

Protection of Threatened and Endangered Species in Portions of the Suwannee, Withlacoochee, Santa Fe, New, and St. Johns Rivers

1 Introduction

The purpose of the Endangered Species Act (ESA) passed by Congress in 1973 is to protect and promote recovery of imperiled species and the ecosystems upon which they depend. To accomplish this objective, the ESA affords additional protection to threatened and endangered species to prevent: 1) damage to, or destruction of, a species' habitat; 2) overutilization of the species for commercial, recreational, scientific, or educational purposes; 3) disease or predation; 4) inadequacy of existing protection; and 5) other natural or manmade factors that affect the continued existence of the species.

During the development of the proposed dissolved oxygen (DO) criteria, FDEP has worked with the U.S. Fish and Wildlife Service (FWS) and NOAA's National Marine Fisheries Service (NMFS) to assure that the threatened and endangered species occurring in Florida are provided adequate protection. During their review of the proposed freshwater criteria, FWS and NMFS determined that four endangered species may not be fully protected by the proposed DO criteria. These species are the young of the year Gulf sturgeon (*Acipenser oxyrinchus desotoi*) that can be found in portions of the Suwannee, Santa Fe, and Withlacoochee Rivers, the oval pigtoe mussel (*Pleurobema pyriforme*) that inhabits portions of the Santa Fe and New Rivers, and young Atlantic (*Acipenser oxyrinchus*) and shortnose sturgeon (*Acipenser brevirostrum*) that can inhabit the St. Johns River. The specific areas where the Gulf sturgeon and mussel may be found are illustrated in **Figure 1**.

The St. Johns River represents the southern extent of the range for the Atlantic and shortnose sturgeon. Even though the evidence suggests that the sturgeon occurring in the St. Johns River are transient individuals that do not spawn in the St. Johns, the ESA still requires that the portions of the river where spawning may occur in the future be afforded additional protection. A map showing the portions of the St. Johns River where the sturgeon could potentially spawn is provided in **Figure 2**.

2 Summary of Existing DO Conditions in Portions of the Suwannee, Santa Fe, New, and Withlacoochee Rivers

Because relatively little information is available concerning the specific DO requirements of these species, especially for the mussel, and since the populations of the sturgeon and mussel are stable and may actually be increasing in these river systems, it is reasonable to assume that maintaining the existing DO conditions would provide adequate protection in the future.

To summarize the existing DO conditions, data for each river segment in the potential range of the young sturgeon and mussel were obtained from the Impaired Waters Rule (IWR) database for the period since 1966. After reviewing the data for the entire period of record (*i.e.*, 1966 – 2011), the period from 1991 through 2011 was chosen for use in summarizing the existing conditions. The 1991 to 2011 period was selected because the 21-year period is long enough to