1.	Evaluate fish ladder on Rush Creek (Hwy 299) for use as a Sacramento sucker barrier. Complete design plan to preclude fish passage. Annually determine if landowner attitude toward barrier and access change.	DFG	9/83	Completed	Design and evaluation complete. Unable to secure acceptable liability agreement with landowner at this time.
2.	Evaluate durability and effectiveness of Turner Creek barrier. If structurally inadequate prepare revised design.	DFG	4-5/83	Completed	Evaluated - straightened and strengthened.
3.	File pesticide use applications for Turner, Hulbert, Washington Creeks (prepare EA addendum, if necessary).	FS/DFG	5/83	Completed	
4.	Construct barrier on Rush Creek at fish passage structure at Highway 299.	DFG	9/83	Delayed	Reschedule as opportunity arises.
6.	Evaluate natural barriers on Washington, Hulbert and Johnson Creeks.	DFG/FS	8/83	Completed	Need secondary barriers at Johnson and Hulbert Creeks, but not Washington Creek.
7.	Fence ~~1.5~~ 1.2 miles of streamside zone on Washington Creek (completes fencing requirements for Washington Creek).	FS	9/83	Completed	Total .9 miles (1.8 fence). May need to eventually fence additional 1 mile of Washington Creek.
8.	Rejuvenate Turner Creek system based on sampling results of item no. 5.	DFG FS/FWS	9/83	Completed	All reaches with hybrids chemically treated.
9.	Evaluate effectiveness of Turner Creek system rejuvenation (within 2 weeks post treatment). Retreat and reevaluate if rejuvenation is not totally effective.	DFG FS/FWS	9/83	Completed	Initial treatment 100% effective, no secondary treatment necessary.
10.	Reestablish Modoc sucker population using fish from Turner Creek system. If necessary reestablish additional suckers in unpopulated portions of the creek.	DFG FS/FWS	10/83	Completed	Modoc sucker and redband trout reestablished.
11.	Select location and prepare design and EA addendum for Johnson Creek barrier.	FS	4/84	Completed	
12.	Construct barrier on Johnson Creek.	FS	6/84	Completed	
13.	Sample population in Rush/Johnson Creeks to determine stream reaches for rejuvenation. Determine need for temporary holding facilities during rejuvenation. Evaluate alternatives to chemical treatment of Rush Creek.	DFG/FS/FWS	8/84	Delay Rush Creek (see item land 4)	
14.	Survey Willow Creek watershed for suitability as essential habitat and location of barrier sites. Evaluate Coffee Mill Gulch and Howard's Gulch for possible establishment of Modoc suckers.	DFG	8/84		Willow Creek surveyed. Evaluation of Coffee Mill Gulch and Hulbert Creek continuing (8/85).
15.	Prepare Land Adjustment Plan to identify parcels of private lands with essential habitat	FWS/DFG/FS	12/84		Identify parcels - priority, method of management, values.

ACTION PLAN FOR RECOVERY OF THE MODOC SUCKER (Revised 3/84)

ACTION	LEAD AGENCY	DUE DATE	ACHIEVED OR DELAYED	REMARKS
16. Prepare Monitoring Plan for Turner-Hulbert-Washington Creeks to monitor population trends, habitat improvement effectiveness, and maintain needs.	FWS/DFG/FS	10/84		Will not be detailed, statistical plan. Sample same stretch of creek to determine repro, numbers, etc.
17. Evaluate effectiveness of Rush and Johnson Creek barriers.	DFG	4/85	Delay Rush Creek	
18. File pesticide use application for Rush and Johnson Creeks.	FS/DFG	5/85	Delay Rush Creek	
19. Rejuvenate Rush/Johnson Creek system based on sampling results of items no. 13.	DFG FS/FWS	9/85	Delay Rush Creek	
20. Evaluate effectiveness of Rush/Johnson Creeks system rejuvenation (within 2 weeks of treatment). Retreat and reevaluate if treatment is not totally effective.	DFG (FWS)	10/85	Delay Rush Creek	
21. Reestablish Modoc sucker population in Rush/Johnson Creeks using fish from same drainage, if possible, or Washington Creek if no pure fish are available.	DFG FS/FWS	10/85	Delay Rush Creek	
22. Enhance the natural barrier at Hulbert Creek.	FS	10/86		
23. Begin habitat improvement on National Forest lands:				
Washington Creek	FS	8/83	Achieved	Check dams and bank stabilization 83/84.
Johnson Creek	FS	6/83		No additional work needed at this time.
Turner Creek	FS	NA		
Dutch Flat	FS	7/86		
24. Begin habitat and watershed improvement on private lands if easements or acquisition occurs (item 11).				
Turner	DFG	9/85-86		
Hulbert	DFG	9/85-86		
Johnson	DFG	9/85-86		
Dutch Flat	DFG	9/85-86		
Rush	DFG			
25. Complete all habitat improvements on Rush, Johnson, Turner, Hulbert, Washington and Dutch Flat Creeks	FS/DFG/FWS	10/90		
26. Construct barrier and introduce Modoc suckers into one to two other historic streams identified in item no. 14. Attempt to use indigenous stock.				
27. Consider reclassification to threatened upon establishment of pure, safe populations (for 3-5 years) throughout Rush and Turner Creeks watershed.				
28. Consider delisting upon establishing safe, pure populations in two other historic streams.				