

I. Project Title: **Evaluation of Yampa River Humpback Chub Population.**

II. Principal Investigators:
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III. Project Summary:

The recovery goals for humpback chub require no “net loss” in the size of existing humpback chub populations, and a monitoring program to measure the status of these populations. The Yampa River population of humpback chub is one of the smallest populations of existing humpback chub. The recommendation from the recent RIP population monitoring workshop was that abundance estimates were very important relative to monitoring progress toward recovery. Another issue raised by the recovery goals, is what is the distribution of the ‘Yampa’ population. The recovery goals state that what is now referred to as the Yampa population also include fish that may be found in Lodore, Whirlpool, and Split Mountain canyons. The recent discovery of age-0 and age-1 humpback chub (Chris Kitcheyan, USFWS, Daryl Snyder, CSU, Personal Communication) in Island Park give support to the presence of humpback chub in at least Whirlpool Canyon, and historical records have documented captures of humpback chub in both Split Mountain and Lodore canyons. This project is the first attempt to sample the distribution of humpback chub in all the suspected locations occupied by humpback chub in a given year and will provide the baseline distributional information for these sites for future monitoring efforts. This is the first of three years of sampling on this project.

IV. Study Schedule: 2003 to 2005

- V. Relationship to 2003 RIPRAP:
Green River Action Plan: Yampa and Little Snake Rivers (pg. 29)
V.A. Conduct population estimate for humpback chub.

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

Humpback chub were sampled in Lodore, Whirlpool, and Split Mountain Canyons (RMI 364-219) as well as Yampa Canyon (RMI 0-47). Three electrofishing passes were made in Lodore Canyon, two netting passes were made in Split Mountain Canyon as well as an angling pass, three netting passes and an angling pass were made in Whirlpool Canyon, and two electrofishing passes and one angling pass were made in the Yampa River. Low summer flows prevented a third electrofishing pass in the Yampa River.

Amount and type of collection effort, and catch efficiency varied between sample locations and capture methods (Table 1). Sampling techniques varied between locations due to other ongoing projects and logistic restraints.

A total of nine adult humpback chub were captured throughout our sampling effort, two in Yampa Canyon seven in Whirlpool Canyon (Table 2). Two humpback chubs in Whirlpool Canyon were recaptured. From these recaptures a rough population size of 24 ± 76 individuals was estimated for Whirlpool Canyon. All adult humpback chubs captured in 2003 were of similar size and condition (Figure 1). Seventeen seine samples of juvenile fish were taken and will be further analyzed as time permits. Additional juvenile samples were obtained by CSU.

Humpback chub adults were captured in the Yampa River (between RMI 28 and 37) and Whirlpool Canyons (RMI 342.4, 342.7, 342.2, 341.8, 341.6, 342.2, and 339) and not in Lodore or Split Mountain Canyons. It is important to realize that only nine fish were captured so the strength of argument for there being no humpback chubs in Lodore or Split Mountain Canyons is weak. However, future sampling efforts may need to be localized in order to capture more humpback chubs and provide better estimates of population size and structure.

- VII. Recommendation:
1. Concentrate sampling in areas of high observed catchability.
- VIII. Project Status:
The project is ongoing and subject to review prior to continuation.

- IX. FY 03 Budget Status:
- A. Funds provided: \$94,700
 - B. Funds expended: \$94,700
 - C. Difference: -0-
 - D. Percent of the FY 2003 work completed: 100%
 - E. Recovery Program funds spent for publication charges: -0-
- X. Status of Data Submission:
Data will be sent to the database manager upon completion of the project in 2003.
Data are currently being entered in Microsoft™ Excel spreadsheets.
- XI. Signed: Sam Finney November 7, 2003
Principal Investigator Date

Table 1. Directed effort, catch, and catch rates of humpback chubs by sampling method and area in the Yampa River and Split Mountain, Whirlpool, and Lodore Canyons, Green River, 2003.

	<u>Lodore</u>	<u>Split Mt.</u>	<u>Whirlpool</u>	<u>Yampa R.</u>
Seining days/ juvenile humpback chub caught	N/A	0.5/*	0.5/*	2/*
Angling hours/ humpback chub caught (CPUE)	N/A (N/A)	70/0 (0)	70/0 (0)	521/1 (0.0019/h)
Electrofishing hours/ humpback chub caught (CPUE)	28.5h/0** (0)	N/A (N/A)	19.4h/0** (0)	58.34h/1 (0.017/h)
Trammel net hours/ humpback chub caught (CPUE)	N/A (N/A)	200h/0** (0)	807h/7** (0.008/h)	N/A (N/A)

* samples to be analyzed further

** sampling effort based on CSU and USFWS joint sampling (project 115)

Table 2. Summary of humpback chub captured during 2003 sampling efforts

	<u>Length</u>	<u>Weight</u>	<u>Recapture</u>	<u>PIT Tag #</u>	<u>Location</u>	<u>Gear</u>
1.	252	134	No	532652D46	Whirlpool	Trammel Net
2.	253	120	Yes	425A4A3B3E	Whirlpool	Trammel Net
3.	*	*	*	*	Yampa River	Angling
4.	250	145	No	425B58170E	Yampa River	Electrofishing
5.	250	134	No	4240174151	Whirlpool	Trammel Net
6.	264	139	No	425C183E46	Whirlpool	Trammel Net
7.	252	-	No	425A4A3B3E	Whirlpool	Trammel Net
8.	232	100	No	4269525551	Whirlpool	Trammel Net
9.	263	136	Yes	425C183E46	Whirlpool	Trammel Net

*Fish caught by angling and released due to deep hook (line cut)

Figure 1. Length-weight relationships of humpback chubs captured in 2003

