

## FACT SHEET

### Assessing Tagging-Related Mortality and Tag Retention in Adult Delta Smelt for Use in Field Studies (15-09)

**Deliverables:** Quarterly reports and a peer-review quality report

**Status:** Project Initiated November 2014

**Primary Investigator:** Lenny Grimaldo

**Recipient Organization:** ICF International

**Project Cost:** \$290,990

**SFCWA Funding:** \$290,990

**Partners:** UC Davis Fish Culture and Conservation Laboratory, California Department of Water Resources, US Fish and Wildlife Service, US Bureau of Reclamation



Figure 1. Delta smelt

### Introduction

To better understand the effects of entrainment and exports at the State Water Project's Clifton Court Forebay to the delta smelt population, it is imperative that pre-screen loss and fish salvage facility efficiency studies be conducted under a representative range of export rates. To estimate loss and salvage efficiency, fish must be marked or tagged, released, and later recaptured.

This study will build upon previous work to examine tagging-related survival and tag retention rates in adult delta smelt using two types of tags (PIT and acoustic tags) and several insertion methods. Cultured fish will be tagged and observed in the laboratory to assess survival and tag retention. It is anticipated that the best tag and insertion method from this laboratory study will be used in future field investigations to determine pre-screen losses and fish salvage facility efficiency of adult delta smelt.

### Objective

The objective for this study is to determine a tagging method that yields the highest survival rate and tag retention in adult delta smelt to support future field investigations in the Clifton Court Forebay and the Skinner Fish Facility.

### Results

Experiments will be conducted between December 2014 and March 2015. Preliminary results will be ready in summer 2015.

### Conclusions

To be determined.

## Relevance

It is anticipated that the tagging results from this work will be implemented in future field investigations to determine how pre-screen losses and fish salvage facility efficiency of adult delta smelt at the Skinner Fish Facility vary under a range of export conditions if such investigations are funded.

## Next Steps

The laboratory component of the study will begin in January. Over the next two months (November and December), we will be conducting several activities in preparation for the laboratory component:

1. Secure necessary permits to conduct the work
2. Order and obtain tags and other supplies
3. Present the proposed study at the Central Valley Fish Facilities Review Team Meeting for their input on improving the study
4. Discuss tagging methods with others that have tagged delta smelt to avoid problems they may have encountered and to apply their lessons learned
5. Prepare a study plan that includes details on specific tagging methods to be used, experimental design and statistical methods to analyze results, and other logistics.