



DATE: June 19, 2015

TO: RMP Steering Committee

FROM: Philip Trowbridge, RMP Manager

RE: Request for Undesignated Funds for 2015 Sturgeon Muscle Plug Study

### **REQUESTED ACTION**

In 2013, the Steering Committee allocated \$23,000 each for the 2014 and 2015 Sturgeon Muscle Plug Studies. Based information gained during the 2014 field season, several modifications are proposed for the 2015 study, including an increase in RMP labor funds to support additional field work and coordination, the addition of blood plasma sex steroid analyses, and the removal of green sturgeon muscle plug analyses. An additional \$12,000 is requested to support these modifications to the 2015 Sturgeon Muscle Plug study. *(Recommended by the Selenium Workgroup on 6/12/15)*

### **FISCAL SITUATION**

Undesignated Funds Balance: \$598,432 (as of 6/19/15)

### **EXPLANATION**

In 2014, the RMP collaborated with the California Department of Fish and Wildlife to collect muscle plug samples during their fall sturgeon tagging event. The amount of coordination and field work required to collect samples was substantially greater than initially planned due to logistical constraints and challenges with the sampling technique. In 2015, the US Fish and Wildlife Service staff will assist the RMP in collecting tissue samples for this study, which will require additional RMP staff time to coordinate sampling and train USFWS staff. Therefore, an additional \$11,750 is requested mainly to support 11 additional days of field work and coordination, as well as smaller adjustments for data management and reporting costs.

Additionally, literature published in 2015 suggests that the collection of fish sex and sexual maturity data may be important for the interpretation of muscle plug selenium concentrations. Selenium concentrations in white sturgeon muscle tissue were found to increase with age, and in particular may be higher in vitellogenic females (vitellogenic refers to a stage of sexual maturity when females are producing the egg protein vitellogenin). Selenium concentrations in reproductively mature females are also the most relevant to understanding the reproductive impacts of selenium in white sturgeon. In 2015, blood plasma samples can be collected from the 30 white sturgeon from which muscle plugs will be analyzed for selenium, and analyzed for testosterone, 17 $\beta$ -estradiol, and calcium to determine fish sex and sexual maturity. The increased analytical costs associated with analyzing 30 white sturgeon blood plasma samples (\$2,550) will be more than offset by analytical cost savings from the planned 10 green sturgeon muscle plugs that will not be collected or analyzed (\$2,150). Total analytical costs will decrease by -\$350 with the new study design.

Finally, an additional \$600 in direct expenses is needed to support sampling equipment purchases and travel associated with field work.

On June 12, 2015, RMP staff presented a proposal at the Selenium Workgroup meeting to request between \$11,500 and \$13,500 of Undesignated Funds to increase the budget of the 2015 Sturgeon Muscle Plug Study to implement this new study design. This request was endorsed by the Selenium Workgroup.

The Undesignated Funds would be allocated to the 2015 Selenium Muscle Plug task in the 2015 RMP budget (3015.00 Task 046) as follows:

Category	Original Budget	Additional Funds	Updated Budget
Labor	\$13,900	\$11,750	\$25,650
Subcontractors	\$9,100	-\$350	\$8,750
Direct Expenses	\$0	\$600	\$600
Total	\$23,000	\$12,000	\$35,000