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April 29th , 2014

TO: RMP Steering Committee

FROM: Jen Hunt and Jay Davis

RE: **Request for RMP Unencumbered Reserve Funds to support Sportfish Analyses -isotope and additional selenium**

Background

The RMP Sportfish and Selenium Strategy workgroups recently met. As a result of these discussions, we are requesting $10,680 (Table 1) from unemcumbered reserves for additional analyses to answer questions related to selenium concentrations in white sturgeon. The RMP Selenium Strategy Workgroup met on April 22nd and requested three additional analyses be added to this year's sportfish monitoring:

- Analyze stable isotopes of C, N, S in white sturgeon tissue for determining trophic position;
- Analyze Hg isotopes in white sturgeon tissue; and
- Collect and extrude eggs from any gravid white sturgeon for potential selenium analysis.

Upon further inquiry, mercury isotope analysis is not recommended due to potential muted isotope signals due to fish residence time in both salt and fresh water systems.

White sturgeon trophic position and diet are important factors for determining selenium uptake. Tissue isotope analysis is one method for addressing this question. Isotope analysis provides information on recent diet.

We have received a cost estimate for the carbon, nitrogen, and sulfur isotope analyses. Analytical costs for 12 white sturgeon samples are estimated at $300/ sample (Table 1). Sample preparation costs are guess-estimated at $5,000 although we anticipate that the actual cost will be lower. Sample preparation involves sampled desiccation, sample weighing, and encapsulation. At this point, we have not identified a laboratory that can perform the preparatory steps. We will continue to look for a laboratory and update the workgroup with the revised quote when available.

Additionally, the RMP Sportfish Workgroup has requested analysis of selenium in muscle tissue plugs. This is a continuation of a small study that started during the 2009 sportfish monitoring effort. In 2009, selenium was analyzed in both fillets and muscle plugs in an effort to consider development of a non-lethal tissue collection protocol for white sturgeon. An additional year of data will help determine if a nonlethal sampling methodology can be implemented that will provide necessary information for answering existing management questions.

At present, we are requesting $10,680 from reserve to conduct this work.

Table 1: Proposed Tasks and Budget

Description	Analysis	Cost per Sample	Sample Number	Total cost	Rationale
White Sturgeon muscle plugs	Selenium	$190	12	$2,280	Determine if tissue muscle plugs can be used for future selenium analysis to avoid Sturgeon take
White Sturgeon muscle filet	Carbon isotope	$8	12	$96	Determine food web trophic position
White Sturgeon muscle filet	Sulfur isotope	$17	12	$204	Determine food web trophic position
Sample preparation for isotope analyses				$5,000	Estimate cost. Still identifying a lab to perform these tasks.
Data management of isotope analyses				$3,100	The selected laboratory does not have the capacity to provide isotope data in SWAMP format. Subsequently, the RMP data management team will need to spend additional effort to collect the laboratory metadata from reports and manually enter this information into the SWAMP data templates.
			Total	$10,680	