

***COLORADO PIKEMINNOW FINGERLING PRODUCTION  
San Juan River  
2007***

Principal Investigators – Roger L. Hamman and Manuel E. Ulibarri  
Dexter National Fish Hatchery and Technology Center  
U.S. Fish and Wildlife Service  
P.O. Box 219  
7116 Hatchery Road  
Dexter, New Mexico 88230-0219

575-734-5910 Work  
575-734-6130 Fax

[roger\\_hamman@fws.gov](mailto:roger_hamman@fws.gov)  
[manuel\\_ulibarri@fws.gov](mailto:manuel_ulibarri@fws.gov)

***SOW COMPLETION REPORT  
December 6, 2007***

**Objectives:**

- 1) Continue data collection on induced spawning Colorado pikeminnow (CPM) under controlled conditions.
- 2) Produce 3,000 age-1 fingerlings (150 mm TL) for stocking in the San Juan River during 2007.
- 3) Produce 300,000 YOY fingerlings (50 mm TL) for stocking in the San Juan River during 2007.
- 4) Evaluate distribution methods of transporting 300,000+ CPM fingerlings from Dexter NFH & TC to the San Juan River.
- 5) Maintain 400 CPM broodstock for recovery efforts.

**Results:**

***Age-1 Fingerling Production***

On January 9, 2007, a total of 2,100 (2005 year-class) CPM were placed in a 0.10 acre (0.04 ha) lined pond and 6,000 (2006 year-class) CPM were placed in a 0.16 acre (0.06 ha) earthen pond. The pond containing the 2006 year-class was covered with netting

material to prevent bird predation during the winter months; however, the pond containing the 2005 year-class remained uncovered during the winter months. On April 1, 2007, the 2005 year-class pond was drained and 1,590 fish were transferred to the Fish Culture Building for PIT tagging. Overall survival for this pond was 75.7%. On April 18, 2007, Dexter personnel transported and stocked 1,590 age-1+ CPM in the San Juan River. The fish weighed 132 pounds (59.9 kg) and averaged 12.0 per pound (5.44/kg). Mean total length was 178 mm (7.0"). Dexter was assisted with this stocking effort by personnel from the New Mexico Fishery Resources Office.

On May 7, 2007, the 2006 year-class pond was drained and 5,000 fish were transferred to a 0.33 acre (0.13 ha) lined pond. Survival over the winter months was 83.3%. These fish were cultured an additional 130 days for growth. On September 15, 2007, the pond was drained and 4,666 fish were transferred to the Fish Culture Building. Overall survival for this pond was 93.3%. A total of 1,666 were PIT tagged and the remaining 3,000 were stocked in a 0.15 acre (0.06 ha) lined pond for further culture. Then on October 2, 2007, Dexter personnel transported and stocked 1,666 age-1 CPM in the San Juan River. The fish weighed 167 pounds (75.7 kg) and averaged 10.0 per pound (4.5/kg). Mean total length was 185 mm (7.3"). Dexter was assisted with this tagging and stocking effort by personnel from the New Mexico Fishery Resources Office.

Total numbers of age 1+ Colorado pikeminnow stocked during 2007 was **3,256**. All fish were PIT tagged with 134 Khz tags prior to release in the San Juan River. Electronic copies of the database were provided to the Grand Junction, CO and New Mexico FWCO field offices.

### ***Spawning***

On May 24, a total of 26 CPM females (1991 year-class) spawned 22-24 hours after receiving one intraperitoneal injection of 2.0 mg carp pituitary per pound of body weight (4.4 mg/kg body weight). Females had a mean total length of 694 mm and mean weight of 3.30 kg. Average number of eggs per female was 128,613.

Eggs were inventoried and placed in Heath incubators at a water temperature of 70 F (21 C). Eggs commenced hatching at 90 hours and were completely hatched by 120 hours. Newly hatched larvae were transferred to four fiberglass holding tanks [12.0' (3.66 m) X 2.75' (0.84 m) X 2.0' (0.61m)] and held approximately 48 hours before stocking.

### ***Y-O-Y Fingerling Production***

Four earthen ponds, ranging in size from 0.74 to 0.88 surface acres (0.30 to 0.36 ha), were stocked with 427,000 fry. One 0.25 surface acre (0.10 ha) lined pond was stocked with 100,000 fry. All ponds received weekly fertilizer treatments (six treatments) to promote a plankton bloom. Fry were also given a daily supplement diet of artificial feed. Fish were not moved during this grow out period.

Young-of-the-year (YOY) CPM were cultured in these five ponds for 119-151 days. Survival in the ponds ranged from 60.6 % to 100%. Overall survival was 93.7% for a return of 493,620 fingerlings. A total of 475,970 fingerlings were used to meet production goals for 2007. The remaining 17,650 fingerlings will be held and cultured to a larger size to meet program commitments during 2008.

### ***Distribution***

Distribution was conducted on three different trips. Hauling methods consisted of one double compartment fiberglass tank and one single compartment fiberglass tank. The double compartment tank had capacities of 325 and 375 gallons (1,230 and 1,420 liters) and the single compartment tank had a capacity of 300 gallons (1,136 liters).

On October 2, personnel from Dexter transported and stocked 81,974 CPM averaging 1.8" (46 mm) and weighing 114 pounds (51.7 kg) to the San Juan River. A total of 11,774 of these fingerlings had received an orange VIE mark. Dexter was assisted with this marking and stocking effort by personnel from the New Mexico Fishery Resource Office.

On November 8, personnel from Dexter transported and stocked an additional 199,717 CPM averaging 2.0" (51 mm) and weighing 346 pounds (156.9 kg) to the San Juan River. A total of 9,850 of these fingerlings had received a pink VIE mark. Dexter was assisted with this marking and stocking effort by personnel from the New Mexico Fishery Resource office.

On November 14, personnel from Dexter transported and stocked the remaining 194,279 CPM averaging 2.0" (51 mm) and weighing 371 pounds (168.3 kg) to several locations on the San Juan River. A total of 11,778 of these fingerlings had received a blue VIE mark. Dexter was assisted with this marking and stocking effort by personnel from the New Mexico Fishery Resource Office and Grand Junction CRFP Office.

Total numbers of age 0 Colorado pikeminnow stocked during 2007 was **475,970**. Of this number, a total of 33,402 had received a VIE mark prior to release in the San Juan River.

### ***Broodstock Maintenance***

Dexter National Fish Hatchery and Technology Center is currently maintaining a total of 223 CPM broodstock. Since adult numbers have dropped below 400, Dexter staff assisted personnel from the Utah Division of Wildlife in the collection of wild fingerlings during 2007. A total of 70 fish ranging in size from 20-65 mm were collected and transferred to Dexter on October 12, 2007. Since arriving on station, 20 mortalities have occurred; however, the remaining 50 fish are feeding aggressively on a diet of live black worms and frozen blood worms. These fish will be kept separate in isolation/quarantine until they are large enough to PIT tag and then incorporate into the captive broodstock & propagation program. Ideally, Dexter would like to have a minimum of 100 individuals

that can be used for future captive broodstock. This would require an additional collection during 2008 and is requested at this time.

### **Future Work – 2008**

Dexter will continue the age-1 grow out program to produce an additional 3,000 CPM (150 mm) each year for reintroduction in the San Juan River. In order to meet the target size and number, a total of 17,650 (2007 year-class) fingerlings were kept on station and will be cultured to meet this goal. Dexter continues to culture 3,000 (2006 year-class) fingerlings which can be used to meet the target reintroduction goal during 2008.

### **Literature Cited**

U.S. Fish and Wildlife Service. 2003. An Augmentation Plan for Colorado Pikeminnow in the San Juan River – Final Report. Grand Junction, CO. 63 pp.