

I. Project Title: **Monitoring the Colorado Pikeminnow Population in the Mainstem Colorado River via periodic Population Estimates**

II. Bureau of Reclamation Agreement Number(s): R15PG00083

Project/Grant Period: Start date (10/1/2014):  
End date: (9/30/2019):  
Reporting period end date: 9/30/2016  
Is this the final report? Yes \_\_\_\_\_ No  X

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IV. Abstract:

The Interagency Standardized Monitoring Program (ISMP) was developed in 1986 to monitor population trends of Colorado pikeminnow and humpback chub in the Colorado River basin using catch per effort (CPE) indices. ISMP was expanded in 1998 to include mark-recapture population estimates of the major Colorado pikeminnow and humpback chub populations. For Colorado pikeminnow in the upper Colorado River, population estimates were conducted annually during 1991-1994, 1998-2000, 2003-2005, and 2008-2010. The current three-year field sampling effort began in 2013 and was completed in 2015.

A draft report that presents the results of this three-year effort and puts these findings into context with those from previous efforts was scheduled to be ready for peer review on 30 August 2016, with a draft final report scheduled to be ready for approval consideration by 31 October 2016. These due dates have not been met. Data analysis and writing of the report are currently in progress.

V. Study Schedule: 2013-2017

- VI. Relationship to RIPRAP:
    - Colorado River Action Plan:
      - Colorado River Mainstem
        - V. Monitor populations and habitat and conduct research to support recovery actions.
          - V.A. Conduct research to acquire life history information and enhance scientific techniques required to complete recovery actions.
- VII. Accomplishment of FY 2016 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings:

In FY 2016, the objective for project 127 was to complete the draft report. At this time, the draft report is in progress. All data has been entered and checked for accuracy. Data analysis has begun, but the draft report is not yet ready to be submitted to reviewers. The matrix for the multiple year population estimates including data collected in 2015 was completed. While the draft report has not been completed, abundance estimates from data collected from 2013-2015 and prior years were completed by Dr. Gary White and are presented in Figure 1.

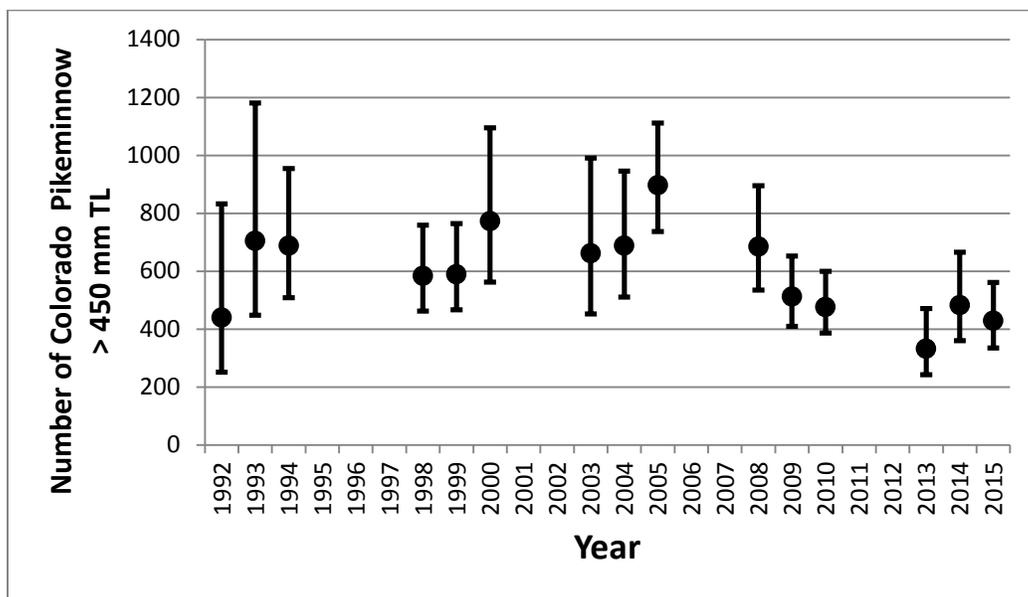


Figure 1. Point estimates and 95% confidence intervals for adult Colorado pikeminnow in the Colorado River, 1992-2015. Population estimates should be considered preliminary at this time.

The 95% confidence intervals for the 2015 adult abundance estimate do not overlap confidence intervals for years 2000, and 2005 indicating a decrease in the number of adult Colorado pikeminnow. Confidence intervals from the 2015 estimate overlap with all other years. Population estimates presented in Figure 1 should be considered preliminary at this time.

VIII. Additional noteworthy observations:

With the large number of juvenile and subadult Colorado pikeminnow captured and subsequently recaptured from 2013 to 2015, growth rates of juvenile and subadult Colorado pikeminnow growth rates were examined with the mark/recapture data. Growth rates of juvenile and subadult Colorado pikeminnow were considerably higher than rates identified by previous studies. A more in-depth analysis of these observed growth rates will be presented in the upcoming draft report.

IX. Recommendations:

- Investigate options for utilizing portable interrogation arrays (PIAs) in the next sampling period (2018-2020) of Colorado pikeminnow population estimates to increase the number of captures/detections of Colorado pikeminnow which may increase the precision of future population estimates.
- Complete draft report as soon as feasible.

X. Project Status: The draft report is behind schedule. Data analysis and writing of the report are ongoing.

XI. FY 2016 Budget Status

- A. Funds Provided: \$68,328
- B. Funds Expended: \$68,328
- C. Difference: -0-
- D. Percent of the FY 2016 work completed, and projected costs to complete: 100%
- E. Recovery Program funds spent for publication charges: -0-

XII. Status of Data Submission: Data from the 2013-2015 sampling seasons has been entered, checked for accuracy, and submitted to the database manager.

XIII. Signed: Darek Elverud 11/14/2016  
Principal Investigator Date