

project operations do not release enough water, as is the case during droughts, spawning habitat may be exposed or too shallow for sturgeon to use successfully. The USACE and FWS are presently in informal consultation on the effects of ACF reservoir operations on federally-listed species, and are investigating the relationship between flow and sturgeon spawning habitat availability in the Apalachicola River. Although these studies are not yet completed, the FWS believes that project modifications for sturgeon conservation would likely represent reasonable minor adjustments to existing operations that would minimize the impacts of unavoidably adverse conditions. The economic analysis concludes that the effects of such modifications on the regional economy would be small (less than 0.1 percent).

*Comment 46:* Several commenters suggested that the economic analysis did not adequately address secondary impacts of critical habitat designation on the economy on a regional scale. These commenters expressed concerns about impacts on the shipping and navigation industries and their support services, on future commercial and industrial development, and on commercial fishing, particularly shrimp fishing.

*Our Response:* Section 2.1 of the economic analysis has been revised to provide more information on the current level of economic activity in the areas in or around the critical habitat designation. Specific information on State gross products and time series employment data have been added. Regional data on waterborne economic activity, including waterborne commerce, commercial fishing, recreational fishing, other water-based recreation, and hydropower generation are more fully presented. Thus, the revised economic analysis provides an appropriate economic baseline against which to evaluate the significance of section 7 costs associated with critical habitat designation.

After identifying and evaluating the activities likely to give rise to section 7 consultations and thus direct costs of critical habitat designation in section 3.2, the economic analysis discusses potential secondary impacts on the regional economy in section 3.4. Past consultations have not resulted in project changes that have affected the regional economy, including the particular activities of concern to the commenters, and no comments provided specific examples of how future consultations would result in regional economic impacts.

Waterborne commerce is unlikely to be affected by the critical habitat designation because all available evidence indicates that future operations and maintenance navigation projects will proceed without changes to timing and scope. Moreover, the frequently maintained portions of the major shipping channels located within the critical habitat designation are altered to an extent that any primary constituent elements for sturgeon that are still present in the channels are unlikely to be appreciably diminished from their current baseline by Federal actions in the channels. Portions of shipping channels that are not frequently maintained and new dredge material disposal sites likely contain one or more primary constituent elements and therefore have a higher likelihood for project modifications to be recommended.

No limitations to commercial fishing activities are expected to result from section 7 consultations pertaining to Gulf sturgeon (see Section 3.4.3 of the economic analysis).

Past consultations and available evidence do not indicate that county-wide economies or employment will be impacted by this critical habitat designation (see Section 3.4.4 of the economic analysis).

*Comment 47:* One Mississippi County Commissioner expressed concern over closure of a shipping channel through Little Lake and the lower Pearl River, and its impact on commercial navigation.

*Our Response:* If the shipping channel were closed, it would be attributable to litigation filed by the Tulane Environmental Law Clinic over water quality certification, and not due to sturgeon protection. Thus, no modifications were made to the economic analysis.

*Comment 48:* Two commenters stated that the economic analysis should acknowledge the controversy surrounding option and existence values and the methodologies available to estimate these values. One commenter, the USACE, stated that it does not allow these values to be claimed in its economic studies "because the academic community does generally not accept the procedures used to estimate them." The USACE went on to state that the studies presented in the economic analysis are not related to the Gulf sturgeon, the studies' methods are not discussed, and inclusion of the information adds nothing to the document.

*Our Response:* The final economic analysis notes the controversy that the commenter discusses as revolving

around the use of contingent valuation methodology. Therefore, the economic analysis in Section 5.2 has been revised to better explain the relevance of these values to this critical habitat designation, by including a fuller explanation of contingent valuation methodology, and adding more detail to the discussion and exhibits relating to the economic literature on valuation of natural resources such as threatened and endangered species, and the applicability of the benefits transfer methodology.

*Comment 49:* Two comments stated that the economic analysis presented a flawed analytical approach in ignoring the time value of money and present values.

*Our Response:* The economic analysis has been modified (see Section 4.3) to include the present value of the total estimated costs of the critical habitat designation, using 2 discount rates in order to provide a measure of sensitivity analysis. The economic analysis now also presents annualized cost estimates for the 10 year period considered for this designation.

*Comment 50:* Two comments state that the economic analysis fails to meet requirements for economic analyses, including using inappropriate and archaic research techniques.

*Our Response:* We believe that the methodology used is appropriate for and consistent with the analysis of economic impacts required by the Act, which does not mandate a strict cost-benefit analysis. The methodology used to produce the economic analysis has been peer-reviewed. We further believe that the research used is appropriate for the analysis required by the Act, and provides the best available scientific information available. Economic analyses are typically based on direct conversations with the action agencies regarding their expected future actions and costs.

*Comment 51:* One comment stated that it is unreasonable to predict zero costs associated with project modifications attributable solely to critical habitat designation.

*Our Response:* No information was provided, and none was available, regarding project modifications that would be attributable solely to critical habitat designation, as opposed to being attributed co-extensively to take of or jeopardy to the species.

*Comment 52:* One comment stated that the economic analysis did not fully consider costs to the States that might arise from consultations with EPA over pollution discharge permits.

*Our Response:* There is no evidence that past or future EPA projects have or