

**FY-2002 PROPOSED SCOPE OF WORK for:**  
Tributary Basin Management Plans

**Project #: 114**

Lead Agency: U.S. Fish and Wildlife Service

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<u>Category:</u>	<u>Expected Funding Source:</u>
<input type="checkbox"/> Ongoing project	<input type="checkbox"/> Annual funds
<input type="checkbox"/> Ongoing-revised project	<input type="checkbox"/> Capital funds
<input checked="" type="checkbox"/> Requested new project	<input type="checkbox"/> Other
<input type="checkbox"/> Unsolicited proposal	

I. Title of Proposal:

Develop management plan(s) for significant tributaries of the Upper Colorado River Basin that promotes recovery of endangered fishes and offsets impacts of existing and foreseeable future water depletions from these tributary basins to meet human needs.

II. Relationship to RIPRAP:

General Recovery Program Support Action Plan  
I.D. Develop tributary management plan

Green River Action Plan: White River  
I.A. Develop estimates of basin water needs  
I.B. Initially identify year-round flows needed for recovery  
III.A. Reduce negative interactions between nonnative and endangered fishes

Colorado River Action Plan: Dolores River  
III.A. Reduce negative interactions between nonnative and endangered fishes  
IV.A.1.a. Implement CDOW's stocking plan

III. Study Background/Rationale and Hypotheses:

Tyus and Saunders (2001) ranked tributaries throughout the Upper Colorado River Basin according to their contributions or potential contributions to the recovery of the four endangered fish species of the Upper Colorado River Basin. Several of the most important of these are either covered by an existing programmatic biological opinion (Colorado River PBO, U.S. Fish and Wildlife Service 1999) or management plans currently under development or planned (Yampa/Little Snake and Gunnison rivers). Of the remaining tributaries, the White and Dolores rivers are ranked by Tyus and Saunders as making the greatest contribution or potential contribution to recovery (Table 1).

Table 1. Relative contributions of tributaries and obstacles to endangered species recovery (adapted from Tyus and Saunders 2001).

Tributary	Contributions to Recovery			Rank <sup>2</sup>	Obstacles to Recovery
	Direct	Indirect <sup>1</sup>	Total		
<b>Green River Subbasin</b>					
Yampa River	5	14	19	1*	Nonnatives
Little Snake River	3	11	14	5*	Nonnatives
Tributary Green River <sup>3</sup>	4	6	10	6*	Flow regulation, temperature, nonnatives
Duchesne River	3	6	9	8	Flow depletion, nonnatives
White River	3	12	15	4	Barrier, nonnatives
Price River	2	5	7	10	Flow depletion
San Rafael River	3	5	8	9	Flow depletion
<b>Colorado River subbasin</b>					
Tributary Colorado <sup>4</sup>	4	14	18	2*	Barriers
Plateau Creek	1	6	7	10	Barriers
Gunnison River	4	13	17	3	Barriers, water quality
Dolores River	1	9	10	6	Water quality(?)
<b>Lake Powell</b>					
Dirty Devil Arm	1	5	6	12	Little prospect of recovery
Escalante Arm	1	5	6	12	Little prospect of recovery

<sup>1</sup> Weighted score based on 1 point for low, 2 points for medium, and 3 points for high values in each of 5 different flow/sediment attributes

<sup>2</sup> Ranked by total score (\* covered by existing or imminent PBO's or BO's.)

<sup>3</sup> Upstream from Yampa River – covered by Flaming Gorge BO

<sup>4</sup> Upstream from Gunnison River – covered by Colorado River (“15-mile reach”) PBO

### White River

Tyus and Saunders (2001) rank the White River 4<sup>th</sup> out of 13 tributaries evaluated for their contribution to recovery. Only the Yampa, Colorado and Gunnison ranked higher.

The White River originates on the White River Plateau in NW Colorado and flows in a westerly direction into Utah, where it joins the Green River near Ouray. In Utah, the White River flows entirely within the Uintah and Ouray Reservation of the Ute Indian Tribe. Since 1980, 435 adult Colorado pikeminnow have been captured in the White River upstream to river mile (RM) 138 and 2 adult razorback sucker were captured near RM 18 (Tyus and Saunders 2001). In 1984, Taylor Draw Dam was completed at about RM 100

east of Rangely, Colorado. It creates Kenney Reservoir, the only significant impoundment in the White River Basin. However, with only 13,800 AF of storage capacity out of an annual average yield of 500,000 AF (Colorado River Water Conservation District 1998), its greatest impact is the barrier it presents to migrating Colorado pikeminnow, denying them access to 50 miles (32%) of their historic habitat in the White River. The reservoir also is a likely source of nonnative fishes that escape downstream into habitat occupied by Colorado pikeminnow, as well as razorback sucker which inhabit the Green River near its confluence with the White River. Nonnative fishes compete with and/or prey upon these and other native species.

### Dolores River

Tyus and Saunders (2001) rank the Dolores River 6<sup>th</sup> in terms of its potential contribution to recovery. It ranks below the Little Snake River and is co-equal with the tributary Green River; however, these streams are covered under previous biological opinions and are not included in this scope of work.

The Dolores River flows out of the San Juan Mountains in SW Colorado into SE Utah, where it enters the Colorado River near Cisco, Utah. The basin encompasses about 4,600 square miles. Peak flows are highly variable with a 50-year high of 17,400 cfs (1958) and low of 1,260 cfs (1996). McPhee Dam, completed in 1984 on the Dolores River at RM 200 near the town of Dolores, Colorado, impounds about 381,000 AF (229,000 AF of active storage) for irrigation, municipal and industrial water supply, hydroelectric generation, recreation, fish and wildlife enhancement, and flood control (U.S. Bureau of Reclamation 2001). McPhee Dam and Reservoir attenuate peak flows and augment base flows. However, peak flows as low as 2,110 cfs (1981) were measured at Cisco prior to construction of McPhee Dam (U.S. Geological Survey 2001). The San Miguel River is the only significant tributary to the Dolores downstream from McPhee Dam; unregulated by dams and reservoirs the San Miguel provides most of the water to the lower reaches of the Dolores during periods of low water.

Management plan(s) will be developed for these and possibly other tributaries to serve as the bases for the U.S. Fish and Wildlife Service (FWS) to render PBO(s), which will encompass both federal and non-federal existing and future water development projects in each of these tributary basins. Management plan(s) will quantify water depletions to be covered by the PBO(s), as well as those recovery actions designed to offset the impacts of depletions and assist in recovery of the endangered fish. Recovery actions will include provision for and protection of instream flows, habitat restoration and maintenance, nonnative fish control, stocking endangered fishes, and monitoring endangered fish populations and their habitats.

#### IV. Study Goals, Objectives, End Product:

- A. Goal: The ultimate goal of the Tributary Management Plan(s) is to contribute to the recovery of endangered fishes while allowing depletions of water for existing and foreseeable future human needs to continue in accordance with state water law and interstate compacts.

B. Objectives:

1. Develop a framework to address issues raised by Recovery Program participants and others.
2. Determine the role of the Gunnison River in the recovery of the endangered fishes.
3. Develop consumptive use (demand) projections describing the amount of water that is needed to meet current and foreseeable future human needs.
4. Describe when and how much water is needed to meet the seasonal flow needs of the endangered fishes under current and foreseeable future demand conditions.
5. Develop and implement actions to reduce/minimize impacts on native fishes due to the presence of competitive and predatory nonnative fishes.
6. Develop a management plan that incorporates the above items in cooperation with local stakeholders, the states of Colorado and Utah, affected Tribes, federal agencies and others, as appropriate.
7. Develop and implement a formal agreement among appropriate parties to implement the management plan.

C. End Products:

1. Tributary report
2. White River flow recommendations
3. Consumptive use (demand) projections ca. 2050
4. Draft Tributary Management Plan
5. Final Tributary Management Plan
6. Biological Assessment
7. Draft EA
8. Final EA
9. Formal agreement between the FWS, states of Colorado and Utah, Tribes, and others as appropriate to implement the Tributary Management Plan.

V. Study area:

The geographic scope of depletions to be considered in the Tributary Management Plan(s) encompasses: 1) the White River and its tributaries from its headwaters downstream to its confluence with the Green River near Ouray, Utah; 2) the Dolores River and its tributaries from its headwaters downstream to its confluence with the Colorado River near Cisco, Utah. Recovery actions may be implemented in the Middle Green River and the mainstem Colorado River as well as or in lieu of similar actions in the tributaries themselves; these actions would benefit migratory populations of Colorado pikeminnow and razorback sucker that inhabit both the Green and White rivers or the Colorado and Dolores rivers.

VI. Study Methods/Approach

Overall direction for development of the Tributary Management Plan(s) will be provided by a workgroup, comprised of representatives from the States of Colorado and Utah, FWS, USBR, other federal agencies, as appropriate, environmental groups, water users, tribes and other stakeholders from the affected tributary basins.

VII. Task Description and Schedule

1. Determine the role and relative importance of the Gunnison River to the recovery of the endangered fishes (March 2001).
2. Determine year-round instream flow needs of the endangered fishes in the White River (undergoing revision).
3. Estimate current and foreseeable future (ca. 2050) depletions from the White River and Dolores River basins (September 2002, pending SOW).
4. Identify and evaluate feasible water management alternatives to satisfy FWS flow recommendations while allowing for current and foreseeable future depletions; identify, evaluate and describe other site-specific recovery actions, as appropriate (October 2002 – March 2003).
  - a. Work with CWCB, UDWR hydrologists and tribes to fully describe and evaluate the hydrologic impacts of water management options for tributaries.
5. Prepare and issue draft management plan for the White and Dolores rivers (March 2003).
6. Determine NEPA and ESA requirements of proposed action(s) under the management plan, as necessary, and initiate scoping (April – May 2003).
7. Collect and analyze environmental data, evaluate and document beneficial and adverse impacts of implementing the elements of the management plan; prepare Biological Assessment, draft EA for the plan (May – September 2003).
8. Prepare Final EA for the management plan, following 30-day comment period (October 2003 – January 2004).
9. Prepare final management plan; develop and execute Cooperative Agreement to implement the management plan (February – April 2004).

10. Public Involvement Activities: Implement public outreach activities to promote acceptance of the Tributary Basin Management Plan.
11. Hydrology Support: Model existing and alternative future flow scenarios for Task 3 above using CRDSS and other tools, as appropriate.
12. Technical Project Support and Coordination. Provide technical support and coordination related to the development of the Tributary Basin Management Plan:
  - a. Preparing/reviewing scopes of work related to the development and implementation of the Tributary Basin Management Plan
  - b. Coordinating activities of PBO workgroup
  - c. Coordinating public involvement activities
  - d. Responding to requests for information
  - e. Performing staff work for the PBO workgroup
  - f. Writing, reviewing and/or synthesizing documents

VIII. FY-2002 Work

Task 1. Estimate instream flow needs of endangered fishes

Deliverables: Flow recommendations – pending

FY 2002 Budget: \$0 (see Project # 54)

Task 2. Estimate future human water demands

Deliverables: Final demand projections ca. 2050

FY 2002 Budget: \$20,000 (see attached scope of work)

Task 10. Public Involvement Activities

Deliverables: Separate scope of work and annual report

FY 2002 Budget: \$0 (see scope of work for Project # PIP-12K)

Task 11. Hydrology Support

Deliverables: Separate scope of works and annual reports

FY 2002 Budget: \$0 (see scopes of work Project # 19B & 71)

Task 12. Technical Project Support and Coordination

Deliverables: Scope of work; annual work plan; annual report

FY 2002 Budget: \$0 (see PD's Program Management scope of work)

### FY 2003 Work

Task 3. Identify, evaluate and describe water management alternatives, recovery actions

Deliverables: Annual report; proposed action(s)

FY 2003 Budget: \$0 funded under Task 7 (Project # 19B & 71) & Task 8

Task 4. Prepare draft Tributary Basin Management Plan

Deliverables: Draft Tributary Basin Management Plan

FY 2003 Budget: \$0 (funded under Task 8)

Task 5. NEPA scoping

Deliverables: Scope of work for NEPA compliance activities

FY 2003 Budget: \$0 (funded under Task 12)

Task 6. Collect and analyze environmental data, evaluate and document impacts of implementing the Yampa Plan; prepare Biological Assessment, draft EA.

Deliverables: Scope of work; Biological Assessment; draft EA

FY 2003 Budget: TBD ( after NEPA scoping)

Task 10. Public Involvement Activities

Deliverables: Separate scope of work and annual report

FY 2003 Budget: \$0 (see scope of work for Project # PIP-12K)

Task 11. Hydrology Support

Deliverables: Separate scope of works and annual reports

FY 2003 Budget: \$0 (see scopes of work Project # 19B & 71)

Task 12. Technical Project Support and Coordination

Deliverables: Scope of work; annual work plan; annual report

FY 2003 Budget: \$0 (see PD's Program Management scope of work)

IX. Budget Summary

	<u>FY 2002</u>	<u>FY 2003</u>	<u>TOTAL</u>	<u>COMMENTS</u>
Task 1:	–	–	–	completed in FY 2001
Task 2:	\$0	–	–	FY 2002 SOW needed
Task 3:	–	\$0	\$0	Program Management
Task 4:	–	\$0	\$0	Program Management
Task 5:	–	\$0	\$0	Program Management
Task 6:	–	TBD	TBD	FY 2003 SOW needed
Task 7:	–	–	–	FY 2004
Task 8:	–	–	–	FY 2004
Task 9:	\$0	\$0	\$0	Project # PIP-12K
Task 10:	\$0	\$0	\$0	Project # 19B & 71
Task 11:	\$0	\$0	\$0	Program Management
	\$0	TBD	TBD	

X. Reviewers:

FWS (Bob Muth, Angela Kantola, George Smith)  
 CWCB (Dan McAuliffe, Randy Seaholm)  
 CRWCD (Ray Tenney, Eric Kuhn)  
 BR (Brent Uilenberg, Bob Norman)

XI. References

- Colorado River Water Conservation District. 1998. Kenney Reservoir sediment assessment. Memo from David Merritt to Board of Directors. July 6, 1998. URL: <http://www.crwcd.org/news/reports/kensed.htm>
- Tyus, H.M. and J.F. Saunders. 2001. An evaluation of the role of tributary streams for recovery of endangered fishes in the Upper Colorado River Basin, with recommendations for future recovery actions. Final Report to Upper Colorado River Endangered Fish Recovery Program; Project No. 101. Univ. of Colorado, Boulder. 121 pp.
- U.S. Bureau of Reclamation. 2001. Dolores Project: McPhee Dam & Reservoir statistics. URL: <http://dataweb.usbr.gov/dams/co82915.htm>
- U.S. Fish and Wildlife Service. 1999. Final programmatic biological opinion for Bureau of Reclamation's operations and depletions, other depletions, and funding and implementation of Recovery Program actions in the Upper Colorado River above the confluence with the Gunnison River. URL: <http://www.r6.fws.gov/crip/biological.htm>
- U.S. Geological Survey. 2001. NWIS Annual discharge and peak flow data for the Dolores River near Cisco, UT (USGS 09180000), 1951-2000 period of record. URL: [http://water.usgs.gov/ut/nwis/nwisman/?site\\_no=09180000&agency\\_cd=USGS](http://water.usgs.gov/ut/nwis/nwisman/?site_no=09180000&agency_cd=USGS)