

GREEN RIVER ACTION PLAN: YAMPA AND LITTLE SNAKE RIVERS

	ACTIVITY	WHO	STATUS	FY 07 10/06-9/07	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.	Basin-wide activities									
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	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	X
I.B.	Yampa River above the Little Snake River									
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	11/06						
>* I.B.2.a.(2)(b)	Deliver water for endangered fish.	Program	Pending	X	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 subbasins.						
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
I.B.3.d.(1)	If necessary, evaluate how identified flows will be legally protected.	CWCB	Pending			X	X			X
I.C.	Little Snake River (Colorado and Wyoming)									
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.						
I.C.2.b.	Identify flows.	FWS-WR	Pending	X						

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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 subbasins.						
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 subbasins.						
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.	Yampa River below Little Snake River									
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 subbasins						
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 subbasins.						
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.	Yampa River from Dinosaur National Monument to Craig, Colorado									
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	X	X	X	X	X
>* II.A.2.b.	Develop and implement remedial measures, as necessary, to reduce or eliminate entrainment.	PD/CDOW/ FWS	Ongoing		X	X	X	X	X	X
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.	Green River from Ouray to Jensen, Utah (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.)									
III.	REDUCE NEGATIVE IMPACTS OF NONNATIVE FISHES AND SPORTFISH MANAGEMENT ACTIVITIES (NONNATIVE AND SPORTFISH MANAGEMENT)									
III.A.	Develop aquatic management plan (Colorado) to reduce nonnative fish impacts while providing sportfishing opportunities (also relates to nonnative fish management/control -- Recovery Element III). CDOW 1998.	CDOW	Complete; due for revision	X						
>* III.A.1.	Implement Yampa Basin aquatic wildlife management plan to develop nonnative fish control programs in reaches of the Yampa River occupied by the 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.	CDOW	Ongoing	X	X	X	X	X	X	X
III.A.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.A.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	X				
>* III.A.1.a.(2)	Implement control measures as needed to control escapement (during and after Elkhead expansion construction).	Program	Ongoing	X	X	X	X	X	X	X
III.A.1.b.	Control northern pike									

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>*	III.A.1.b.(1) Remove and translocate northern pike from Yampa River. See Hawkins et al. 2005.	CDOW/FWS	Ongoing	X	X	X	X	X	X	X
	III.A.1.b.(2) Reduce northern pike reproduction in the Yampa River.									
	III.A.1.b.(2)(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.A.1.b.(2)(b) Implement remedial measures to reduce pike reproduction in Yampa River.	CDOW	On hold							
	III.A.1.b.(2)(c) Develop guidelines for new structures to minimize creation of habitat suitable for pike spawning/nursery.	CDOW	On hold							
	III.A.1.b.(3) Identify sources of northern pike and implement remedial measures as needed.	CDOW	Ongoing	X						
	III.A.1.c. Control channel catfish									
>*	III.A.1.c.(1) Remove channel catfish in Yampa Canyon. (Discontinued except for removal of very large individuals incidental to smallmouth bass removal)	FWS	Dis-continued							
>*	III.A.1.c.(2) Remove and translocate channel catfish above Yampa Canyon.	CDOW	On hold							
>*	III.A.1.d. Remove and translocate smallmouth bass.	CDOW	Ongoing	X	X	X	X	X	X	X
	III.A.1.e. 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. Yampa River in Dinosaur National Monument									
	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	X
	IV.A.1.b. Research the survivability of young-of-year Gila species in transport and hatcheries.	FWS/CDOW	Ongoing	X	X					
	IV.A.1.b.c Evaluate stocking success as identified in monitoring plan for stocked fish.	LFL/FWS/ States/PD	Ongoing	X	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