

- I. Project Title: Evaluation of Stocking Sub-adult Colorado pikeminnow via Translocation in the Upper Colorado River between Palisade and Rifle, Colorado**
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**III. Project Summary:**

**The overall goal of this project is to evaluate if translocated, wild and hatchery-reared sub-adult Colorado pikeminnow implanted with radiotags remain in the immediate vicinity of stocking, or move upstream or downstream of the stocking site in the Upper Colorado River from Rifle to Palisade, CO.**

**Sixty-five, sub-adult, hatchery-reared Colorado pikeminnow and five wild, Colorado pikeminnow were translocated and stocked in the Upper Colorado River near Parachute, CO, in late-June 2000. Five of the hatchery-reared and all five wild pikeminnow were implanted with radio transmitters. Followup telemetry of these radiotagged fish was conducted by boat intermittently in July, August, and November and continuously by one stationary, telemetry data logger to monitor movements. Movement following stocking was predominantly downstream. Two wild pikeminnow moved 37 miles downstream over a period of 60 days following stocking and passed the fixed telemetry station located at Island Acres State Park. Telemetry indicated that one of these wild pikeminnow moved into the Government Highline Diversion Canal in mid-July, spent three days in the canal, negotiated a siphon, and returned to the Colorado River. One other domestic pikeminnow moved downstream 31 miles following release and reached this same station in 31 hours and has not been contacted since. The fate of this and two other radiotagged pikeminnow are unknown and all three are believed to be dead. In November, contact was made with only one wild, radiotagged pikeminnow, 1.1 miles upstream from Government Highline Dam.**

- IV. Study Schedule:**  
**a. initial year: 2000**  
**b. final year: 2002**

- V. **Relationship to RIPRAP:**  
A. **Colorado River Action Plan: Mainstem, IV.A.1.b.(3) Monitor and evaluate results; make recommendations regarding further augmentation.**

VI. **Accomplishment of FY 2000 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:**

A. **FY-2000 Tasks and Deliverables: Tasks 1-5.**

**Task 1. Capture, radiotag, and transport wild, and hatchery-reared fish [pikeminnow] to stream reaches upstream of the Government Highline Diversion Dam; deploy fixed tracking stations.**

**Task completed.**

**Task 2. Monitor movements of radiotagged fish.**

**Task completed.**

**Task 3. Deploy and maintain water temperature data loggers.**

**Task completed.**

**Task 4. a) Prepare annual progress report; b) prepare draft and final report.**

**Task a) completed.**

**B. Findings (2000 Highlights)**

**General**

**Five wild and five hatchery/pond reared ('91-year class) sub-adult Colorado pikeminnow were surgically implanted with either a 10.3 and 29.0 gram, LOTEK® radio transmitter. Total length parameters of wild stocked pikeminnow were: mean ( 522 mm), range (477-550 mm). The hatchery-reared pikeminnow had been held at ponds at the Horsethief SWA for a number of years. These five hatchery and domestic-reared fish (mean TL=429 mm; range TL=397-451 mm) were implanted with radiotags in early-April and held at this facility until being stocked in June. Unfortunately, one fish died and so another '91-year class fish was implanted 26 June and stocked the same day. The wild fish were captured with trammel nets in early-June. Four were taken from the 15-mile reach and one from the 18-mile reach of the Upper Colorado River, radiotagged in mid-June, and held indoors in circular tanks at Horsethief SWA prior to being stocked on 23 June. Radiotagged domestic pikeminnow were stocked at the same two locations (RM 223.0 and 227.6 ) in the Upper Colorado River near Parachute on 23 and 26 June as their wild, radiotagged counterparts.**

**Another 55, PIT-tagged, but not radiotagged, '91-year class, sub-adult pikeminnow (TL: mean 398 mm; range: 363-451 mm) from Horsethief SWA were stocked at these same two locations in the Upper Colorado River near**

**Parachute on 23 June 2000. None of the 55 non-radiotagged pikeminnow stocked in late-June were seen or collected during a 4-day sampling trip in mid-July using electrofishing in the Upper Colorado River from Rifle (RM 241) to Beavertail boat landing (RM 195.7).**

**Four temperature recorders were deployed 22 May 2000 in the Upper Colorado River. Two were deployed at RM 216.5 (Una Bridge) and two near RM 242.5 (upstream of the Rifle Bridge).**

### **Radiotracking**

- 1. The spatial and temporal movements of these 10 radiotagged sub-adult Colorado pikeminnow were monitored by tracking fish from boats and from one semi-permanent, land-based tracking station located on the Upper Colorado River at RM 192.3 (Island Acres State Park) which is about 1.4 miles downstream from Government Highline Diversion Dam. Limited tracking by boat was conducted in mid- and late-July, early-August, and mid-November. No boat tracking was conducted in September or October. The Rifle (RM 241) to Government Highline Diversion Dam (RM 193.7) reach, the 15- and 18-mile reaches, and lower 3 miles of the Gunnison River were tracked by boat in July and August. The river reaches searched by boat for 2 days in November were Hoaglund Landing (RM 227.6) to Government Highline Diversion Dam and Grand Valley Irrigation Diversion (RM 185.3) to Corn Lake (RM 177.4). The reach between Government Highline Dam and Grand Valley Diversion was “spot-searched” by vehicle from various turnout points and bridges where Interstate 70 and state highways paralleled the river.**
- 2. One domestic pikeminnow that was radiotagged and released at RM 223.0 near Parachute in late-June passed the fixed, telemetry station at Island Acres State Park (31 miles downstream) 37 hours later. Telemetry data indicated that the signal remained there for only about 2 minutes. This fish was not contacted during a boat search of the 15- and 18-mile reaches of the Colorado River in the Grand Valley the following week. This fish has not been contacted since. The continuous, rapid downstream movement and lack of subsequent contact leads us to suspect that this fish is dead.**
- 3. The position of two other radiotagged pikeminnow, one wild and one domestic-reared, has been contacted in the same location over a 3-month period. The apparent lack of movement from this signal leads us to suspect these two fish are also dead.**
- 4. One wild pikeminnow apparently moved downstream about 29 miles from its stocking site and moved into the Government Highline Canal in mid-July. It then moved downstream about 1.4 miles in the canal, where**

it's signal was picked up by the data logger located on the south bank of the Colorado River at Island Acres State Park. According to telemetry records, the fish spent about three days immediately downstream of the siphon before returning back through the siphon, continuing back upstream in the canal, and returning to the Colorado River. It was contacted 20 July at RM 195, 1.3 miles upstream from Government Highline Diversion Dam. This same fish along with one of it's wild counterparts, passed over the diversion dam and passed the Island Acres tracking station in mid-August. These two fish have not been contacted since.

5. During November tracking from a boat, only one wild radiotagged pikeminnow was confirmed alive. This fish was located at RM 194.8, 1.1 mile upstream from Government Highline Dam.
6. To date, contact has been made with four wild and four domestic pikeminnow that were radiotagged. The fate of three pikeminnow, two domestic and one wild, are unknown and are suspected of being dead. The radio signal from two other radiotagged pikeminnow, one wild and one domestic, has never been acquired following release.

**VII. Recommendations:**

- A. Continue to download data from the one land-based tracking station and track the movements by boat of sub-adult Colorado pikeminnow radiotagged in 2000 during the winter of 2000, spring, and summer of 2001.
- B. Implant radio transmitters in up to 20 additional wild, sub-adult pikeminnow during runoff 2001. Translocate to the Upper Colorado River as was done in 2000.

**VIII. Project Status:**

- B. Movements of Colorado pikeminnow radiotagged in 2000 will continue to be collected and logged in FY2001 until late summer of 2001 with one and possibly one other land-based tracking station in the Upper Colorado River and by boat.
- C. Download water temperature recorders as needed.
- D. Project is ongoing and is "on-track".
- D. The project will continue through FY2002; a final report is due in late-FY-2002 (August 2002).

**IX. FY 2000 Budget**

- A. Funds Provided: \$ 35,000

- B. Funds Expended: \$ 35,000**
- C. Difference: \$ 0**
- D. Status of Work--Percent of Work Completed (if BR-funded project): N/A.**
- E. Publication Costs: \$ 0**

**X. Status of Data Submission:**

**Five of 60 domestic, '91-year class pikeminnow stocked and five wild pikeminnow were radiotagged. Both domestic and wild fish released were PIT-tagged. The following data were collected and recorded from all fish prior to their being released: total length (mm), weight (g), and PIT-tag ID. For wild fish, additional data recorded were location and date of capture. These data have been computerized and are provided to the UCRB database coordinator at his request.**

**XI. Signed: Bob D. Burdick                      2000/12/08  
Principal Investigator                      Date**

**APPENDIX:**

- A. More comprehensive/final project reports. If distributed previously, simply reference the document or report. None**

Prepared and compiled by Bob D. Burdick, 00/12/08  
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