

GENERAL RECOVERY PROGRAM SUPPORT ACTION PLAN

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT YEARS
I.	PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)								
I.A.	Evaluate methods for defining habitat-flow needs and select methods most appropriate to specific stream reaches.								
I.A.1.	Review instream flow methodologies and assess the technical adequacy of current flow recommendations.	PD	Complete	"Guru II." Center for Public-Private Sector Cooperation, 1993.					
I.A.2.	Develop recommendations for integrating geomorphology and food web studies into Recovery Program.	PD	Complete	Andrews, et al, 1996.					
I.A.3.	Evaluate CDOW's instream flow methodologies and flow recommendations for warmwater native fishes (Anderson) as they relate to flows needed for endangered fish recovery.	FWS/PD	Complete	The Biology Committee reviewed Rick Anderson's report in April 2005, raised numerous questions regarding the application of this methodology to endangered fish flow recommendations, and declined to act on the report. The Service does not support adopting Anderson's methodology as the standard methodology for making flow determinations.					
I.A.4.	Develop strategic plan for geomorphic research and monitoring.	Program	Complete	LaGory et al., 2003.					
I.A.4.a.	Develop strategy and design for studies to address geomorphic research priorities.	Geo. Work Group	Ongoing	X	X				
I.A.4.b.	Conduct needed geomorphic research and monitoring.	Program	Ongoing	X	X	X	X	X	X
I.B.	Develop and select methods for modifiable protection of instream flows in Colorado.								
I.B.1.	Develop, evaluate and select, as appropriate, options for interim protection of instream flows until uncertainty concerning habitat needs and water availability can be resolved.								
I.B.1.a.	Colorado Attorney General review.	CO	Complete	CWCB adopted the Statement of Policy and Procedure Regarding the Appropriation of Instream Flows for the Recovery of Endangered Fishes of the Upper Colorado River Basin on March 9, 1994 and S.B. 96- 064 concerning instream flow appropriations of the CWCB was passed in May '96.					
I.B.1.b.	CWCB approval/recommended action.	CWCB	Complete						
I.B.1.c.	Adopt legislation or regulation, if necessary.	CWCB	Complete						
I.B.2.	Evaluate options for allocating Colorado's compact entitlement among the five subbasins, the implications for water available to recover the endangered fishes, and implications of full protection of recovery flow recommendations on development of Colorado;s compact entitlement.	CWCB	Complete	CWCB completed work on water availability study in 1995 after convening subbasin work groups. Scenarios for future development and estimates for future water use were outlined for each basin.					
I.B.3.	Assess need for retirement of senior conditional water rights.	CWCB/FWS	Dropped	Colorado law prohibits conversion of conditional water rights to instream flow					
I.C.	Develop an enforcement agreement between the Service and appropriate State agencies to protect instream flows acquired under the Recovery Program for the endangered fishes.								
>*	I.C.1. Colorado.	FWS/CWCB	Complete	Agreement with FWS concerning the enforcement and protection of fish recovery flow water rights adopted by CWCB on September 21,1993.					
I.D.	Develop tributary management plans (based in part on the tributary report, see V.F., pg. 23).								
I.D.1.	Assess need for tributary management plans on a site specific basis.	PD	Complete	2004: PD's office determined most tributaries covered by biological opinions (except White and San Rafael rivers), so this item was moved to Green River					
II.	RESTORE HABITAT (HABITAT DEVELOPMENT AND MAINTENANCE)								
II.A.	Restore flooded bottomland habitats.								
II.A.1.	Conduct inventory of flooded bottomland habitat for potential restoration.	FWS-FR	Complete	Inventory completed (see Irving & Burdick, 1995 as primary reference)					
II.A.2.	Screen high-priority sites for potential restoration/acquisition.	PD	Complete	Future acquisition of sites to be determined.					
II.B.	Support actions to reduce or eliminate contaminant impacts. [NOTE: Contaminants remediation (in all reaches) will be conducted independently of and funded outside of the Recovery Program]								
II.B.1.	Evaluate effects of selenium.	FWS-ES	Ongoing	X	X	X	X	X	X
II.B.1.a.	If needed for recovery, identify actions to reduce deleterious levels of selenium contamination.	FWS-ES	Ongoing	X	X	X	X	X	X
II.B.2.	Identify locations of petroleum-product pipelines and assess need for emergency shut-off valves.	FWS-ES	Ongoing	X					
>*	II.B.2.a. Ensure that all new petroleum product pipelines have emergency shutoff valves.	FWS-ES	Ongoing	X	X	X	X	X	X
II.B.3.	Review and recommend modifications to State and Federal hazardous materials spills emergency response programs.	FWS-ES	Ongoing	X	X	X	X	X	X

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II.C.	Develop an issue paper on the desirability and practicality of restoring and protecting certain portions of the floodplain for endangered fishes and evaluate the floodplain restoration program.								
II.C.1.	Identify what restoration and protection are needed by addressing: 1) biological merits of restoring the floodplain with emphasis on endangered fish recovery; 2) priority geographic areas; and 3) integration of a broader floodplain restoration initiative into the current Recovery Program floodplain restoration program.	PROGRAM	Complete						Phase 1 floodplain protection issue paper approved by Mgmt. Comm. 1/98 (Nelson 1998). Phase II (Tetra Tech 2000) and synthesis reports left in draft and highest priority work moved into Green and Colorado River floodplain management plans (Valdez and Nelson 2004a,b).
II.C.2.	Identify how to conduct restoration and protection by addressing: 1) restoration and protection tools/approaches; 2) institutional options for floodplain restoration; 3) costs/funding strategy; and 4) implementation steps and schedule.	PD/CO/UT	Complete						Final draft floodplain issues report given to Mgmt. Comm. 2/00. Phase II (Tetra Tech 2000) and synthesis reports left in draft and highest priority work moved into Green and Colorado River floodplain management plans (Valdez and Nelson 2004a,b).
II.C.3.	Identify viable options and develop specific restoration strategies for selected geographic areas (e.g., Grand Valley, Green River).	PD	Complete						Final draft floodplain issues report given to Mgmt. Comm. 2/00. Phase II and synthesis reports left in draft and highest priority work moved into Green and Colorado River floodplain management plans (Valdez and Nelson 2004 a,b).
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
III.A.	Reduce negative interactions between nonnative and endangered fishes.								
III.A.1.	Where not already generally known, identify negative impacts (e.g., predation, competition, hybridization) of problem species.								
III.A.1.a.	Determine role of nonnative fishes as potential competitors with bonytails and determine size-specific vulnerability of bonytails to nonnative fish predators.	UDWR	Complete						Adler and Crowl 1995, Bissonette and Crowl 1995, Lentsch et al. 1996a.
III.A.1.b.	Assess impact of northern pike predation on Colorado pikeminnow in the Green River.	UDWR	Complete						Crowl and Lentsch 1996.
III.A.1.c.	Re-evaluate levels of hybridization with white sucker and assess effects on razorback sucker populations. (Program will monitor for evidence of hybridization as razorbacks increase in the system.)	FWS/UDWR/ CSU	Ongoing	X	X	X	X	X	X
>*	III.A.1.c.(1) If necessary, implement actions to minimize hybridization between white sucker and razorback sucker.	FWS/UDWR/ CSU	Pending						
	III.A.1.d. Develop protocol for actions to be taken when a new nonnative species invasion or expansion is detected. (YS E-1)	PD		X					
III.A.2.	Identify and implement viable active control measures.								
III.A.2.a.	Identify options (including selective removal) to reduce negative impacts of problem species and assess regulations and options (including harvest) to reduce negative impacts on native fishes from nonnative sportfish.	PD	Complete						Hawkins and Nesler 1991; Lentsch et al. 1996b; Tyus and Saunders 1996. Upper Colorado River Endangered Fish Recovery Program 2004.
III.A.2.b.	Review options and develop agreement with appropriate States on strategies and locations for implementing control options. Develop Nonnative Fish Management Policy.	FWS/STATES	Complete						
>*	III.A.2.c. Evaluate the effectiveness (e.g., nonnative and native fish response) and develop and implement an integrated, viable active control program.	PD/FWS/ STATES	Ongoing	X	X	X	X	X	X
III.A.2.c.(1)	Level I synthesis: synthesize data on each species/river nonnative fish control effort and concomitant native fish response (e.g., smallmouth bass in the Yampa River and native fish response in the Yampa River) (completed by PI's and identified as a task in individual scopes of work). (YS G-3)	PI's	Ongoing	X		X	X		X
III.A.2.c.(2)	Level II synthesis: assimilate Level 1 syntheses into a basinwide and population scale analyses of effectiveness of nonnative fish management. (YS G-3)	PD	Ongoing	X		X	X		X
III.A.2.c.(3)	Develop one or more standardized nonnative fish datasets to facilitate data analyses and information tracking (one dataset will incorporate all tagging data, others may incorporate all movement, mar-recapture, removal data, etc.) *YS G-1.) Relates to item V.A.1., Interagency Data Management.	Program	Ongoing	X	X	X	X	X	X
III.A.2.c.(4)	Evaluate additional techniques to improve data analysis (e.g., advanced software, exploitation models, ecosystem response models). (YS M-1,2)	Program	Ongoing	X	X	X	X	X	X
>*	III.A.2.d. Close river reaches to angling where and when angling mortality is determined to be significant. (See specific river reaches.)	STATES	Ongoing, as needed	X	X	X	X	X	X
III.A.2.e.	Increase law enforcement activity to decrease angling mortality.	STATES	Ongoing	X	X	X	X	X	X

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>*	III.A.2.f. Develop control program for removal of small nonnative cyprinids in backwaters and other low velocity habitats. (Trammell et al. 2002 and 2005 complete, but development and implementation of a control program is on hold.)	STATES	On hold						
>*	III.A.2.g. Evaluate other methods for controlling nonnative fishes, including manipulation of flow and temperature, use of fish attractants, pathogens, genetic modification, and chemical piscicides. (YS N-1,2,3,4)			X	X				
	III.B. Reduce negative impacts to endangered fishes from sportfish management activities.								
	III.B.1. Implementation Committee approval of Interim Nonnative Fish Stocking Procedures.	PD	Complete	IC gave proxy in January 1994; States & Service approved in spring of 1994.					
	III.B.2. Implement Interim Nonnative Fish Stocking Procedures.								
	III.B.2.a. Develop scope of work for evaluation of Interim Procedures.	PD	Complete	FY 95 SOW #62 (FWS, CO, UT, WY)					
	III.B.2.b. Evaluate and revise Interim Procedures.	PD	Complete	Procedures for Stocking Nonnative Fish Species in the Upper Colorado River Basin, USFWS 1996.					
	III.B.3. Finalize revised Nonnative Fish Stocking Procedures.								
	III.B.3.a. Complete Biological Opinion/NEPA compliance.	FWS-ES/FR	Complete	FONSI, USFWS 1996.					
	III.B.3.b. Implementation Committee approval of revised Nonnative Fish Stocking Procedures.	PD	Complete	Implementation Committee approval October 2, 1996.					
	III.B.3.c. State wildlife commissions approval, as necessary.	STATES	Complete						
	III.B.3.d. Execute memoranda of agreement between Service and States.	FWS/STATES	Complete	Cooperative agreement for implementation of procedures for stocking of nonnative fish species in the Upper Colorado River Basin. Agreement in 1996 Stocking Procedures.					
	III.B.4. Incorporate final Procedures into State aquaculture permitting process.								
>*	III.B.4.a. Colorado.	CDA/CDOW	Complete	January 1999.					
	III.B.4.a.(1) Evaluate effectiveness of Colorado's stocking regulation.	CDOW	Complete	Martinez & Nibbelink 2004.					
>*	III.B.4.b. Utah.	UDWR	Complete						
>*	III.B.4.c. Wyoming.	WYGF	Complete						
	III.B.5. Explore options for tribal acceptance of Nonnative Fish Stocking Procedures.	FWS-FR	Complete	Tribe verbally accepted Procedures (per memo from Dave Irving to Bob Muth, 2003).					
	III.B.6. Review, evaluate, and revise as needed, the Nonnative Fish Stocking Procedures.	PD/FWS/STATES	As needed	X					
	III.B.7. Increase law enforcement activity to prevent illicit stocking.								
	III.B.7.a. Develop plan	STATES	Pending	X	X				
>*	III.B.7.b. Implement plan	STATES	Pending	X	X	X	X	X	X
	III.B.8. Evaluate designation of native fish conservation areas	PROGRAM	Pending	X	X	X	X	X	X
	III.C. Evaluate sources of nonnative fishes into critical habitat using isotope technology.	CDOW	Ongoing	X	X	X	X	X	X
	IV. MANAGE GENETIC INTEGRITY AND AUGMENT OR RESTORE POPULATIONS (STOCKING ENDANGERED FISHES)								
	IV.A. Genetics Management.								
	IV.A.1. Develop and approve Genetics Management Guidelines.	PD	Complete	Williamson and Wydoski 1994.					
	IV.A.2. Develop and implement Genetics Management Plan for all species and update as needed.	PD	Ongoing (updated 6/99)	X	X	X	X	X	X
	IV.A.3. Conduct genetic diversity studies (includes Gila taxonomy studies) and confirm presumptive genetic stocks based on all available information.								
	IV.A.3.a. Razorback sucker.	BR	Complete	Wydoski 1995, Czapl 1999.					
	IV.A.3.b. Bonytail and humpback chub.								
	IV.A.3.b.(1) Morphological and allozyme analyses. (Draft 4/95)	PD	Draft not accepted. Dropped.	Draft: Douglas 1995.					
	IV.A.3.b.(2) Mitochondrial DNA analysis.	BR	Draft not accepted. Dropped.	Draft: Dowling (No Date).					

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	IV.A.3.c. Colorado pikeminnow.	PD	Complete	Williamson et al. 1999.						
>	IV.A.4. Secure and manage the following species in refugia <i>hatcheries</i> (according to the Genetics Management Plan).									
	IV.A.4.a. Razorback sucker.									
	IV.A.4.a.(1) Middle Green	FWS-FR	Ongoing	X	X	X	X	X	X	
	IV.A.4.a.(2) Upper Colorado River.	FWS-FR	Ongoing	X	X	X	X	X	X	
	IV.A.4.b. Bonytail	UDWR/CDOW	Ongoing	X	X	X	X	X	X	
	IV.A.4.c. Humpback chub.									
	IV.A.4.c.(1) Black Rocks Canyon. (Broodstock currently represented by wild fish in the river.)	FWS-FR	Ongoing	X	X	X	X	X	X	
	IV.A.4.c.(2) Westwater Canyon. (Broodstock currently represented by wild fish in the river.)	UDWR	Ongoing	X	X	X	X	X	X	
	IV.A.4.c.(3) Cataract Canyon. (Broodstock currently represented by wild fish in the river.)	UDWR	Ongoing	X	X	X	X	X	X	
	IV.A.4.c.(4) Yampa Canyon. (Broodstock currently represented by wild fish in the river; however, population appears to have declined and Recovery Program is exploring the possibility of establishing a refuge stock.)	FWS-FR	Ongoing	X	X	X	X	X	X	
	IV.A.4.c.(5) Desolation/Gray Canyons. (Broodstock currently represented by wild fish in the river.)	UDWR	Ongoing	X	X	X	X	X	X	
	IV.A.4.d. Colorado pikeminnow.									
	IV.A.4.d.(1) Upper Colorado River Basin. (Broodstock currently represented at Dexter NFH and by wild fish in the river.)	TBD FWS	Ongoing	X	X	X	X	X	X	
	IV.B. Conduct annual fish propagation activities.									
	IV.B.1. Identify species needs for refugia, research, augmentation, and information and education.	PD	Annual	X	X	X	X	X	X	
	IV.B.2. Implement integrated stocking plan (Nesler et al. 2003).	FWS, UDWR, CDOW	Annual	X	X	X	X	X	X	
	IV.B.3. Conduct NEPA compliance and develop biological opinion on disposal of excess captive-reared endangered fish.	FWS-ES/FR	Complete	"Disposition of Captive-Reared Endangered CO River Fish," 06/08/95, FONSI.						
	IV.C. Operate and maintain facilities.									
	IV.C.1. Ouray.	FWS-FR	Ongoing	X	X	X	X	X	X	
	IV.C.2. Grand Valley endangered fish facilities.	FWS-FR	Ongoing	X	X	X	X	X	X	
	IV.C.3. Wahweap.	UDWR	Ongoing	X	X	X	X	X	X	
	IV.C.4. Mumma.	CDOW	Ongoing	X	X	X	X	X	X	
	IV.D. Plan, design, and construct needed facilities.									
	IV.D.1. Develop Coordinated Hatchery Facility Plan based on revised State stocking plans.	PD	Complete	Wydoski 1994; revised by Czaplá May 31, 2001. See also chapter 4 of Nesler et al., 2003.						
	IV.D.2. Design and construct appropriate facilities.									
	IV.D.2.a. Ouray.	FWS/BR	Complete	Ouray NFH water reuse system completed in 2002; hatchery fully functional & is producing razorback sucker for stocking & floodplain experiments.						
	IV.D.2.b. Wahweap.	UDWR/BR	Complete							
	IV.D.2.c. Grand Valley endangered fish facilities.	FWS/BR	Complete	Grand Valley hatchery facility expansion completed in 1999.						
	IV.D.2.d. Acquire ponds for growout of endangered fishes.									
	IV.D.2.d.(1) 23 acres of growout ponds in the Green River basin.	FWS/STATES	Complete	As a result of operational changes at Ouray NWR, leased ponds are no						
	IV.D.2.d.(2) 100 acres of growout ponds in the Colorado River basin.	FWS/STATES	Complete	As a result of revised state stocking plans, growout pond acreage in the Colorado River basin was judged sufficient to meet required number & size of fish as of 2003.						
	IV.E. Conduct monitoring to evaluate effectiveness and continuation of endangered fish stocking.									
	IV.E.1. Assess the monitoring needed to evaluate the contribution to recovery of endangered fish stocking over relevant reaches, life stages, and generations. Assessment addressed in 2001 and 2004 workshops (Upper Colorado River Endangered Fish Recovery Program 2002, 2006); continued assessment ongoing.	LFL/STATES	Ongoing	X	X	X	X	X	X	
	IV.E.2. Evaluate endangered fish stocking and revise augmentation plans, as needed.	FWS/LFL/States/PD	Ongoing	X	X	X	X	X	X	
	IV.E.3. Modify stocking plans to ensure successful stocking.	Program	Ongoing	X	X	X	X	X	X	
V.	MONITOR POPULATIONS AND HABITAT AND CONDUCT RESEARCH TO SUPPORT RECOVERY ACTIONS (RESEARCH, MONITORING, AND DATA MANAGEMENT)									

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V.A.	Measure and document population and habitat parameters to determine status and biological response to recovery actions.								
V.A.1.	Conduct interagency data management program to compile, manage, and maintain all research and monitoring data collected by the Recovery Program.	FWS-FR	Annual	X	X	X	X	X	X
V.A.2.	Evaluate population estimates.	PD	Ongoing	X	X	X	X	X	X
V.A.3.	Collect and submit data according to standard protocol (e.g., location, PIT tag #, length, weight, etc.) on every endangered fish encountered in all field activities in order to provide annual information on population status outside of formal population estimates.	ALL	Ongoing	X	X	X	X	X	X
V.B.	Conduct research to acquire needed life history information.								
V.B.1.	Identify significant deficiencies in life history information and needed research.	PD	Ongoing	X	X	X	X	X	X
V.B.2.	Conduct appropriate studies to provide needed life history information.	FWS-FR/ STATES	Ongoing	X	X	X	X	X	X
V.B.2.a.	Evaluate need for imprinting based on reintroduction plans.	FWS-FR	Complete	Reintroduction plans complete; imprinting not called for.					
V.C.	Develop and enhance scientific techniques required to complete recovery actions.								
V.C.1.	Conduct marking study of young-of-the-year Colorado pikeminnow.	FWS-FR	Complete	Muth and Nesler 1989, Haines and Modde 1996, Haines et al. 1998.					
V.D.	Establish sampling procedures to minimize adverse impacts to endangered fishes.								
V.D.1.	Assess electrofishing injury impacts to endangered fishes.	LFL	Complete	See Snyder 2003.					
V.D.2.	Implement scientific sampling protocols to minimize mortality for all endangered fishes.	FWS-ES/ STATES	Ongoing	X	X	X	X	X	X
V.E.	Provide for long-term care, cataloging, and accessibility of preserved specimens.	PROGRAM	Ongoing	X	X	X	X	X	X
V.F.	Assess relative biological importance of tributaries and their potential contributions to endangered fish recovery.	Contract	Complete	Tyus and Saunders 2001.					
V.G.	Reevaluate overutilization for commercial, recreational, scientific or educational purposes and identify actions to ensure adequate protection.	FWS-ES	Ongoing	X	X	X	X	X	X
V.H.	Reevaluate effects of disease and parasites and identify actions to ensure adequate protection.	FWS-ES	Ongoing	X	X	X	X	X	X
VI.	INCREASE PUBLIC AWARENESS AND SUPPORT FOR THE ENDANGERED FISHES AND THE RECOVERY PROGRAM. (Includes integration with San Juan River Recovery Implementation Program.)								
VI.A.	Conduct survey to measure public awareness of and attitudes toward endangered Colorado River fishes and the Recovery Program.	PD	Complete 1995.	Vaske 1995.					
VI.B.	Train Recovery Program managers and researchers in media relations.	PD	Ongoing	X	X	X	X	X	X
VI.C.	Plan and implement information and education and public involvement activities for all significant Recovery Program actions (e.g presentations, public meetings, public involvement training, etc.).	PROGRAM	Ongoing	X	X	X	X	X	X
VI.D.	Promote technical publication of study results.	PD	Ongoing	X	X	X	X	X	X
VI.E.	Produce, distribute, and evaluate information and education products (such as newsletter, brochures, public website, etc); manage media relations, including contacting reporters, producing news releases, fact sheets, etc.	PD	Ongoing	X	X	X	X	X	X
VI.F.	Participate in development and circulation of interpretive exhibits about the Recovery Program and the endangered fish.	PD	Ongoing	X	X	X	X	X	X
VI.G.	Maintain Recovery Program technical library and library web page.	PD	Ongoing	X	X	X	X	X	X
VII.	PROVIDE PROGRAM PLANNING AND SUPPORT (PROGRAM MANAGEMENT)								
VII.A.	Determine actions required for recovery.								
VII.A.1.	Assure consistency of RIPRAP with currently approved recovery plans.	PD	Ongoing	X	X	X	X	X	X
VII.A.2.	Recognize the role of the Upper Colorado River Recovery Program in revised recovery plans.	FWS	Ongoing	X	X	X	X	X	X
VII.A.3.	Update, refine, and prioritize recovery actions (RIPRAP) annually.	PD	Annual	X	X	X	X	X	X
VII.A.4.	Develop Interim Management Objectives (IMOs) for each species and presumptive stock and an index to population status.	PD	Complete	Lentsch et al. 1998.					
VII.A.4.a.	Public and external peer review of IMOs.	FWS	Complete	1998					
VII.A.4.b.	Implementation Committee review and approval of IMOs.	ALL	Complete	September 10, 1998.					
VII.A.5.	Develop specific recovery goals.								
VII.A.5.a.	Convene Recovery Team.	FWS	Complete	1999					

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VII.A.5.b.	Develop recommended recovery goals.	PD/Contract	Complete	2000					
VII.A.5.c.	Biology Committee review of recommended recovery goals.	Program	Complete	2000					
VII.A.5.d.	Finalize recovery goals.	FWS/PD	Complete	U.S. Fish and Wildlife Service 2002a, 2002b, 2002c, 2002d.					
VII.A.5.e.	Conduct species status review and update recovery goals at least every 5 years.	FWS/Program	Every 5 years	X				X	X
VII.A.6.	Identify elements of conservation plans to ensure long-term management and protection following delisting.	Program	Ongoing	X	X	X	X	X	X
VII.A.7.	Monitor and assess Recovery Program accomplishments annually.	PD	Annual	X	X	X	X	X	X
VII.A.8.	Develop biennial work plan to address priority needs.	PD	Annual	X	X	X	X	X	X
VII.B.	Actively participate in Recovery Program committees and secure funding for annual work plan and larger projects (e.g., water acquisition, capital construction, and long term operation and maintenance) in accordance with the recovery actions and milestones (Utah, Colorado, Wyoming, Bureau of Reclamation, Fish and Wildlife Service, Western Area Power Administration, Water Users, Environmental Groups, Colorado River Energy Distributors Association) and the National Park Service.	PD	Ongoing	X	X	X	X	X	X
VII.B.1.	As defined in PL 106-392, prepare joint report with San Juan River RIP on the utilization of power revenues for base funding, including recommendations regarding the need for continued base funding after 2011 that may be required to fulfill the goals of the Recovery Programs. Report is due to the committees of the U.S. Senate and House of Representatives 9/30/08.	Program	In draft	X					
VII.C.	Manage, direct, and coordinate Recovery Program activities.	PD	Ongoing	X	X	X	X	X	X
VII.C.1.	Review Information and Education program (Management Committee).	PD	Complete	Management Committee, July 28, 1994.					

GREEN RIVER ACTION PLAN: MAINSTEM

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I.	PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)								
I.A.	<u>Green River above Duchesne River</u> (Utah only; flows not threatened in Colorado because river is entirely within a National Wildlife Refuge and National Monument.)								
I.A.1.	Initially identify year-round flows needed for recovery while providing experimental flows.								
I.A.1.a.	Summer/fall.	FWS-ES	Complete	USFWS 1992.					
I.A.1.b.	Winter/spring.	FWS-ES	Complete	Muth, et al. 2000.					
I.A.1.c.	Review summer/fall flow recommendation.	FWS-ES	Complete						
I.A.2.	State acceptance of initial flow recommendations.								
I.A.2.a.	Summer/Fall.	UT	Complete	USFWS 1992 and revised in Muth et al. 2000.					
I.A.2.b.	Winter/Spring.								
I.A.2.b.(1)	Review scientific basis.	UT	Complete	Muth et al. 2000.					
I.A.2.b.(2)	Assess legal and physical availability of water.	UT	Complete						
I.A.3.	Deliver identified flows.								
>*	I.A.3.a. Operate Flaming Gorge pursuant to the 1992 Biological Opinion to provide summer and fall flows.	BR	Complete						
>*	I.A.3.b. Operate Flaming Gorge to supply winter and spring test flows for research.	BR	Complete	Muth et al. 2000.					
	I.A.3.c. Complete NEPA on reoperation of Flaming Gorge pursuant to Biological Opinion and Record of Decision.	BR	Complete	ROD issued February 16, 2006: U.S. Bureau of Reclamation 2006.					
>*	I.A.3.d. Operate Flaming Gorge Dam to provide winter and spring flows and revised summer/fall flows, pursuant to the new Biological Opinion and Record of Decision.	BR	Ongoing	X	X	X	X	X	X
	I.A.3.d.1. Conduct real-time larval razorback and Colorado pikeminnow sampling to guide Flaming Gorge operations.	LFL/FWS	Ongoing	X	X	X	X	X	X
I.A.4.	Legally protect identified flows.								
I.A.4.a.	Protect Summer/Fall flows.								
	I.A.4.a.(1) Hold public meeting to establish future appropriation policy.	UT	Complete 10/94	Utah Division of Water Rights. 1994 (public meetings October 1994; policy November 1994).					
	I.A.4.a.(2) Adopt and implement new policy (new appropriations subject to flow criteria).	UT	Complete 11/94						
>*	I.A.4.a.(3) Prepare and execute contracts with water users as required to subordinate diversions associated with approved and/or perfected rights.	UT	Ongoing	X	X	X	X	X	X
	I.A.4.a.(4) Evaluate effectiveness of policy.	UT	Ongoing	X	X	X	X	X	X
I.A.4.b.	Protect Winter/Spring flows.								
	I.A.4.b.(1) Hold public meeting to establish future appropriation policy.	UT	Pending	X					
	I.A.4.b.(2) Review policy, and, if needed adopt and implement new policy (new appropriations subject to flow criteria).	UT	Pending	X					
>*	I.A.4.b.(3) Prepare and execute contracts with water users as required to subordinate diversions associated with approved and/or perfected rights.	UT	Pending	X	X	X	X	X	X
I.B.	<u>Green River below the Duchesne River</u>								
I.B.1.	Initially identify year-round flows needed for recovery while providing experimental flows.	FWS-ES	Complete	Muth et al. 2000.					
I.B.2.	State acceptance of initial flow recommendations (dependent on development of initial flow recommendations).								
I.B.2.a.	Review scientific basis.	UT	Complete	Muth et al. 2000.					
I.B.2.b.	Assess legal and physical availability of water from Green River and tributaries.	UT	Complete						
I.B.3.	Legally protect identified flows (dependent on development of initial flow recommendations).								
I.B.3.a.	Hold public meeting to establish future appropriation policy.	UT	Pending	X					
I.B.3.b.	Review policy, and, if needed adopt and implement new policy (new appropriations subject to flow criteria).	UT	Pending	X					
>*	I.B.3.c. Prepare and execute contracts with water users as required to subordinate diversions associated with approved and/or perfected rights.	UT	Pending	X	X	X	X	X	X
I.C.	<u>Price River</u>								

GREEN RIVER ACTION PLAN: MAINSTEM

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
I.C.1.	Determine endangered fish spring through autumn use of the Price River.	UT	Complete	Cavalli 1999.					
I.C.2.	Determine winter use and seasonal flow needs for Colorado pikeminnow in the Price River.	UT/FWS	Pending	X					
I.D.	Evaluate and revise as needed, flow regimes to benefit endangered fish populations. See Kitcheyan and Montagne 2005, Bestgen et al. 2006.	FWS/Program	Ongoing	X	X	X	X	X	X
I.D.1.	Develop study plan to evaluate flow recommendations.	FWS/BOR/ WAPA	Complete						
I.D.1.a.	Evaluate survival of young and movement of subadult razorback suckers from floodplains into the mainstem in response to flows.	TBD	Ongoing	X	X	X	X	X	
I.D.1.b.	Evaluate recent peak flow studies related to floodplain inundation and entrainment of larval razorback suckers.								
I.D.1.b.(1)	Complete final report on entrainment of larval razorback suckers in floodplains.	UDWR/LFL	Ongoing	X					
I.D.1.b.(2)	Monitor changes in the magnitude, timing, and size distribution of sediment	USGS	Ongoing	X	X				
I.D.1.b.(3)	Synthesize physical and biological data from recent peak flow studies related to floodplain inundation and entrainment of larval razorback suckers.	TBD	New Start	X	X				
I.D.1.c.	Monitor larval razorback suckers in mainstem, and synthesize information on drift as related to flows and other conditions.								
I.D.1.c.(1)	Conduct annual monitoring of larval razorback suckers and analyze historic monitoring data.	FWS/LFL	Ongoing	X	X	X	X	X	X
I.D.1.d.	Determine relationship of backwater development to sediment availability and peak flows in Reach 2. To be combined with I.D.1.e (4)	TBD	New Start	X	X	X			
I.D.1.e.	Evaluate effect of base flow variability on backwater maintenance and quality.								
I.D.1.e.(1)	Conduct annual monitoring of larval Colorado pikeminnow.	LFL	Ongoing	X	X	X	X	X	X
I.D.1.e.(2)	Monitor age-0 Colorado pikeminnow in backwaters.	UDWR	Ongoing	X	X	X	X	X	X
I.D.1.e.(3)	Evaluate response of native fish to nonnative predator removal	UDWR	Ongoing	X	X	X	X	X	X
I.D.1.e.(4)	Integrate biological and physical data on backwaters.	TBD	New Start	X	X	X			
I.D.1.f.	Determine influence of flow and temperature recommendations on entire fish community with emphasis on nonnative fish life history in lower Reach 1 and upper Reach 2.	LFL/FWS	Ongoing	X	X				
I.D.1.g.	Determine spillway entrainment of nonnative fish at Flaming Gorge Dam.	CDOW/UDWR	Ongoing	X	X				
I.D.2.	Integrate and synthesize reports for evaluation and recommended revision of flow and temperature recommendations.	PD/FWS	New Start		X	X			X
I.E.	<i>Assess need for tributary management plan for San Rafael River.</i>								
I.E.1.	Estimate future water demands on San Rafael River.	PD/Utah	Pending	X					
I.E.2.	Develop tributary management plan for San Rafael River.	PD	TBD						
I.E.3.	Conduct appropriate Section 7 and NEPA compliance to implement tributary management plan.	PD/FWS	TBD						
II.	RESTORE HABITAT (HABITAT DEVELOPMENT AND MAINTENANCE)								
II.A.	Restore and manage flooded bottomland habitat.								
II.A.1.	Conduct site restoration.								
II.A.1.a.	Old Charlie Wash.								
>*	II.A.1.a.(1) Construct water control structure and fish kettle.	BR	Complete	Inlet and outlet water control structures repaired and a fish-harvest kettle installed in spring 1995. Inlet structure replaced March 1996. Leaks to outlet structure repaired in 1999.					
	II.A.1.a.(2) Update management plan.	PD	TBD	Need for operational plan TBD pending determination of role of OCW in recovery.					
	II.A.1.a.(3) Monitor and evaluate success.	FWS-FR/BR	TBD						
	II.A.2. Acquire interest in high-priority flooded bottomland habitats between Ouray NWR and Jensen to benefit endangered fish.								
	II.A.2.a. Identify and evaluate sites.	FWS-FR	Complete	Six sites acquired (1008.1 acres total). Floodplain acquisition completed and operation, maintenance and evaluation of sites incorporated into Green River Subbasin Floodplain Management Plan (Valdez and Nelson 2004a) (IIA4).					
	II.A.2.b. Pre-acquisition planning and identification of acquisition options.	PD	Complete						
	II.A.2.c. Conduct appraisal/NEPA compliance.	PD	Complete						
>*	II.A.2.d. Negotiate acquisition and acquire.	PD	Complete						
	II.A.2.e. Evaluate effectiveness of land acquisition activities and provide recommendations.	PD	Complete						

GREEN RIVER ACTION PLAN: MAINSTEM

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
II.A.3.	Implement levee removal strategy at high-priority sites.								
II.A.3.a.	Preconstruction (contaminants screening, floodability assessments, environmental compliance, design, and engineering).	PD/BR	Complete	Levees breached at 8 sites (accessing 274 acres). Levee removal completed and operation, maintenance and evaluation of sites incorporated into Green River Subbasin Floodplain Management Plan (Valdez and Nelson 2004a) (IIA4). See also Birchell et al. 2002.					
>* II.A.3.b.	Construction (levee breaching). [NOTE: Subject to review and approval for depression wetlands.]	BR	Complete						
>* II.A.3.c.	Operate and maintain.	BR/FWS	Complete						
II.A.3.d.	Evaluation.	FWS	Complete						
>* II.A.4.	Develop and implement Green River Subbasin Floodplain Management Plan (Valdez and Nelson 2004a). See also Tetra Tech 2005, Christopherson et al. 2005, Brunson and Christopherson 2005, and Modde and Haines 2005.	Program	Ongoing	X	X	X	X	X	X
II.A.4.a.	Validate and refine Green River Subbasin Floodplain Management Plan	Program	Ongoing	X	X	X	X	X	X
II.B.	Restore native fish passage at instream barriers.								
II.B.1.	Assess and make recommendations for fish passage at low flows at Tusher Wash.	FWS-FR/ - WR/BR	Complete	Cavalli 2000.					
II.B.2.	Screen Tusher Wash diversion to prevent endangered fish entrainment, if warranted.								
II.B.2.a.	Assess need.	UDWR	Complete	Cavalli 2000, Kitcheyan et al. 2001.					
II.B.2.b.	Design.	BR	Pending	X	X				
>* II.B.2.c.	Construct.	BR	Pending			X	X		
II.C.	Enhance water temperatures to benefit endangered fishes.								
II.C.1.	Identify options to release warmer water from Flaming Gorge Reservoir to restore native fish habitat in the Green River.	BR	Complete	USBR 2005.					
II.D.	Support actions to reduce or eliminate selenium impacts at Ashley Creek and Stewart Drain. [NOTE: selenium remediation (in all reaches) will be conducted independently of and funded outside of the Recovery Program.]	FWS-ES	Ongoing	X	X	X	X	X	X
III.	REDUCE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
III.A.	Reduce negative impacts to endangered fishes from sportfish management activities.								
III.A.1.	Determine relationship between Flaming Gorge test flows and the fish community in Lodore Canyon..	UDWR	Complete	Bestgen 1997, Bestgen and Crist 2000, F60					
>* III.A.2.	Control escapement of nonnative fishes from Ouray National Wildlife Refuge originating from Pelican Lake.	FWS-RW	Complete	Construction completed prior to spring 1997 runoff.					
>* III.A.3.	Identify and control sources of catfish and centrarchids in the middle Green River.	UDWR	Complete	Jackson and Badame 2002.					
III.A.4.	Develop and implement control programs for nonnative fishes in river reaches occupied by the endangered fishes to identify required levels of control. Each control activity will be evaluated for effectiveness, and then continued as needed. See III.A.2.c.1. & 2. under General Recovery Program Support Action Plan.								
>* III.A.4.a.	Northern pike in the middle Green River.	UDWR/FWS	Ongoing	X	X	X	X	X	X
III.A.4.b.	Nonnative cyprinids and centrarchids in nursery habitats.								
>* III.A.4.b.(1)	Small nonnative cyprinids from backwaters and other low-velocity habitats in the lower Green River.	UDWR	On hold	Trammell et al. 2005 report complete; development and implementation of control program on hold.					
>* III.A.4.b.(2)	Smallmouth bass in middle and lower Green River.	UDWR/FWS	Ongoing	X	X	X	X	X	X
>* III.A.4.c.	Channel catfish (e.g. Deso./Gray Canyons) to protect humpback chub populations, and in the middle Green River to protect razorback sucker and Colorado pikeminnow. On hold pending development of more efficient techniques.	FWS/UDWR	On hold						
IV.	MANAGE GENETIC INTEGRITY AND AUGMENT OR RESTORE POPULATIONS (STOCKING ENDANGERED FISHES)								
IV.A.	Augment or restore populations as needed, and as guided by the Genetics Management Plan.								
IV.A.1.	Develop integrated stocking plan for the four endangered fishes in the Green River.								
IV.A.1.a.	Prepare plan.	UDWR	Complete	Nesler at al. 2003.					

GREEN RIVER ACTION PLAN: MAINSTEM

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
IV.A.1.b.	Program acceptance.	UDWR	Complete	Nesler et al. 2003.					
> IV.A.1.c.	Implement plan.	UDWR	Ongoing	X	X	X	X	X	X
IV.A.1.c.(1)	Conduct high-priority lab/field studies identified in bonytail reintroduction plan.	UDWR	Draft not accepted; dropped.	Crowl and Rivera 2000.					
IV.A.1.d.	Evaluate stocking success as identified in monitoring plan for stocked fish.	LFL/FWS/ STATES/PD	Ongoing	X	X	X	X	X	X
V.	MONITOR POPULATIONS AND HABITAT AND CONDUCT RESEARCH TO SUPPORT RECOVERY ACTIONS (RESEARCH, MONITORING, AND DATA MANAGEMENT)								
V.A.	Conduct research to acquire life history information and enhance scientific techniques required to complete recovery actions.								
V.A.1.	Verify additional Colorado pikeminnow spawning areas in lower Green.	UT	Complete	Chart et al. 1999.					
V.A.2.	Identify additional razorback sucker spawning areas in lower Green.	UT	Complete	Chart et al. 1999, Muth et al. 1998.					
V.B.	Conduct population estimate for humpback chub.								
V.B.1.	Desolation/Gray. (Sampling occurs in September and October, overlapping fiscal years. Sampling is conducted for 2 years, followed by no sampling for 2 years, with report write-up in the first year following sampling, then sampling resumes in September of the second year). See Jackson and Hudson 2005.	UDWR	Ongoing			X	X		X
V.C.	Conduct population estimate for Colorado pikeminnow. Sampling is conducted for 3 years, followed by no sampling for 2 years.								
V.C.1	Middle Green River (including Yampa and White rivers). See Bestgen et al. 2005.	LFL/UDWR/ FWS	Ongoing	X			X	X	X
V.C.2	Lower Green River. See Bestgen et al. 2005.	LFL/UDWR/ FWS	Ongoing	X			X	X	X
V.D.	Conduct abundance estimate for razorback sucker. Develop plan in FY 09 (based, in part, on recommendations from evaluation of stocked razorback report).	TBD	Pending	X	X				

GREEN RIVER ACTION PLAN: YAMPA AND LITTLE SNAKE RIVERS

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
I.	PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)								
I.A.	<u>Basin-wide activities</u>								
I.A.1.	Identify fish habitat and flow needs								
I.A.1.a.	Complete Phase II feasibility study.	CRWCD/ CWCB/BR	Complete	Hydrosphere 1995.					
I.A.1.b.	Revise and update estimates of basin water needs.	CRWCD/FWS	Complete	BBC 1998.					
I.A.1.c.	Evaluate and recommend low flow and passage needs (also relates to restoration of fish passage, if needed -- Recovery Element II).	CDOW/FWS/ CRWCD	Complete	Modde et al. 1999.					
I.A.1.d.	Provide hydrology support to develop and evaluate flow augmentation alternatives.	CWCB	Complete	CWCB provided CRDSS model runs to evaluate augmentation water supply alternatives in 2003.					
I.A.1.e.	Report synthesizing the results of water demand, low flow recommendations and hydrologic analyses.	FWS	Complete	Ayres 1999.					
I.A.1.f.	Install, operate, and/or maintain stream flow monitoring gages.	FWS	Ongoing	X	X	X	X	X	X
I.A.1.g.	Install, operate, and/or maintain sediment monitoring gages.		Complete	Final report 1/05.					
I.A.2.	Develop and implement Yampa River management plan (Roehm 2004).								
I.A.2.a.	Negotiate a Cooperative agreement to implement the Yampa River management plan.	Program	Complete						
I.A.2.a.(1)	Develop a biological assessment for the management plan; initiate intra-Service Section 7 consultation based on the Service intent to enter into the Cooperative Agreement.	FWS	Complete						
I.A.2.a.(1)a	Complete intra-Service consultation, resulting in a programmatic biological opinion (PBO) for the Yampa Basin.	FWS	Complete	January 10, 2005.					
I.A.2.a.(2)	Fulfill NEPA requirements for the management plan.	FWS	Complete	September 2004.					
I.A.2.b.	Sign Cooperative Agreement to implement the management plan.	FWS/Program/ Colorado/ CRWCD	Complete	January 2005.					
I.A.3.	Develop public involvement plan.	FWS/CDOW	Complete	SOW FY 96 and forward.					
I.A.3.a	Implement public involvement plan.	FWS/CDOW	Complete						
I.A.4.	Evaluate and revise as needed flow regimes to benefit endangered fish populations.	FWS/Program	Ongoing	X	X	X	X	X	X
I.B.	<u>Yampa River above the Little Snake River</u>								
I.B.1	Initially identify year-round flows needed for recovery.	FWS-FR	Complete	Modde and Smith 1995.					
I.B.2	Provide augmentation of low flows.								
I.B.2.a	Identify and acquire water source(s).								
I.B.2.a.(1)	Steamboat Lake.								
I.B.2.a.(1)(a)	Change decree.	CDPOR	Complete 5/97	Done in 1997.					
>* I.B.2.a.(1)(b)	Lease up to 2,000 af. to augment late summer flows.	FWS-WR	Complete	Water is currently available from Elkhead Reservoir, so water no longer needed from Steamboat Lake.					
I.B.2.a.(1)(c)	Quantify transit losses.	CWCB	Complete	Done in 2000.					
I.B.2.a.(2)	Identify and evaluate water supply alternatives for up to 7,000 af of stream flow augmentation.	Program	Complete	Roehm 2003.					
I.B.2.a.(2)(a)	Complete all necessary administrative, legal, environmental compliance, institutional and financial arrangements needed for development of Elkhead Reservoir enlargement.								
I.B.2.a.(2)(a)i	Complete environmental compliance.	CRWCD	Complete						
I.B.2.a.(2)(a)ii	Complete funding agreement.	CRWCD/CWCB	Complete						
I.B.2.a.(2)(a)iii	Construct	CRWCD	Complete						
>* I.B.2.a.(2)(b)	Deliver water for endangered fish.	Program	Ongoing	X	X	X	X	X	X
I.B.3.	Evaluate need for instream flow water rights.								
I.B.3.a	Review scientific basis.	CWCB/CDOW	Complete	Approval of Modde et al. 1999.					
I.B.3.b	Assess legal and physical availability of water.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis of the allocation of compact water between the five					
I.B.3.c	Assess compact considerations.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis of the allocation of compact water between the five subbasins.					
I.B.3.d	Five-year periodic review of progress under the PBO to determine if instream flow filings are necessary.	CWCB/FWS	Pending		X	X			X

GREEN RIVER ACTION PLAN: YAMPA AND LITTLE SNAKE RIVERS

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
I.B.3.d.(1)	If necessary, evaluate how identified flows will be legally protected.	CWCB	Pending		X	X			X
I.C.	<u>Little Snake River (Colorado and Wyoming)</u>								
I.C.1.	Evaluate importance of Little Snake to endangered fishes and develop management action plan. (Determine if habitat exists to protect under Colorado's instream flow program.)	BR/LFL	Complete	Hawkins et al. 2001; Hawkins and O'Brien 2001.					
I.C.2.	Initially identify year-round flows needed for recovery (needed).								
I.C.2.a.	Develop work plan.	BR/LFL	Complete	Hawkins et al. 2001; Hawkins and O'Brien 2001.					
Δ I.C.2.b.	Identify flows.	FWS-WR	Pending Complete	Hawkins et al. 2001; Hawkins and O'Brien 2001.					
I.C.3.	Evaluate need for instream flow water rights.								
I.C.3.a.	Review scientific basis.	CWCB/CDOW	Complete						
I.C.3.b.	Assess legal and physical availability of water.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis of the allocation of compact water between the five					
I.C.3.c.	Assess compact considerations.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis of the allocation of compact water between the five					
I.C.3.d.	Five-year periodic review of progress under the PBO to determine if instream flow filings are necessary.	CWCB/FWS Wyoming	Pending		X	X			X
I.C.3.d.(1)	If necessary, evaluate how identified flows will be legally protected.	CWCB/ Wyoming	Pending		X	X			X
I.C.4.	Assess Wyoming's current and future water needs.	Wyoming	Complete	Assessment of Wyoming's future water needs is completed (see 2001 RIPRAP assessment)					
I.D.	<u>Yampa River below Little Snake River</u>								
I.D.1.	Initially identify year-round flows needed for recovery.	FWS-FR	Complete	Modde and Smith 1995.					
I.D.1.a.	Modify based on revisions to environmental baseline.	FWS-WR	Complete	Modde and Smith 1995.					
I.D.1.b.	Update flow recommendations to include flows from the Little Snake River.	FWS	Complete	Roehm 2004.					
I.D.2.	Evaluate need for instream flow water rights.								
I.D.2.a.	Review scientific basis.	CWCB/CDOW	Complete						
I.D.2.b.	Assess legal and physical availability of water.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis of the allocation of compact water between the five					
I.D.2.c.	Assess compact considerations.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis of the allocation of compact water between the five					
I.D.2.d.	Five-year periodic review of progress under the PBO to determine if instream flow filings are necessary.	CWCB/FWS	Pending		X	X			X
I.D.2.d.(1)	If necessary, evaluate how identified flows will be legally protected.	CWCB	Pending		X	X			X
II.	RESTORE HABITAT (HABITAT DEVELOPMENT AND MAINTENANCE)								
II.A.	<u>Yampa River from Dinosaur National Monument to Craig, Colorado</u>								
II.A.1.	Restore native fish passage at instream barriers and reduce impacts of maintaining diversion structures.								
II.A.1.a.	Inventory potential barriers.	CRWCD	Complete	Hydrosphere 1995.					
II.A.1.b.	Determine threshold (passage) flows between Craig and Dinosaur National Monument (low- flow dependent).	CDOW/FWS	Complete	Modde et al. 1999.					
II.A.1.c.	Develop guidelines to facilitate fish passage at new diversion structures.	PD/FWS-ES	Complete	Roehm 2003.					
II.A.2.	Reduce/eliminate entrainment of Colorado pikeminnow at diversion structures.								
II.A.2.a.	Identify and evaluate existing diversion structures for entrainment of Colorado pikeminnow	PD/FWS-ES	Ongoing	X	X				
>* II.A.2.b.	Develop and implement remedial measures, as necessary, to reduce or eliminate entrainment.	PD/CDOW/ FWS	TBD						
II.A.2.c.	Develop guidelines to reduce or eliminate entrainment at new diversion structures, if necessary.	PD/CDOW/ FWS	Complete	Roehm 2003.					
II.A.3.	Review NPS/USGS report to assess potential for negative impacts of elevated pH to endangered fish.	Program	Complete	PD's office reviewed Chafin 2002 and agreed elevated pH is a sampling artifact.					
II.B.	<u>Green River from Ouray to Jensen, Utah</u> (see Green River Action Plan)								
II.B.1	Acquire interest in high-priority flooded bottomland habitats between Ouray NWR and Jensen to benefit endangered fish (see Green River Action Plan : Mainstem II.A.2.)								
II.B.2.	Implement levee removal strategy at high-priority sites (see Green River Action Plan : Mainstem II.A.3.).								

GREEN RIVER ACTION PLAN: YAMPA AND LITTLE SNAKE RIVERS

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
III.A.	Develop guidance documents and revise as needed.								
III.A.1	Develop aquatic management plan (Colorado) to reduce nonnative fish impacts while providing sportfishing opportunities. - CDOW 1998.	CDOW	Complete; due for revision	X					
III.A.2	Develop Yampa River Nonnative Fish Control Strategy (Program)	Program	In draft	X					
>* III.B.	Implement CDOW Yampa Basin aquatic wildlife management plan and the Recovery Program's Yampa River Nonnative Fish Control Strategy. Each control activity will be evaluated for effectiveness and then continued as needed. See also III.A.2.c.1.& 2. under General Recovery Program Support Action Plan.	CDOW	Ongoing	X	X	X	X	X	X
III.B.1.	Prevent nonnative fish introduction; reduce invasion and recruitment.								
III.B.1.a.	Identify potential conflicts between present fisheries management in existing Elkhead Reservoir and endangered fishes and formulate Elkhead Lake Management Plan.	CDOW	Complete	CDOW 2007.					
III.B.1.a.(1)	Evaluate nonnative fish escapement and control options at Elkhead Reservoir (during and after Elkhead expansion construction). See Miller et al. 2005.	FWS-FR/ CDOW	Ongoing	X	X				
>* III.B.1.a.(2)	Implement control measures as needed to control escapement (during and after Elkhead expansion construction). Post-construction: monitor and maintain Elkhead screens (YS C-1).	Program	Ongoing	X	X	X	X	X	X
III.B.1.b.	Evaluate designation of Yampa River downstream of Craig, CO, as a native fish conservation area (YS B-3)	CDOW			X	X	X	X	X
III.B.1.c.	Remove northern pike and smallmouth bass above Craig, CO (YS C-3)	CDOW	Ongoing	X	X	X	X	X	X
III.B.1.d.	Target spawning areas (YS C-4)								
III.B.1.d.(1)	Northern pike.	Program	Ongoing	X	X	X	X	X	X
III.B.1.d.(1)(a)	Identify and evaluate natural and artificial spawning/nursery habitats for northern pike in the Yampa River for exclusion devices.	CDOW	Complete	Hill 2004.					
>* III.B.1.d.(1)(b)	Implement remedial measures to reduce pike reproduction in Yampa River.	CDOW	Ongoing	X	X				
III.B.1.d.(1)(c)	Develop guidelines for new structures to minimize creation of habitat suitable for pike spawning/nursery.	CDOW	Ongoing	X	X				
>* III.B.1.d.(2)	Smallmouth bass	Program	Ongoing	X	X	X	X	X	X
III.B.2.	Control nonnative fishes via mechanical removal								
III.B.2.a.	Estimate nonnative abundance, status, trends & distribution (YS I-3)	Program	Ongoing	X	X	X	X	X	X
III.B.2.b.	Develop and refine nonnative fish removal criteria (YS K-1)	Program	Ongoing	X	X	X	X	X	X
III.B.2.c.	Identify and evaluate gear types and methods to control nonnative fishes (YS I-5)	Program	Ongoing	X	X	X	X	X	X
>* III.B.2.d.	Remove and translocate northern pike from Yampa River. See Hawkins et al. 2005. (YS J-1)	CDOW/FWS	Ongoing	X	X	X	X	X	X
>* III.B.2.e.	Remove and translocate smallmouth bass. (YS J-1)	CDOW	Ongoing	X	X	X	X	X	X
III.B.2.f.	Control channel catfish								
>* III.B.2.f.(1)	Remove channel catfish in Yampa Canyon. (Discontinued except for removal of very large individuals incidental to smallmouth bass removal)	FWS	Discontinued						
>* III.B.2.f.(2)	Remove and translocate channel catfish above Yampa Canyon.	CDOW	On hold						
III.B.2.g.	Develop and refine native fish response criteria (YS K-2)	Program	In draft	X					
III.B.2.h.	Monitor native and endangered fish response (YS L-2)	Program	In draft	X					
III.B.2.i.	Remove bag and possession limits on warmwater nonnative sportfishes within critical habitat in Colorado.	CDOW	Complete	In Colorado fishing regulations.					
IV.	MANAGE GENETIC INTEGRITY AND AUGMENT OR RESTORE POPULATIONS (STOCKING ENDANGERED FISHES)								
IV.A.	<u>Yampa River in Dinosaur National Monument</u>								
IV.A.1.	Augment or restore populations as needed, and as guided by the Genetics Mgmt. Plan.								
IV.A.1.a.	Develop integrated stocking plan for bonytail in the Yampa River.	CDOW	Complete	Nesler et al. 2003					
> IV.A.1.a.(1)	Implement stocking plan.	FWS/CDOW	Ongoing	X	X	X	X	X	X

GREEN RIVER ACTION PLAN: YAMPA AND LITTLE SNAKE RIVERS

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
IV.A.1.b.	Research the survivability of young-of-year Gila species in transport and hatcheries.	FWS/CDOW	Ongoing	X					
IV.A.1.c	Evaluate stocking success as identified in monitoring plan for stocked fish.	LFL/FWS/ States/PD	Ongoing	X	X	X	X	X	X
V.	MONITOR POPULATIONS AND HABITAT AND CONDUCT RESEARCH TO SUPPORT RECOVERY ACTIONS (RESEARCH, MONITORING, AND DATA MANAGEMENT)								
V.A.	Conduct population estimate for humpback chub. (Estimate/trend information will be obtained via CPUE during nonnative fish removal passes.)	FWS	Ongoing	X	X	X	X	X	X

GREEN RIVER ACTION PLAN: DUCHESNE RIVER

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
I.	PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)								
I.A.	Identify initial year-round flows needed for recovery.	FWS-ES	Complete	Initial year-round flow needs for recovery were identified & summarized in a letter to Program Director on 03/09/95 and included in 1998 biological opinion.					
I.A.1.	Conduct hydrology/water availability study.	UT	Complete	CH2MHill 1997.					
I.A.2.	Conduct follow-up study to evaluate and refine flow recommendations.	FWS/UT	Complete	Modde and Keleher 2003.					
I.B.	State acceptance of initial flow recommendations (dependent on development of initial flow recommendations).								
I.B.1.	Review scientific basis.	UT	Complete	Acceptance of Modde and Keleher 2003.					
I.B.2.	Assess legal and physical availability of water.	UT	Pending	X	X	12/09			
I.C.	Legally protect and deliver identified flows.								
I.C.1.	Strawberry Valley Project.								
I.C.1.a.	Determine amount of water available from the Strawberry Valley Project for fish use. (BR/CUWCD completed coordinated reservoir operations model in 2003. Task completion part of I.D.1) (This is part of the coordinated reservoir operation in I.D.)	USBR/DOI/PD/ Strawberry Water Users	Ongoing	X	X	12/09			
I.C.2.	Management of Daniels Transbasin Diversion.								
I.C.2.a.	Determine the amount of water available from the Daniels Diversion for endangered fish use and pattern and location for delivery. (BR/CUWCD completed coordinated reservoir operations model in 2003. Task completion part of I.D.1)	DOI/IBAT/FWS/ Mitig. Comm./ CUWCD/ UteTribe	Complete						
>*	I.C.2.b.	Develop agreements if feasible to deliver and protect water available from the Daniels Diversion.	UT/IBAT /FWS/DOI/ Mitig.Comm./ CUWCD	Ongoing	X	X	12/09		
I.D.	Coordinate reservoir operation.								
I.D.1.	Determine feasibility and benefits of coordinated reservoir operation.	BR/CUWCD/ DOI	Complete	Hansen 2004.					
>*	I.D.2.	Develop agreements if feasible to coordinate reservoir operations and protect flows to the Green River.	BR/CUWCD/ UT/Ute Tribe	Ongoing	X	X	12/09		
>*	I.D.2.a.	Rehabilitate Myton Town diversion.	BR/CUWCD/ UT/Ute Tribe	Pending	X	X			
I.E.	Examine the feasibility of other options for obtaining water.	BR/DOI/PD/ UteTribe	Ongoing	X	X	X	X	X	X
I.F.	Determine need and feasibility of additional gaging.	BR/FWS/UT	Complete						
I.F.1.	Construct additional gages, as needed.	TBD	Complete						
I.G.	Evaluate and revise as needed, flow regimes to benefit endangered fish populations	FWS/Program	Ongoing	X	X	X	X	X	X
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
III.A.	Reduce negative interactions between nonnative and endangered fishes.								
III.A.1.	Identify most damaging nonnative fishes.	UDWR	Complete	Hawkins and Nesler 1991, Lentsch et al. 1996b, Tyus and Saunders 1996.					
III.A.2.	Assess options to control negative interactions from nonnative fishes from the Duchesne River to benefit Colorado pikeminnow and razorback sucker young-of-the-year.	UDWR	Complete	Tyus and Saunders 1996.					
III.A.3.	Implement and evaluate the effects of viable measures to control negative interactions from nonnative fishes. (See III.A.3. under Green River Mainstem Action Plan.)								
III.A.3.a.	Evaluate feasibility of screen on Bottle Hollow Reservoir to control nonnative fish escapement and explore alternative funding sources.	FWS-FAO/Ute Tribe/BOR	Complete	USFWS 2001.					

GREEN RIVER ACTION PLAN: DUCHESNE RIVER

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
>*	III.A.3.a.(1) If feasible and necessary, screen Bottle Hollow Reservoir	Ute Tribe	Complete	Elder's Pond screen (downstream of Bottle Hollow) completed in 2002 (Irving and Montoya 2002).					
	III.A.3.b. Evaluate escapement of nonnative fishes from Starvation Reservoir and the feasibility of screening.	UDWR	Complete						
	III.A.3.b.(1) If feasible and necessary, screen Starvation Reservoir	N/A	Complete						
>*	III.A.3.c. Remove nonnative fish (smallmouth bass, channel catfish and northern pike). See III.A.2.c.1.& 2. under General Recovery Program Support Action Plan.	FWS-FR	Ongoing	X					

GREEN RIVER ACTION PLAN: WHITE RIVER

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
I.	PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)								
I.A.	Assess need for tributary management plan for the White River.	PD	TBD						
I.A.1.	Estimate future water demands on the White River.	TBD	TBD						
I.A.2.	Develop tributary management plan.	PD	TBD						
I.A.3.	Conduct appropriate Section 7 and NEPA compliance to implement tributary management plan.	PD/FWS	TBD						
I.B.	Initially identify year-round flows needed for recovery.								
I.B.1.	Develop work plan.	FWS-FR	Complete	Lentsch et al. 2000.					
I.B.2.	Identify flows. Initial report complete (Irving et al. 2004).	FWS-FR	Pending	X					
I.C.	Evaluate how identified flows will be legally protected.	CWCB	Pending						
I.D.	State acceptance of initial flow recommendations (dependent on development of initial flow recommendations).								
I.D.1.	Review scientific basis, dependent on development of flow recommendations by FWS.	UT/CO	Pending	X					
I.D.2.	Assess legal and physical availability of water.	UT/CO	Complete	No work has been done in Utah on water availability. CO completed work on a water availability study for the White River in early 1995 & the work was used as the basis for developing depletion schedules for the White River.					
I.D.3.	Assess impacts of depletions on Colorado's Compact allocations.	CWCB	Complete	CO completed work on a water availability study for the White River in early 1995 & the work was used as the basis for developing depletion schedules for the White River.					
I.D.4.	CWCB notice of intent to appropriate (in Colorado).	CWCB	On hold						
I.E.	Legally protect identified flows (dependent on development of initial flow recommendations).								
I.E.1.	Protect flows in Colorado.								
I.E.1.a	Appropriate.								
I.E.1.a.(1)	CWCB approval to appropriate.	CWCB	On hold						
>*	I.E.1.a.(2) Colorado Attorney Generals Office file date.	CWCB	On hold						
>*	I.E.1.a.(3) Water court adjudication (litigation dependent).	CWCB	On hold						
I.E.2.	Protect flows in Utah.								
I.E.2.a.	Hold public meeting to establish future appropriation policy.	UT	TBD						
I.E.2.b.	Adopt and implement new policy (new appropriations subject to flow criteria).	UT	TBD						
>*	I.E.2.c. Prepare and execute contracts with water users as required to subordinate diversions associated with approved and/or perfected rights.	UT	TBD, as required						
I.F.	Evaluate and revise as needed flow regimes to benefit endangered fish populations.	FWS/Program	Ongoing	X	X	X	X	X	X
II.	RESTORE HABITAT (HABITAT DEVELOPMENT AND MAINTENANCE)								
II.A.	Restore native fish passage at instream barriers.								
II.A.1.	Assess and make recommendations for fish passage at Taylor Draw.	PD	Complete	Taylor Draw fish passage recommendations completed in 1997 when Program determined costs exceeded benefits. Irving 1997.					
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
III.A.	Reduce negative interactions between nonnative and endangered fishes.								
III.A.1.	Monitor escapement of nonnative fishes from Kenney Reservoir (especially black crappie and channel catfish).	CDOW	TBD	Initial assessment completed. If fish stocked in the future, escapement will need to be monitored. Elmblad 1998.					
III.B.	Reduce negative impacts to endangered fishes from sportfish management activities.								
III.B.1.	Assess adequacy of current regulations and options (including harvest) to reduce negative impacts on native fishes from nonnative sportfish and options to reduce angling mortality on native fishes below Kenney Reservoir.	CDOW	Complete	CDOW completed sportfish regulation/angling regulation changes in 1997 (See Colorado fishing regulations).					
III.B.1.a.	If necessary, assess management options to reduce escapement of black crappie from Kenney Reservoir.	CDOW	Complete	CDOW completed assessment (CDOW 2001).					
V.	MONITOR POPULATIONS AND HABITAT AND CONDUCT RESEARCH TO SUPPORT RECOVERY ACTIONS (RESEARCH, MONITORING, AND DATA MANAGEMENT)								
V.A.	Conduct research to acquire life history information and enhance scientific techniques required to complete recovery actions.								
V.A.1.	Determine relative abundance and fate of Colorado pikeminnow congregation below Kenney Reservoir.	FWS-FR	Complete	Elmblad 1997.					

GREEN RIVER ACTION PLAN: WHITE RIVER

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
V.A.2.	Monitor the White River fish community downstream of Kenney Reservoir to determine long-term effects of mainstream impoundment on the White River.	FWS-FR	Complete	Elmblad 1997.					

COLORADO RIVER ACTION PLAN: MAINSTEM

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
I.	PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)								
I.A.	Colorado River above Gunnison River								
>*	I.A.1. Develop, issue and implement PBO.	FWS	Complete	USFWS 1999b.					
	I.A.2. Initially identify year-round flows needed for recovery.								
	I.A.2.a. Rifle to Roller Dam.	FWS-FR	Complete	Osmundson 2001.					
	I.A.2.b. Roller Dam to 15-Mile Reach.	FWS-FR	Complete	Osmundson 2001.					
	I.A.2.c. 15-Mile Reach.	FWS-FR	Complete	Osmundson and Kaeding 1991.					
	I.A.3. Provide a depletion accounting report as outlined in the 15-Mile Reach PBO.								
	I.A.3.a. Collect data.	CWCB/FWS-ES/BR	Ongoing	X	X	X	X	X	X
	I.A.3.b. Develop consumptive use and losses report with CRDSS model to verify level of depletions.	CWCB	Pending				X	12/31/2011	
	I.A.3.c. Calculate new depletions every 5 years (2016, etc).	CWCB	Pending						X
	I.A.4. Evaluate need for instream flow water rights.								
	I.A.4.a. Rifle to Roller Dam (Dependent on initial flow recommendations).								
	I.A.4.a.(1) Assess legal and physical availability of water.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River.					
	I.A.4.a.(2) Assess impacts of depletions on Colorado's Compact allocations.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River					
	I.A.4.a.(3) Five-year periodic review of progress under the PBO to determine if instream flow filings are necessary.	CWCB/FWS	On hold						
	I.A.4.a.(3)(a) If necessary, evaluate how identified flows will be legally protected.	CWCB	On hold						
	I.A.4.b. Roller Dam to 15-Mile Reach (Dependent on initial flow recommendations).								
	I.A.4.b.(1) Assess legal and physical availability of water.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River.					
	I.A.4.b.(2) Assess impacts of depletions on Colorado's Compact allocations.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River					
	I.A.4.b.(3) Five-year periodic review of progress under the PBO to determine if instream flow filings are necessary.	CWCB/FWS	On hold						
	I.A.4.b.(3)(a) If necessary, evaluate how identified flows will be legally protected.	CWCB	On hold						
	I.A.4.c. 15-Mile Reach.								
	I.A.4.c.(1) Instream flow water right secured - 581 cfs (July - September).		Complete	On September 2, 1997, instream flow water rights were decreed for 581 and 300 cfs to benefit endangered fishes in the 15-Mile Reach. These water rights have a priority date of the date file which is December 1992 and December 1994 respectively.					
	I.A.4.c.(2) Irrigation season return flows legally protected - 300 cfs.		Complete						
	I.A.5. Provide and legally protect instream flows pursuant to Colorado River PBO.								
>*	I.A.5.a. Pursuant to Ruedi Biological Opinion, deliver 5,000af annually & an additional 5,000af 4 out of 5 years (ongoing and protect by short-term agreement).	BR/CWCB	Ongoing	X	X	X	X	X	X
>*	I.A.5.b. Execute long-term lease for 10,825 af from Ruedi Reservoir.	BR/FWS/CWCB	Complete	2012 lease signed June 23, 2003.					
>*	I.A.5.b.(1) Provide water annually pursuant to long-term lease.	BR/CWCB	Ongoing	X	X	X	X	X	X
	I.A.5.c. Execute 10-year agreement for delivery of 5,412.5 af by West Slope water users.	CRWCD/FWS	Complete	Pursuant to the 1999 PBO, in 2000, the Service signed a 10-year agreement with the CRWCD for delivery of 5,412 acre-feet of West Slope water from Wolford Mountain Reservoir (in addition to the original commitment of 6,000					
>*	I.A.5.c.(1) Provide and protect water deliveries by West Slope water users. Contract to provide up to 5,000 af of back-up water from Ruedi when not available from Wolford due to shortage criteria signed December 28, 2007.	CRWCD/CWCB	Ongoing	X	X	X	X	X	X

COLORADO RIVER ACTION PLAN: MAINSTEM

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS	
	I.A.5.d. Execute 10-year agreement for delivery of 5,412.5 af by East Slope water users.	DWD/FWS	Complete	Pursuant to the 1999 PBO, in 2000, the Service signed a 10-year agreement with Denver Water to deliver of 5,412 acre-feet of East Slope water from Williams Fork Reservoir.						
>*	I.A.5.d.(1) Provide and protect water deliveries by East Slope water users.	DWD/CWCB	Ongoing	X	X	X	X	X	X	
	I.A.5.e. Permanent delivery of 10,825 af of water in late summer/early fall to meet base flow needs.									
	I.A.5.e.(1) Identify options.	CRWCD/ NWCD/ Denver Water	Complete	Denver Water and Colorado River Water Conservation District 2002.						
	I.A.5.e.(2) Select preferred alternative for delivery.	CRWCD/ NWCD/ Denver Water	Ongoing	X						
	I.A.5.e.(3) Sign agreement(s)	CRWCD/ NWCD/ Denver Water	Pending		X					
	I.A.5.e.(4) Develop projects, if needed.	CRWCD/ NWCD/ Denver Water	Pending			X	X	X	X	
>*	I.A.5.e.(5) Deliver and legally protect flows.	CRWCD/ NWCD/ Denver Water	Pending						X	
	I.A.5.f. Evaluate options for use of uncommitted Ruedi Reservoir water following Round II sales.	BR	Complete	On May 25, 1995, FWS issued final amendment to BO for Round II water sales. Reclamation agreed to implement a 15-year contract for 21,650 af (in addition to the original 5,000 af + 5,000 af four out of five years). USFWS						
	I.A.5.g. After Ruedi Round II water sales are completed, or commitments to contracts agreed to, resolve the disposition of remaining uncommitted water from Ruedi Reservoir.	BR/CWCB/ FWS	Complete	1999 amendment to 1995 Ruedi BO. USFWS 1999a.						
>*	I.A.5.h. Pursuant to Wolford Mountain (Muddy Creek) Biological Opinion, deliver up to 6,000 acre-feet of water.	CRWCD/FWS/ CWCB	Ongoing	X	X	X	X	X	X	
	I.A.5.i. Coordinated reservoir operations.									
	I.A.5.i.(1) Evaluate (final report). Implementation plan finalized 2/28/06.	BR	Complete	Identified as complete in 2000 version of RIPRAP.						
>*	I.A.5.i.(2) If available, deliver additional peak flows, evaluate process & hydrology, and provide annual report.	BR	Ongoing	X	X	X	X	X	X	
	I.A.5.j. Collbran Project.									
	I.A.5.j.(1) Evaluate.	BR	Complete	Collbran contract could not be implemented as planned due to a number of water rights issues.						
	I.A.5.j.(2) Make recommendations	BR	Complete							
	I.A.5.k. Silt Project.									
	I.A.5.k.(1) Evaluate.	BR	Complete	Not feasible due to water availability.						
	I.A.5.k.(2) Make recommendations.	CDOP/BR	Complete							
	I.A.5.l. Grand Valley Water Management Project.									
	I.A.5.l.(1) Evaluate.	BR	Complete	1996						
	I.A.5.l.(2) Complete Draft Grand Valley Water Management Environmental Assessment. The agreement to deliver Green Mountain Reservoir water to the Grand Valley Power Plant, pursuant to the Orchard Mesa Check Settlement, will also be covered in this draft environmental assessment.	BR	Complete	1997						
>*	I.A.5.l.(3) Design and construct features of the Grand Valley Water Management Project.	BR	Complete							
	I.A.5.l.(4) Execute agreement for delivery of surplus Green Mountain Reservoir water up to the excess capacity of the Grand Valley Power Plant pursuant to the Orchard Mesa Check Settlement.	BR	Complete	July 1999.						
	I.A.5.l.(5) Execute agreement (municipal water contract) to deliver additional Orchard Mesa Check Settlement water and Grand Valley Water Management Plan water to benefit endangered fish.	BR/City of Grand Jct.	Complete; renewed in 2007	In 2000, Reclamation entered a 5-year contract to deliver Green Mountain surplus water to the city of Grand Junction for municipal/recreational purposes. Renewed on 8/29/2007 through 12/31/2012.						
	I.A.5.l.(6) Assess options and legally protect only additional Orchard Mesa Check Settlement water and Grand Valley Water Management Plan water.	BR	Complete	1999						
	I.A.5.m. Water Division 5 Coordinated Facilities Study.									

COLORADO RIVER ACTION PLAN: MAINSTEM

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
	I.A.5.m.(1) Evaluate options for providing and protecting additional peak flows to the 15-Mile Reach.	CWCB	Complete	Brown and Caldwell 2003.					
>*	I.A.5.m.(2) Deliver additional peak flows as determined feasible in the evaluation.	TBD	Ongoing	X	X	X	X	X	X
	I.A.6. Review implementation of RIPRAP items to determine timely compliance with applicable schedules (every 2 yrs. Beginning in 2003).	FWS	Ongoing		X		X	X	X
	I.B. Colorado River from the Gunnison to the Colorado-Utah State line (Includes the 18-Mile Reach)								
	I.B.1. Initially identify year-round flows needed for recovery.	FWS-FR	Complete	McAda 2003.					
	I.B.2. Evaluate how identified flows will be legally protected.	CWCB	On hold						
	I.B.3. State acceptance of initial flow recommendations.								
	I.B.3.a. Review scientific basis, dependent on development of flow recommendations by FWS.	CWCB/CDOW	Pending						
	I.B.3.b. Assess legal and physical availability of water.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River.					
	I.B.3.c. Assess impacts of depletions on Colorado's Compact allocations.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River.					
	I.B.3.d. CWCB notice of intent to appropriate (in Colorado).	CWCB	On hold						
	I.B.4. Legally protect identified flows.								
>*	I.B.4.a. Acquire (see Colorado River above Gunnison and Gunnison River).								
	I.B.4.b. Appropriate.								
	I.B.4.b.(1) CWCB approval to appropriate.	CWCB	On hold						
>*	I.B.4.b.(2) Colorado Attorney Generals Office file date.	CWCB	On hold						
>*	I.B.4.b.(3) Water court adjudication (litigation dependent).	CWCB	On hold						
	I.B.4.c. Deliver and legally protect flows from Aspinall (see Colorado River above Gunnison and Gunnison River).								
>*	I.B.4.c.(1) Operate Aspinall to provide test flows.	BR	Complete	Test flows provided through 1997; synthesis report and flow recommendations report completed in 2003 (McAda 2003).					
>*	I.B.4.c.(2) Continue annual coordination (meeting 3 times/year) of Aspinall operation until the EIS, biological opinion and record of decision are complete.	BR	Ongoing	X	X	X	X	X	X
	I.B.4.c.(3) Operate Aspinall to provide flows pursuant to biological opinion and record of decision.								
	I.B.4.c.(3)(a) Determine if change in water right and/or contract is needed.	BR	Pending						
	I.B.4.c.(3)(b) Enter into contract if needed.	BR	Pending						
>*	I.B.4.c.(3)(c) Deliver flows.	BR	Pending						
	I.C. Colorado River from Colorado-Utah State line to Green River								
	I.C.1. Initially identify year-round flows needed for recovery.	FWS-FR	Complete	McAda 2003.					
	I.C.2. State acceptance of initial flow recommendations.								
	I.C.2.a. Review scientific basis.	UT	Pending						
	I.C.2.b. Assess legal and physical availability of water.	UT	Pending						
	I.C.3. Legally protect identified flows.								
	I.C.3.a. Hold public meeting to establish future appropriation policy.	UT	Pending						
	I.C.3.b. Adopt and implement new policy (new appropriations subject to flow criteria).	UT	Pending						
>*	I.C.3.c. Prepare and execute contracts with water users as required to subordinate diversions associated with approved and/or perfected rights.	UT	Pending						
	I.D. Colorado River below Green River								
	I.D.1. Initially identify year-round flows needed for recovery.	FWS	Pending						
	I.D.2. Assess adequacy of combined flows from Colorado and Green rivers to provide fish habitat (and meet recovery goals) in the Cataract Canyon reach of the Colorado River.	FWS	Pending						
	I.E. Evaluate and revise as needed flow regimes to benefit endangered fish populations.	FWS/Program	Ongoing	X	X	X	X	X	X
	II. RESTORE HABITAT (HABITAT DEVELOPMENT AND MAINTENANCE)								
	II.A. Restore and manage flooded bottomland habitat.								
	II.A.1. 29-5/8 Road Gravel Pit (became part of larger "Hot Spot Complex" in 2003.)								
	II.A.1.a. Develop and approve management plans.	FWS-FR	Complete	Burdick 1994.					
	II.A.1.b. Site design/complete environmental compliance.	BR	Complete	Levee initially breached in December 1995. To enhance post-runoff					

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
>*	II.A.1.c. Construct.	BR	Complete	drainability, site topography was re-contoured in March 1998. Burdick 2002. Operation, maintenance and evaluation of sites incorporated into Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b) (IIA6).					
>*	II.A.1.d. Operate and maintain.	BR	TBD, revisit as needed						
	II.A.1.e. Monitor and evaluate success; modify as needed.	FWS-FR	TBD, revisit as needed						
	II.A.2. Adobe Creek.								
	II.A.2.a. Develop and approve management plans.	FWS-FR	Complete	Earthen dikes and water control structures completed in spring 1995. Hamilton et al. 1996, 1997, 2003. Operation, maintenance and evaluation of sites incorporated into Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b) (IIA6).					
	II.A.2.b. Site design/complete environmental compliance.	BR	Complete						
>*	II.A.2.c. Construct.	BR	Complete						
>*	II.A.2.d. Operate and maintain.	BR	TBD, revisit as needed						
	II.A.2.e. Monitor and evaluate success; modify as needed.	FWS-FR	TBD, revisit as needed						
	II.A.3. Walter Walker.								
	II.A.3.a. Develop and approve management plans.	FWS-FR	Complete	1994					
	II.A.3.b. Site design/complete environmental compliance.	BR	Complete	Initial construction was completed during FY 95.					
>*	II.A.3.c. Construct.	BR	Complete	75 cfs inlet control structure to flush selenium was completed December 1996 (Hamilton et al. 2003).					
>*	II.A.3.d. Operate and maintain.	BR/FWS/ CDOW	TBD, revisit as needed	Operation, maintenance and evaluation of sites incorporated into Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b) (IIA6).					
	II.A.3.e. Monitor and evaluate success; modify as needed.	FWS-FR	TBD, revisit as needed	Hamilton et al. 1996, 1997, 2003, Scheer 1998.					
	II.A.4. Develop and implement levee removal strategy at high-priority sites.								
	II.A.4.a. Preconstruction (contaminants screening, floodability assessments, environmental compliance, design & engineering.	BR/FWS	Complete	Burdick 2002. Levees breached at two sites (19.5 acres total). Levee removal completed and operation, maintenance and evaluation of sites incorporated into Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b) (IIA6).					
>*	II.A.4.b. Construction (levee breaching) [NOTE: Subject to review and approval for depression wetlands.]	BR	Complete						
>*	II.A.4.c. Operate and maintain.	BR/FWS	Complete						
	II.A.4.d. Evaluation	FWS	Complete						
	II.A.5. Acquire interest in high-priority flooded bottomland habitats.								
	II.A.5.a. Identify and evaluate sites.	FWS	Complete	Acquired 10 sites (394 acres total). Operation, maintenance and evaluation of sites incorporated into Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b) (IIA6).					
	II.A.5.b. Pre-acquisition planning and identification of acquisition options.	PD	Complete						
	II.A.5.c. Conduct appraisal/NEPA compliance.	PD	Complete						
>*	II.A.5.d. Negotiate and acquire.	PD	Complete						
	II.A.5.e. Evaluate effectiveness of land acquisition activities and provide recommendations	PD	Complete						
>*	II.A.6. Develop and implement Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b).	Program	Ongoing	X	X	X	X	X	X
	II.A.6.a. Validate and refine Colorado River Subbasin Floodplain Management Plan	Program	Ongoing	X	X	X	X	X	X
	II.B. Restore native fish passage at instream barriers.								
	II.B.1. Restore passage at Grand Valley Irrigation Co. Diversion Dam (Palisade)								
	II.B.1.a. Evaluate and implement viable options to restore fish passage.	BR/FWS	Complete	1997					
	II.B.1.a.(1) Obtain landowner consent/agreement.	BR	Complete	Preconstruction activities complete 1997.					
	II.B.1.a.(2) Site design/environmental compliance.	BR	Complete	Preconstruction activities complete 1997.					

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
>*	II.B.1.a.(3) Construct.	BR	Complete	GVIC passage construction completed in 01/98.					
>*	II.B.1.a.(4) Operate and maintain.	FWS-FR/BR	Ongoing	X	X	X	X	X	X
	II.B.1.a.(5) Monitor and evaluate success.	FWS-FR/BR	Complete	Burdick 1999.					
	II.B.1.b. Screen GVIC diversion to prevent endangered fish entrainment, if warranted.								
	II.B.1.b.(1) Design.	BR	Complete	1999					
>*	II.B.1.b.(2) Construct.	BR	Complete	GVIC diversion canal fish screen completed in 05/02, modifications completed March 2004.					
>*	II.B.1.b.(3) Operate and maintain.	FWS-FR/BR	Ongoing	X	X	X	X	X	X
	II.B.2. Restore fish passage at Price Stubb.								
	II.B.2.a. Evaluate and implement viable options.								
	II.B.2.a.(1) Obtain landowner consent/agreement.	BR	Complete						
	II.B.2.a.(2) Site design/environmental compliance.	BR	Complete						
>*	II.B.2.a.(3) Construct.	BR	Ongoing	X					
>*	II.B.2.a.(4) Operate and maintain.	TBD	Pending	X	X	X	X	X	X
	II.B.2.a.(5) Monitor and evaluate success.	FWS-FR/BR	Pending	X	X				
	II.B.3. Restore fish passage at Government Highline (Roller Dam).								
	II.B.3.a. Evaluate and implement viable options.								
	II.B.3.a.(1) Site design/environmental compliance.	BR	Complete	2003					
>*	II.B.3.a.(2) Construct.	BR	Complete						
>*	II.B.3.a.(3) Operate and maintain.	BR	Ongoing	X	X	X	X	X	X
	II.B.3.a.(4) Monitor and evaluate success.	FWS-FR/BR	Ongoing	X	X				
	II.B.3.b. Screen Government Highline diversion to prevent endangered fish entrainment.								
	II.B.3.b.(1) Design.	BR	Complete	2002					
>*	II.B.3.b.(2) Construct.	BR	Complete	August 2005.					
	II.B.3.b.(3) Operate and maintain.	FWS-FR/BR	Pending	X	X	X	X	X	X
	II.C. Support actions to reduce or eliminate contaminant impacts. [NOTE: Contaminants remediation (in all reaches) will be conducted independently of and funded outside of the Recovery Program.]								
	II.C.1. Support actions to reduce or eliminate contaminant impacts of selenium in the Grand Valley.	FWS-ES	Ongoing	X	X	X	X	X	X
	II.C.2. Support remediation of groundwater contamination at the Atlas Mill tailings site.	FWS-ES	Ongoing	X	X	X	X	X	X
	II.C.3. Identify measures to minimize risk of hazardous materials spills in Black Rocks and Westwater Canyon from transport along the adjacent railway to protect humpback chub populations.	FWS-ES	Ongoing	X	X	X	X	X	X
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
	III.A. Develop and implement control programs in reaches of the Colorado River occupied by endangered fishes. Each control activity will be evaluated for effectiveness and then continued as needed. See III.A.2.c.1.& 2. under General Recovery Program Support Action Plan.								
	III.A.1. Determine relationship between Aspinall test flows and nonnative fish abundance.	UDWR/ FWS-FR	Complete	McAda & Ryel 1999.					
>*	III.A.2. Reclaim ponds in critical habitat.	CDOW	Complete	Martinez 2004.					
	III.A.2.a. Evaluate and make recommendations.	CDOW	Complete						
	III.A.3. Nonnative cyprinids and centrarchids in nursery habitats.								
	III.A.3.a. Remove small nonnative cyprinids from backwaters and other low velocity habitats.	CDOW/UDWR	Complete	Trammell et al. 2002. Report completed; development and implementation of control program on hold.					
	III.A.3.b. Remove nonnative centrarchids from backwaters and other low velocity habitats.	FWS	Complete	Osmundson 2003. Report completed; development and implementation of control program on hold.					
	III.A.4. Preclude escapement from ponds in critical habitat as needed and feasible.								
	III.A.4.a. Evaluate sources of nonnative fishes and make recommendations.	CDOW/FWS	Ongoing	X	X	X	X		
>*	III.A.5. Develop and implement program to identify required level of channel catfish control.	FWS	On hold	Smallmouth bass considered higher priority (2004).					

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
>*	III.A.6. Develop and implement program to identify required level of smallmouth bass control.	FWS	Ongoing	X	X	X	X	X	X
	III.B. Reduce negative impacts to endangered fishes from sportfish management activities.								
>*	III.B.1. Evaluate control options and implement measures to control nonnative fish escapement from Highline Reservoir.	CDOW/ CRWCD	Complete	Fish barrier net installed in Highline Reservoir 8/99; replaced in 2005.					
	III.B.1.a. Operate and maintain Highline Reservoir net.	CDOPR	Ongoing	X	X	X	X	X	X
	III.B.1.b. Evaluate Highline Reservoir net.	CDOW	Complete	Martinez 2002.					
	III.B.2. Remove bag and possession limits on warmwater nonnative sportfishes within critical habitat in Colorado.	CDOW	Complete	See Colorado fishing regulations.					
	III.B.4. Develop basinwide aquatic management plan to reduce nonnative fish impacts while providing sportfishing opportunities.	CDOW	Complete	CDOW 2003a.					
>*	III.B.4.a. Implement CDOW's Colorado River Aquatic Management Plan.	CDOW	Ongoing	X	X	X	X	X	X
	IV. MANAGE GENETIC INTEGRITY AND AUGMENT OR RESTORE POPULATIONS (STOCKING ENDANGERED FISHES)								
	IV.A. Augment or restore populations as needed, and as guided by the Genetics Management Plan.								
	IV.A.1. Razorback sucker.								
	IV.A.1.a. Develop experimental augmentation plan and seek Program acceptance.	FWS-FR	Complete	Burdick et al. 1995.					
	IV.A.1.b. Implement experimental augmentation plan.								
>	IV.A.1.b.(1) Stock fish.	FWS-FR	Complete	Burdick 2003.					
	IV.A.1.b.(2) Monitor and evaluate results; make recommendations regarding further augmentation.	FWS-FR	Complete	Burdick 2003.					
	IV.A.2. Monitor the fish community in the upper Colorado River (above Palisade) and develop management action plan, including recommendations for Colorado pikeminnow and razorback sucker augmentation.	CDOW	Complete	Anderson 1997.					
	IV.A.3. Develop integrated stocking plan for razorbacks in the Colorado River in Colorado.	CDOW/PD	Complete	Nesler et al. 2003.					
	IV.A.3.a. Program acceptance.	CDOW/PD	Complete	Nesler et al. 2003.					
>	IV.A.3.b. Implement razorback sucker integrated stocking plan.	CDOW/PD	Ongoing	X	X	X	X	X	X
	IV.A.3.b. Evaluate stocking success as identified in monitoring plan for stocked fish.	Program	Ongoing	X	X	X	X	X	X
	IV.A.4. Develop integrated stocking plan for Colorado pikeminnow in the Colorado River in Colorado.	CDOW/PD	Complete	Nesler et al. 2003.					
	IV.A.4.a. Program acceptance.	CDOW/PD	Complete	Nesler et al. 2003.					
>	IV.A.4.b. Implement Colorado pikeminnow integrated stocking plan.	CDOW/PD	On hold						
	IV.A.4.c. Evaluate stocking success as identified in monitoring plan for stocked fish.	Program	Ongoing	X	X	X			X
	IV.A.5. Develop integrated stocking plan for bonytail in the Colorado River from Palisade to Loma.	CDOW	Complete	Nesler et al. 2003.					
	IV.A.5.a. Program acceptance.	CDOW/PD	Complete	Nesler et al. 2003.					
>	IV.A.5.b. Implement bonytail integrated stocking plan.	FWS/CDOW	Ongoing	X	X	X	X	X	X
	IV.A.5.c. Evaluate stocking success as identified in monitoring plan for stocked fish.	Program	Ongoing	X	X	X	X	X	X
	IV.A.6. Develop integrated stocking plan for the four endangered fish in the Colorado River in Utah.								
	IV.A.6.a. Prepare plan.	UDWR	Complete	Nesler et al. 2003.					
	IV.A.6.b. Program acceptance.	UDWR	Complete	Nesler et al. 2003.					
>	IV.A.6.c. Implement plan.	UDWR	Ongoing	X	X	X	X	X	X
	IV.A.6.d. Evaluate stocking success as identified in monitoring plan for stocked fish.	LFL/FWS/ STATES	Ongoing	X	X	X	X	X	X
	V. MONITOR POPULATIONS AND HABITAT AND CONDUCT RESEARCH TO SUPPORT RECOVERY ACTIONS (RESEARCH, MONITORING, AND DATA MANAGEMENT)								
	V.A. Conduct research to acquire life history information and enhance scientific techniques required to complete recovery actions.								
	V.A.1. Determine Colorado pikeminnow larval drift into Lake Powell.	NPS	Complete	Muth and Wick 1996, 1997.					
	V.B. Monitor populations per requirements in the 15-Mile Reach PBO.								
	V.B.1. Determine initial baselines and indices for Colorado pikeminnow and humpback chub.	PD	Complete	Appendix to biological opinion (USFWS 1999a) and recovery goals (USFWS 2002a, 2002c).					
	V.B.1.a. Evaluate population response, per 15-Mile Reach PBO (every 5 years beginning in FY 05).	FWS	Ongoing	X	X	X	X	X	X
	V.B.2. Determine initial baselines and indices for razorback sucker and bonytail.	PD	Complete	See recovery goals, USFWS 2002b, 2002d.					
	V.B.2.a. Evaluate population response, per 15-Mile Reach PBO (every 5 years beginning in FY 05).	FWS	Ongoing	X	X	X	X	X	X
	V.B.3. Revise population indices to conform to recovery goals.	FWS	Complete	2003 PBO evaluation (in concert with 2003 RIPRAP assessment).					

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
V.B.4.	Monitor incidental take.								
V.B.4.a.	Develop plan to monitor incidental take of endangered fishes in diversion structures.	FWS	Complete	"Plan" completed in that fish are being retrieved from canals until the canals are screened and screens are fully functional (anticipated in FY 05). Screens will prevent entrainment of adult, subadult, and juvenile fish (preventing entrainment of adult and subadult fish required is by recovery goals) because					
V.B.4.b.	Implement plan to monitor incidental take of endangered fish in diversion structures.	FWS	Ongoing						
V.C.	Estimate humpback chub populations. (Sampling occurs in September and October, overlapping fiscal years.)								
V.C.1.	Black Rocks. See McAda 2002.	FWS	Ongoing	X			X	X	X
V.C.2.	Westwater. See Hudson and Jackson 2003.	UDWR	Ongoing	X			X	X	X
V.C.3.	Cataract Canyon	UDWR/Valdez	Ongoing	X			X	X	X
V.D.	Estimate pikeminnow populations in the upper Colorado River (including Gunnison River). Three years sampling (e.g., FY 03, 04, 05) followed by two years no sampling; data analysis and report write-up in first year of no sampling (e.g., FY 06).	FWS	Ongoing	X	X	X			X

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
I.	PROVIDE AND PROTECT INSTREAM FLOWS (HABITAT MANAGEMENT)								
I.A.	Identify fish habitat and flow needs.								
I.A.1.	Initially identify year-round flows needed for recovery (Flow recommendations will be provided upon completion of Aspinall Unit studies.)								
I.A.1.a.	Complete draft technical synthesis report.	FWS	Complete	McAda 2000.					
I.A.1.b.	Complete draft biological assessment.	BR	Pending	X					
I.A.1.c.	Complete final technical synthesis report.	FWS	Complete	McAda 2003.					
I.A.1.d.	Complete final biological assessment.	BR	Pending	X					
I.A.1.e.	Complete draft biological opinion.	FWS	Pending	X					
I.A.1.f.	Complete draft NEPA document .	BR	Pending	X					
I.A.1.g.	Complete final biological opinion (FWS) and NEPA document (BR).	FWS/BR	Pending	X					
I.A.1.h.	Complete ESA Section 7 consultation resulting in a programmatic biological opinion (PBO) for the Gunnison Basin.	FWS/BR/WAPA	Pending	X					
I.B.	State acceptance of initial flow recommendations (Flow recommendations will be provided upon completion of Aspinall Unit studies.)								
I.B.1.	Review scientific basis, dependent on development of flow recommendations by FWS.	CWCB/CDOW	Complete	Complete with acceptance of McAda 2003.					
I.B.2.	Assess legal and physical availability of water.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River.					
I.B.3.	Assess impacts of depletions on Colorado's Compact allocations.	CWCB	Complete	Colorado completed work on a water availability study in early 1995 & the work was used as the basis for developing depletion schedules for the Colorado River.					
I.B.4.	CWCB notice of intent to appropriate (in Colorado).	CWCB	On hold						
I.C.	Legally protect identified flows.								
I.C.1.	Acquire (flow recommendations will be provided upon completion of Aspinall Unit studies.)								
I.C.1.a.	Assess, acquire and convert water rights to instream flows.	CWCB	On hold						
I.C.2.	Appropriate (flow recommendations will be provided upon completion of Aspinall Unit studies.)								
I.C.2.a.	CWCB approval to appropriate.	CWCB	On hold						
>* I.C.2.b.	Colorado Attorney General's Office file date.	CWCB	On hold						
>* I.C.2.c.	Water court adjudication (litigation dependent).	CWCB	On hold						
I.C.3.	Deliver.								
>* I.C.3.a.	Aspinall Unit supplemental releases to maintain 2,000 cfs minimum flow at Colorado-Utah state line 9 out of 10 years. Provide annual report.	BR	Through 01						
I.C.3.b.	Flows from Aspinall Unit for research studies.								
>* I.C.3.b.(1)	Deliver flows.	BR	Complete						
>* I.C.3.b.(2)	Protect research flows.	FWS/BR/ CWCB	Complete	An interim contact is in place between Reclamation, Service & CWCB. Long term legal protection of Gunnison River flows will occur after completion of Aspinall biological opinion (BR 04/95-FY96).					
>* I.C.3.c.	Continue annual coordination (meeting 3 times/year) of Aspinall operation until biological opinion complete.	BR	Ongoing	X					
I.C.3.d.	Flows from Paonia Reservoir in accordance with FWS Horsethief Biological Opinion.								
>* I.C.3.d.(1)	Deliver flows.	BR	Ongoing	X	X	X	X	X	X
I.C.3.e.	Flows from Aspinall Unit pursuant to Aspinall Biological Opinion and record of decision..								
I.C.3.e.(1)	Determine if change in water right and/or contract is needed.	BR	Pending						
I.C.3.e.(2)	Enter into contract if needed.	BR	Pending						
>* I.C.3.e.(3)	Deliver flows.	BR	Pending						
I.C.3.e.(3)(a)	Study Gunnison River return flows to determine consumptive use to be charged against flow deliveries.	USGS	Complete	Kuhn and Williams 2004.					
I.D.	Evaluate and revise as needed flow regimes to benefit endangered fish populations.	FWS/Program	Ongoing	X	X	X	X	X	X
I.E.	Initiate investigations of the feasibility of modifying releases from Aspinall Unit dams to increase water temperatures that would allow for upstream expansion of Colorado pikeminnow in the Gunnison River.	BR/Contract	Complete	Boyer and Cutler 2004.					

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
II.	RESTORE HABITAT (HABITAT DEVELOPMENT AND MAINTENANCE)								
II.A.	Restore and manage flooded bottomland habitat.								
II.A.1.	Develop management plan for Escalante State Wildlife Area.		Complete 5/94	Burdick 1994.					

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
II.A.2.	Develop and implement levee removal strategy at high-priority sites.								
II.A.2.a.	Preconstruction (contaminants screening, floodability assessments, environmental compliance, design & engineering).	BR	Complete	Construction completed at Escalante State Wildlife Area (200 acres) in January 2001; Butch Craig's (Unaweep Charolais Ranch) (98.7) was completed October 2003. Levee removal completed and operation, maintenance and evaluation of sites incorporated into Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b) (IIA4).					
>* II.A.2.b.	Construction (levee removal)	BR	Complete						
II.A.2.c.	Operate and maintain.	BR/FWS	Complete						
II.A.2.d.	Evaluation.	FWS	Complete						
II.A.3.	Acquire interest in high-priority flooded bottomland habitats.								
II.A.3.a.	Identify and evaluate sites.	FWS	Complete	Three sites acquired (198 acres total). Floodplain acquisition completed and operation, maintenance and evaluation of sites incorporated into Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b) (IIA4).					
II.A.3.b.	Pre-acquisition planning and identification of acquisition options.	PD	Complete						
II.A.3.c.	Conduct appraisal/NEPA compliance.	PD	Complete						
>* II.A.3.d.	Negotiate & acquire.	PD	Complete						
II.A.3.e.	Evaluate effectiveness of land acquisition activities and provide recommendations.	PD	Complete						
>* II.A.3.	Develop and implement Colorado River Subbasin Floodplain Management Plan (Valdez and Nelson 2004b).	Program	Ongoing	X	X	X	X	X	X
II.B.	Restore native fish passage at instream barriers.								
II.B.1.	Restore passage at Redlands.								
II.B.1.a.	Assess and make recommendations for fish passage.	FWS	Complete	Burdick and Kaeding 1990.					
II.B.1.b.	Implement viable options to restore fish passage.								
II.B.1.b.(1)	Design passage, conduct NEPA compliance.	BR	Complete	1996 RR; Passage under construction as of 11/20/95, to be completed by 04/96, 96status.ast					
>* II.B.1.b.(2)	Construct fish ladder.	BR	Complete	Construction completed in June 1996 (Burdick 2001).					
>* II.B.1.c.	Operate and maintain fish ladder.	FWS-FR/BR	Ongoing	X	X	X	X	X	X
II.B.1.d.	Monitor and evaluate success.	FWS-FR/BR	Complete	Burdick 2001.					
II.B.1.e.	Identify minimum flows below Redlands Diversion Dam.	FWS-FR	Complete	Burdick 1997.					
>* II.B.1.f.	Deliver flows below Redlands.	BR	Ongoing	X	X	X	X	X	X
II.B.1.g.	Screen Redlands diversion structure to prevent endangered fish entrainment .								
II.B.1.g.(1)	Design.	BR	Complete	2003					
>* II.B.1.g.(2)	Construct.	BR	Complete	August 2005.					
>* II.B.1.h.	Operate and maintain fish screen.	Redlands	Ongoing	X	X	X	X	X	X
II.B.2.	Restore passage at Hartland.								
II.B.2.a.	Assess and make recommendations for fish passage. (Passage at Hartland not identified as necessary for recovery in species' recovery goals).	FWS-FR	Complete	Burdick and Pfeifer 1996.					
II.B.2.b.	Evaluate viable options to restore fish passage.	BR	Complete	Burdick and Pfeifer 1996. Tetra Tech 2000 (evaluated 3 design options for passage and 3 options for screens).					
II.B.2.c.	Support local interests in efforts to pursue removal of the Hartland Diversion dam. [NOTE: These efforts will be conducted independently of and funded outside of the Recovery Program]	BR/FWS/PD	Ongoing						
II.B.2.d.	Screen Hartland diversion to prevent endangered fish entrainment, if warranted.								
II.B.2.d.(1)	Assess need.	BR/FWS/PD	Complete						
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
III.A.	Reduce negative interactions between nonnative and endangered fishes.								
>* III.A.1.	Reclaim ponds in critical habitat	CDOW	Complete	Martinez 2004.					
III.A.1.a.	Evaluate and make recommendations.	CDOW	Complete						
III.A.2.	Develop basinwide aquatic management plan to reduce nonnative fish impacts while providing sportfishing opportunities.	CDOW	Complete	CDOW 2003b.					
>* III.A.2.a.	Implement CDOW's Gunnison River Aquatic Management Plan.	CDOW	Ongoing	X	X	X	X	X	X
IV.	MANAGE GENETIC INTEGRITY AND AUGMENT OR RESTORE POPULATIONS (STOCKING ENDANGERED FISHES)								
IV.A.	Augment or restore populations as needed and as guided by the Genetics Management Plan.								
IV.A.1.	Razorback sucker.								
IV.A.1.a.	Develop experimental augmentation plan and seek Program acceptance.	FWS-FR	Complete	Burdick et al 1995.					

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	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
	IV.A.1.b. Implement experimental augmentation plan. (Goal: 10 adults/river mile.)								
>	IV.A.1.b.(1) Stock fish.	FWS-FR	Complete	Burdick 2003.					
	IV.A.1.b.(2) Monitor and evaluate results; make recommendations regarding further augmentation.	FWS-FR	Complete	Burdick 2003.					
	IV.A.2. Develop integrated stocking plan for Colorado pikeminnow in the Gunnison River.								
	IV.A.2.a. Program acceptance.		Complete	Nesler et al 2003.					

COLORADO RIVER ACTION PLAN: GUNNISON RIVER

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
>	IV.A.2.b. Implement Colorado pikeminnow integrated stocking plan.	CDOW/FWS	On hold						
	IV.A.2.c. Evaluate stocking success as identified in monitoring plan for stocked fish.	FWS/CDOW	On hold						
	IV.A.3. Develop integrated stocking plan for razorback sucker in the Gunnison River.								
	IV.A.3.a. Program acceptance.		Complete	Nesler et al 2003.					
>	IV.A.3.b. Implement razorback sucker integrated stocking plan.	CDOW/FWS	Ongoing	X	X	X	X	X	X
	IV.A.3.c. Evaluate stocking success as identified in monitoring plan for stocked fish.	LFL/FWS/STAT ES/PD	Ongoing	X	X	X	X	X	X
V.	MONITOR POPULATIONS AND HABITAT AND CONDUCT RESEARCH TO SUPPORT RECOVERY ACTIONS (RESEARCH, MONITORING, AND DATA MANAGEMENT)								
V.A.	Conduct research to acquire life history information and enhance scientific techniques required to complete recovery actions.								
	V.A.1. Conduct Colorado pikeminnow and razorback sucker inventory in Gunnison River above Redlands.	FWS-FR	Complete	Burdick 1995.					
	V.A.2. Identify additional spawning sites of endangered fishes on the Gunnison River.	FWS-FR	Ongoing	X					
	V.A.3. Conduct survey for endangered fish	FWS-FR	On hold	X					

COLORADO RIVER ACTION PLAN: DOLORES RIVER

	ACTIVITY	WHO	STATUS	FY 08 10/07-9/08	FY 09 10/08-9/09	FY 10 10/09-9/10	FY 11 10/10-9/11	FY 12 10/11-9/12	OUT- YEARS
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)								
III.A.	Reduce negative interactions between nonnative and endangered fishes.								
III.A.1.	Assess need and options to control nonnative fish escapement from McPhee Reservoir.	BR	Complete	McPhee Reservoir management plan was prepared by CDOW & accepted by the Service on 05/25/95.					
III.B.	Reduce negative impacts to endangered fishes from sportfish management activities.								
III.B.1.	Identify potential conflicts between present fish management practices in McPhee Reservoir and endangered fishes and formulate an alternative management plan.	CDOW	Complete	McPhee Reservoir management plan was prepared by CDOW & accepted by the Service on 05/25/95.					
V.	MONITOR POPULATIONS AND HABITAT AND CONDUCT RESEARCH TO SUPPORT RECOVERY ACTIONS (RESEARCH, MONITORING, AND DATA MANAGEMENT)								
V.A.	Survey native and nonnative fish in Dolores River (UDWR funding outside of Program).	UDWR	Complete	UDWR did fish community survey on Dolores on 2006.					