

I. Project Title:

Yampa River Basin Endangered Fish Recovery and Water Management Plan

II. Principal Investigator:

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III. Project Summary:

The objectives of the Yampa Plan are to provide water for existing and foreseeable future human needs in the Yampa River Basin and protect instream flows and aquatic habitat necessary to maintain and recover endangered fishes and protect other native fish and wildlife resources in the Yampa River Basin.

The original strategy was to meet these objectives by evaluating a variety of stream flow augmentation strategies within the context of NEPA. A contractor was hired to handle NEPA documentation and public involvement requirements. However, a high level of discomfort with this approach arose from the absence of well-defined action with a clear federal nexus. This situation was further exacerbated by opposition within the Program to constructing a reservoir specifically to augment flows for fish. Such a reservoir had been proposed in 1995, but was rejected for economic and environmental reasons. Moreover, there was a perception that the Yampa River Basin, for better or worse, was being treated differently from the other subbasins of the Upper Colorado River. Therefore, to achieve some measure of equity between the different subbasins, the Program decided to follow a path similar to the one already underway for the 15-mile reach. A workgroup consisting of representatives from state and federal agencies, environmental organizations and local stakeholders would develop a management plan for the Yampa River Basin. The plan would serve as the basis for an intra-Service programmatic biological opinion (PBO) for the Basin. The federal nexus for the PBO would be a Memorandum of Understanding between the FWS and local stakeholders to implement the plan.

In June 1999, the Yampa River Coordinator completed the FY 2000 umbrella scope of work (SOW) for the Yampa Operation and Management Plan reflecting the recent change in strategy. Tasks and task numbers were changed for FY 2000. However, to avoid any confusion, the task numbers used herein reflect those used in the FY 99 SOW.

In October 1998, Modde, Miller and Anderson met with the peer review panel, members of the Yampa Project Management Team, and other interested parties to discuss comments on their August draft report entitled *Determination of habitat availability and habitat use of endangered fishes in the yampa river during baseflow period between August and October*. Following revision, a second draft was submitted to the Biology Committee in December 1998 for its review. After a second revision, the final report was published in April 1999.

Ayres drafted a report early in July 1999 synthesizing the results of several earlier studies, including Modde et al. (1999), BBC (1998), Hydrosphere (1995) and numerous other biological and hydrological studies of the Yampa River Basin. The Yampa Project Management Team revised this initial draft and posted its revision on the Colorado River listserver at the end of July. In August 1999, the Yampa River Coordinator convened a conference in Craig, Colorado, consisting of research personnel, the Project Management Team, representatives from state and federal agencies and environmental organizations, local stakeholders and the interested public. The purpose of the conference was to solicit comments on the draft synthesis report and identify any significant issues that must be resolved prior to or through the development of a management plan for the Yampa Basin.

Following the conference, the synthesis report was revised pursuant to comments received at the conference, as well as to written comments submitted in response to the draft report. A second draft was posted at the end of September 1999. The contract with Ayres was closed out following its completion of the second draft. The Yampa River Coordinator and Project Management Team will finalize the report early in FY 2000.

IV. Study Schedule:

- a. Initial year: 1996
- b. Final year: 2001

V. Relationship to RIPRAP:

Green River Action Plan: Yampa and Little Snake Rivers
I.A.4.a.(3) Yampa River management plan

VI. Accomplishment of FY 99 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

Task 1: Modde, Miller and Anderson issued a revised draft report in December 1998, and published their final report in April 1999. The report, entitled *Determination of habitat availability, habitat use, and flow needs of endangered fishes in the Yampa River between August and October*, found 93 cfs to be the flow below which habitat for the endangered fishes is significantly degraded. They recommended that 93 cfs not be violated with any greater frequency, magnitude or duration than it had historically. Therefore, 93 cfs was established as the flow target used in subsequent modeling with CRDSS to ascertain the potential impacts of future water development on endangered fishes in the Yampa River. The CRDSS modeling revealed that up to 8,600 AF would be needed in the driest year to

augment stream flows in July-October to meet the flow target within its historical context. However, less than half that volume (4,200 AF) would satisfy this requirement in 16 out of 17 CRDSS model years. The Service recommended that a water management plan for the Yampa should base its augmentation strategy on such a “normal” dry year, rather than the driest (worst-case) year.

Task 2. Water use projections: BBC published its final report on the *Yampa Valley Water Demand Study* in June 1998, which estimated that an additional 49,000 AF of water would be depleted from the Yampa River to meet future human water demands through CY 2045. In FY 1999, BBC developed a geographic, monthly distribution of demand in cooperation with the Colorado Water Conservation Board for use in its CRDSS model runs (see Task 11 below). In addition, Doug Jeavons of BBC participated in a synthesis conference of key research personnel and contributed to the Yampa River Basin Research Synthesis Report (see Task 5 below).

Tasks 3 & 4: No work was completed or funded in FY 99.

Task 5. Synthesis document; identify alternatives: In mid-1999, the strategy for the Yampa Plan shifted from predominantly a NEPA process to the more regulatory approach of ESA Section 7. The new strategy is to complete a management plan for the Yampa Basin which will serve as the nucleus of a programmatic biological opinion (PBO). Toward that end, a Yampa River Basin Research Synthesis Report was completed in draft in September 1999. A final report will be published in December 1999. This report reconciles and draws upon the conclusions of several studies, including Modde et al. (1999, Task 1) and BBC (1998, Task 2), identifies significant issues raised at the synthesis conference and received in written comments on the draft report. The report is not a decision document, but will serve to guide decision-makers throughout the planning process.

Task 6. Identify and Collect Missing Data: This task was contingent on completion of Task 5 and assumed that the Yampa Plan would be the product of a comprehensive NEPA process. It further assumed that federal construction of a new or enlarged reservoir would be one of the alternatives evaluated. However, no such action is planned, and the role of NEPA has been diminished. Therefore, this task was not funded in FY 99 and has been eliminated from the FY 2000 scope of work. Nevertheless, NEPA will still be carried out, as necessary, for any federal actions identified in the plan, including the federal action of FWS signing an MOU to implement the Plan, and on which the PBO will be written.

Tasks 7. Evaluate alternatives. Prepare/publish draft NEPA document: Like Task 6, this task was contingent on completion of Task 5 and a decision to proceed with the NEPA process. Subsequent to the decision to follow a different approach (i.e., programmatic biological opinion), funding for this task was cancelled and the task eliminated in FY 2000.

Tasks 8-9. No activities or funds were included in the FY 99 SOW under these tasks. They have been eliminated in FY 2000.

Task 10. Public Involvement: Activities included issuing press releases, advertizing public meetings in local newspapers, preparing for and conducting public meetings, and attending meetings of the Yampa River Basin Partnership. A more detailed report on this Public Involvement Plan was prepared and submitted for PIP-3.

Task 11. Hydrology Support: In FY 98, the Colorado Water Conservation Board (CWCB) assumed full responsibility from Hydrosphere for hydrology support, using the Colorado River Decision Support System (CRDSS) hydrologic model. In FY 99, the CWCB modeled unaugmented Yampa River flows at Deerlodge Park, Maybell gage and above the Maybell diversion under a variety of demand conditions, including natural, historic, 2025 and 2045. The CWCB ran additional models in which July-October flows were augmented from either reservoir storage or dry-year options under 2045 demand conditions, based on the atmospheric and hydrologic conditions in the driest year (1977) of the 17-year CRDSS period of record.

Task 12. Stream flow and sediment gages: Separate project reports are appended.

Task 13. Aquatic Wildlife Management Plan: CDOW, CSU and TNC participated in a cooperative effort to remove northern pike from the TNC Carpenter Ranch and nearby reaches of the Yampa River. Pike were translocated to State Wildlife Management Area ponds west of Hayden, where they were subject to harvest by anglers. Pike not harvested by angling will be removed from the ponds before the ponds connect with the river next spring (FY 2000).

Task 14. Program Management: The Yampa River Coordinator arranged and facilitated a number of meetings, including the Synthesis Conference, chaired Project Management Team meetings, presented progress reports to the BC, MC and IC, as appropriate, provided guidance to the CWCB in designing CRDSS Yampa River model runs, and developed a post-CRDSS data analysis tool to convert monthly CRDSS outputs into daily flows for more direct comparison with the daily flow recommendations of Modde et al. He also prepared FY 98 annual reports and FY 2000 scopes of work, and coordinated with the NEPA contractor, research personnel and the Project Management Team to produce and edit the Synthesis Report and its supporting appendices.

VII. Recommendations:

A management plan for the Yampa River is vital to the recovery of listed fish species while providing certainty to water users that their needs will be met in the future. A meaningful agreement with water users is needed to protect instream flows and aquatic habitat for native fisheries in the future, based on the flow recommendations contained in *Determination of habitat availability and habitat use of endangered fishes in the yampa river during baseflow period between August and October* (Modde et al. 1999) and the projected future depletions from the Yampa River contained in the *Yampa Valley water demand study* (BBC 1998). This project provides a framework by which to develop a management plan to meet these dual objectives.

VIII. Project Status:

Activities under Tasks 1 and 2 were funded out of the FY 98 budget. Tasks 3 and 4 were not funded. Task 5 was funded at \$125K to cover Ayres' expenses. Funding for Task 6 had not been budgeted pending completion of Task 5. Task 6 subsequently was eliminated. Task 7 was contingent on completion of Task 5 and a decision to proceed with the NEPA planning process. Task 7 subsequently was eliminated. CRDSS modeling under Task 11 was funded out of the FY 98 budget. In FY 99, Task 12 was funded at \$40,600 and Task 14 at \$80K (through completion of Task 5). In FY 2000, only Tasks 11 (FY 99 Task 12) and 13 (FY 99 Task 14) will be funded (at \$66K and \$84K, respectively).

IX. FY 99 Budget Status: Budget figures provided by BR differ from those in the FY 99 SOW. Both sets of figures are included below.

A.	Funds Provided:	<u>Per BR</u>	<u>Per SOW</u>
	Tasks 1a, 1b:	\$0	\$0
	Task 2:	\$0	\$0Paid w/FY 97 funds.
	Task 5:	\$0	\$125,000
	Task 6:	\$0	\$0; Task eliminated, not funded
	Task 7:	\$0	\$150,000; Task eliminated, not funded
	Task 10:	\$1,000	\$1,000
	Task 11:	\$0	\$0
	Task 12:	\$31,600	\$40,600
	Task 13:	\$0	\$0
	Task 14:	<u>\$80,000</u>	<u>\$80,000</u>
	Total	\$112,600	\$396,600
B.	Funds Expended:	<u>Per BR</u>	<u>Per SOW</u>
	Tasks 1a, 1b:	\$0	NA
	Task 2:	\$0	NA
	Task 5:	\$0	NA
	Task 6:	\$0	NA
	Task 7:	\$0	NA
	Task 10:	\$1,000	NA
	Task 11:	\$0	NA
	Task 12:	\$31,600	NA
	Task 13:	\$0	NA
	Task 14:	<u>\$80,000</u>	NA
	Total	\$112,600	
C.	Difference:	<u>Per BR</u>	<u>Per SOW[surplus or deficit (\$)]</u>
	Tasks 1a, 1b:	\$0	\$0
	Task 2:	\$0	\$0
	Task 5:	\$125,000	\$0
	Task 6:	\$0	\$0Task eliminated, not funded
	Task 7:	\$0	\$150,000Task eliminated, not funded

Task 10:	\$0	\$0
Task 11:	\$0	\$0
Task 12:	\$9,000	\$0
Task 13:	\$0	\$0
Task 14:	<u>\$0</u>	<u>\$0</u>
Total	\$134,000	\$150,000

- D. Percent of the FY 99 work completed, and projected costs to complete:
- | | | |
|---------------|------|---|
| Tasks 1a, 1b: | 100% | Completed |
| Task 2: | 100% | Completed |
| Task 5: | 100% | FY 2000 costs to be borne by Task 13 (Task 14 in FY 99) |
| Task 6: | 0% | Contingent on Task 5; eliminated in FY 2000 |
| Task 7: | 0% | Contingent on Task 5; eliminated in FY 2000 |
| Task 8: | 0% | Not funded in FY 99; eliminated in FY 2000 |
| Task 9: | 0% | Not funded in FY 99; eliminated in FY 2000 |
| Task 10: | 100% | FY 2000 costs to be borne by Task 13 (Task 14 in FY 99) |
| Task 11: | ~50% | No additional funds required in FY 2000 (new Task 10) |
| Task 12: | 100% | \$66K projected in FY 2000 (new Task 11) |
| Task 13: | 100% | No additional funds required in FY 2000 (new Task 12) |
| Task 14: | 100% | \$84K projected in FY 2000 (new Task 13) |

E. Recovery Program funds spent for publication charges: None

X. Status of Data Submission: Not applicable.

XI. Signed: Gerry Roehm December 1, 1999
Principal Investigator Date