

I. Project Title: Yampa River Management Plan

II. Principal Investigator:

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III. Project Summary:

The purpose of the Yampa River Management Plan is to maintain and recover the endangered fishes of the Upper Colorado River Basin and protect other native fish and wildlife resources in the Yampa River and its tributaries while depletions to serve existing and foreseeable future human needs continue.

The original strategy was to meet this dual purpose in the Yampa River Basin was by evaluating a variety of stream flow augmentation alternatives within the framework of a National Environmental Policy Act (NEPA) review process. A contractor was hired to prepare NEPA documents and to handle public involvement. However, this approach was abandoned due to a perceived lack of a clearly defined federal action. Moreover, there has been some opposition within the Recovery Program to construct or enlarge a reservoir specifically, or in part, to augment flows for fish. An enlargement of Elkhead Reservoir had been proposed for that purpose in 1995, based on flow recommendations derived from a statistical analysis of historic stream flows, rather than on the biological or physical habitat needs of the fishes. A subsequent study (Modde et al. 1999) determined that flows lower than the 1995 recommendations were sufficient to meet the needs of the fishes, and stream flow augmentation requirements were adjusted accordingly.

Also, there was a perception, both within and outside the Yampa River Basin, that the Basin was being treated differently from other subbasins of the Upper Colorado River. To achieve some measure of equity among the subbasins, the Recovery Program proposed an approach for the Yampa and Gunnison rivers similar to that taken in the Colorado River upstream from its confluence with the Gunnison. Pursuant to Section 7 of the Endangered Species Act (ESA), in December 1999, the Service completed a programmatic biological opinion (PBO) for the so-called "15-mile reach." Recovery Program participants agreed that the PBO approach should be followed for the Yampa and Gunnison rivers, as well as other significant tributaries to the Colorado and Green rivers.

A workgroup consisting of representatives from state and federal agencies, environmental organizations, water users and other local stakeholders convened to draft a management plan for the Yampa River Basin. The plan would identify current and future human water needs, as well as outline those recovery actions considered necessary to offset potential adverse effects of depletions on the endangered fishes. It will serve as the basis for an intra-Service Section 7 consultation, the product of which will be PBO for the Yampa River Basin. The federal action that requires Section 7 consultation, as well as compliance with the NEPA, is the intent of the FWS to enter into a Cooperative Agreement with the states of Colorado and Wyoming to implement the plan.

A Water Subcommittee of the larger workgroup was established to address some of the technical issues concerning depletions and the augmentation needs of the fishes. This group's role was expanded during the process of developing the management plan to address other issues on an *ad hoc* basis. The subcommittee identified, evaluated and presented 11 alternatives to the workgroup for its consideration. These included 10 "action" alternatives and a "no action" alternative. Action alternatives use either a single water source or combination of sources to provide 7,000 AF of augmentation during the base-flow period (July–February). These sources include Steamboat Lake, Stagecoach Reservoir, Elkhead Reservoir, supply interruption contracts with water users, and new tributary reservoir(s).

A plan was drafted and submitted to the workgroup in August 2000 for review and comment prior to a 2-day conference in Craig, Colorado. At that conference, another alternative was identified that borrowed certain elements from several of the action alternatives and was recommended as the preferred alternative. In 2002, two new non-structural options were added that either supplied the entire augmentation volume from supply interruption contracts with irrigators or relied exclusively on instream flow water rights. To fulfill ESA and NEPA requirements, each of these 14 alternatives were given equal consideration.

Eight alternatives were specifically evaluated for their reliability, relative costs, impacts to Colorado State Parks, water-related recreation, agriculture and peak flows, as well as legal and institutional constraints. Although the remaining six options were not specifically evaluated against all the criteria, alternatives that were evaluated served as surrogates for individual elements of the other alternatives, by assigning the same point values to the evaluation criteria as their most closely related counterparts. For example, options that rely on the same volume of storage in a particular reservoir, released in the same priority, are expected to have similar impacts on State Parks and water-related recreation at that reservoir. Of the structural alternatives, Elkhead-only options (5, 6 and the proposed action) ranked highest in terms of their overall performance against the evaluation criteria, whereas the Steamboat-only option (4) fared the worst. Elkhead-only options impacted the ascending limb of the spring hydrograph (March–April), while Stagecoach-only options distributed storage more evenly (March–July), reducing impacts in any single month, but impacting the peak more. Multiple-source options also distributed impacts over a broader period. All but the Steamboat-only option exhibited some potential for winter storage, particularly Stagecoach, which has the most reliable winter inflows. Non-structural options fared better against many of the criteria than did many of the structural options; however, they failed to meet the purpose and need of reliably providing water to augment base flows July–February.

Subsequent to the August 2000 conference, there was further discussion as to the size of the increment of future depletions to be covered by the management plan and PBO. Modeling with the Colorado River Decision Support System (CRDSS) determined that average annual depletions would reach ~155 KAF/year in Colorado by 2045, representing an increase of ~30 KAF/year over a current depletions of ~125 KAF/year. However, water users in Colorado sought to secure 50 KAF/year for future development. After further discussion, the workgroup agreed to take an incremental approach, going forward with a 30-KAF increment initially, but recognizing that a second increment of 20 KAF/year could be developed in the future, as needed. However, there is too little information currently available to assess the impacts of the second increment, so additional impact analyses would be required at that time. Wyoming developed its estimate of future depletions, ~66 KAF/year, which represents an increase of ~31 KAF/year over current depletions of ~35 KAF/year. The Colorado Water Conservation Board (CWCB) worked with the Wyoming State Engineer's staff to evaluate basin-wide impacts of depletions.

A third draft of the management plan was issued in April 2001, and a public review draft was completed in October 2001. Public scoping meetings were scheduled in November 2001, and comments on the public review draft were due December 14, 2001. This draft was again revised based on public and agency comment, and a draft environmental assessment (EA) was completed for the proposed action, which includes nonnative fish control, habitat restoration, fish stocking and monitoring, in addition to base-flow augmentation. In July 2003, a Notice of Availability (NOA) was published in the Federal Register for the revised management plan and EA, and comments were accepted on the plan and EA through the end of August 2003. Within the comment period, public meetings were held in the Yampa Basin.

V. Relationship to RIPRAP:

Green River Action Plan: Yampa and Little Snake Rivers

I.A.2. Develop and implement Yampa River management plan

VI. Accomplishment of FY 2003 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Tasks 1–7. These tasks were completed prior to FY 2003.

Task 8. Nonnative fish control activities are reported separately under that Program element. Refer to project numbers 98a, 98b, 110 and C-31.

Task 9. Prepare final Yampa Management Plan: The Instream Flow Coordinator drafted and distributed the draft document entitled *Management Plan for Endangered Fishes in the Yampa River Basin*, accompanied by an EA for the proposed federal action. The NOA was published in the Federal Register in July 2003, and public meetings were held in August 2003. Notices of the draft documents also were posted to the Yampa PBO and Colorado River listservers, and the document was published in electronic format on the Recovery Program website. Printed copies also were mailed to members of the PBO workgroup, Management Committee, Implementation Committee, steering committee of the Yampa

River Basin Partnership, and anyone else who requested a copy. In addition, hard copies were distributed to local libraries and government buildings in the Yampa Basin. Informal consultation continued throughout 2003, and portions of the Yampa PBO have been drafted. In 2004, we expect the Yampa PBO process will be completed, and a final plan will be issued following the fulfillment of NEPA and ESA requirements.

Task 9. Determine NEPA and ESA requirements: The draft EA was completed and ESA consultation is underway on the proposed action. We expect these concurrent processes to wrap up in 2004.

The Program Director's office held three public meetings on August 11–13, 2003, in Baggs, Wyoming, and Steamboat Springs and Craig, Colorado. These meetings were held within the 30-day comment period, so interested parties could submit written comments following the meetings. Both written and oral comments were recorded and will be given due consideration in finalizing the draft management plan and EA.

Task 12. Collect and analyze environmental data, evaluate and document impacts of implementing the Yampa Plan: Certain individual actions that may be proposed under the plan, such as any reservoir enlargement(s) or other construction activities, would undergo separate NEPA review(s) to satisfy federal permit requirements (i.e., Clean Water Act, Section 404). The permit would provide the federal nexus for the purposes of both the NEPA and ESA, and the U.S. Army Corps of Engineers will be the federal action agency.

Half of the 14 augmentation water supply alternatives would require 3,700–7,000 AF from Elkhead Reservoir, of which 3,300–7,000 AF would be derived from an enlargement of the reservoir. The CRWCD is investigating the feasibility of enlarging Elkhead Reservoir by 12,000 AF, of which 5,000 AF would be dedicated to instream flows. The CRWCD selected Ayres Associates to be the prime contractor for Elkhead environmental studies. The Recovery Program agreed to fund these studies on a *pro rata* basis, or roughly 5/12 (42%) of the total cost of the studies. In 2002, Pioneer Environmental Services, subcontracted by Ayres, collected field data for an application of the Habitat Evaluation Procedures (HEP) to assess the impacts of the proposed 12,000-AF enlargement of Elkhead Reservoir.

The HEP is based on a suite of evaluation species to represent different guilds (e.g., habitat types, trophic levels, feeding/breeding behavior, etc.). For this application, nine evaluation species were selected: Brewer's sparrow, yellow warbler, red-winged blackbird, sandhill crane, western grebe, ferruginous hawk, osprey, beaver, American mink. For each of these species, habitat suitability indices (HSI) were developed or derived from existing models and calibrated for regional differences. These HSI are based on measurable habitat variables (e.g., percent shrub cover, water depth, vegetation type, etc.) ranging from 0 (no habitat value) to 1.0 (optimum habitat value). Formulae developed or derived for each species relate the various HSI to one another, the result of which is multiplied by the number of acres to arrive at a number of habitat units (HU). By comparing the number of HU without the project to the number of HU with the project, gains and losses of HU can be estimated for each species, and an overall HU score can be ascertained. A draft HEP report will be submitted early in 2003.

Task 13. Prepare Biological Assessment; initiate consultation: In addition, Program Director's office will initiate intra-Service consultation pursuant to Section 7 of the ESA, the product of which will be a programmatic biological opinion. The request to initiate will be made when the draft EA is issued early in 2003.

Task 14–15. Using these scoping inputs, the Program Director's office will prepare an EA for the Yampa Plan. The draft EA will be issued with the next draft of the Yampa Plan early in 2003, followed by a comment period, including additional public meetings. A final EA is expected to be issued with the final Yampa Plan by the end of FY2003.

Tasks 16. Develop Cooperative Agreements to implement the Management Plans: The CWCB developed a draft Cooperative Agreement between the FWS, Colorado and Wyoming to implement the Yampa Plan. The agreement does not outline the plan, but cites it and spells out the respective roles of the signatories in implementing the plan. Workgroup members, FWS and the DOI Regional Solicitor submitted comments, and a second draft was submitted. A final agreement will be completed and signed in FY 2003.

Task 17. Public Involvement: Activities included issuing press releases, advertizing public meetings in local newspapers, preparing for and conducting public meetings and making presentations at regular meetings of the Yampa River Basin Partnership.

Task 18. Hydrology support: The CWCB continued to provide hydrology support, using the CRDSS hydrologic model for the Yampa River. Working with the Wyoming State Engineer's office, the CWCB also developed a model for the Little Snake River.

Task 19. Technical Project Support and Coordination: The Instream Flow Coordinator arranged meetings, presented reports to the BC, MC and IC, as appropriate, provided guidance to the CWCB in designing CRDSS Yampa River model runs, and used CRDSS outputs to estimate stream flow augmentation needs and analyze impacts of storage on peak flows. He also prepared FY 2001 annual reports and FY 2003 scopes of work, and coordinated with research personnel and the Yampa River workgroup to draft and edit a management plan for the Yampa River.

VII. Recommendations:

A management plan for the Yampa River is a year behind schedule; it is imperative that it be completed in FY 2003. An effective and implementable agreement with water users is needed to protect instream flows and other essential habitat for native fishes now and into the future. Such a plan is vital to the recovery of listed fish species, while providing some assurance to water users that their needs will be met in the future. This project provides the framework by which to develop a management plan to meet these dual objectives.

VIII. Project Status:

Ongoing but behind schedule. Expected completion date for the Yampa Management Plan and EA is August 2003, when a Cooperative Agreement would be signed. Recovery actions implemented through this management plan would continue indefinitely, unless and until the Recovery Program discontinues or modifies them.

IX. FY 2002 Budget Status:

	<u>Ayres</u>	<u>CRWCD</u>	<u>Total</u>
A. Funds Provided:	\$276,665	\$27667	\$304,332
B. Funds Expended:	\$276,665*	\$27667*	\$304,332*
C. Difference:	\$ 0	\$ 0	\$ 0
D. Percent of the FY 2002 work completed:	100%		

Projected costs to complete: \$0

* Reallocation of costs between the RIP and CRWCD could result in a reduction in FY 2003 costs and/or refund of FY 2002 expenses in FY 2003.

E. Recovery Program funds spent for publication charges: See PIP-12K

X. Status of Data Submission: Pioneer will submit a draft HEP report in January 2003.

XI. Signed: Gerry Roehm March 5, 2003
Principal Investigator Date