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ACF STRIPED BASS RESTORATION AND EVALUATION 5 YEAR PLAN

Background:

The Gulf race of striped bass, *Morone saxatilis*, is a stock of anadromous fishes once common to river ecosystems of the Gulf of Mexico region, ranging from Lake Pontchartrain, Louisiana, to the Ochlockonee River, Florida. These fishes were historically important in the bays and estuaries of the Gulf of Mexico, contributing to both commercial and recreational landings. The native Gulf striped bass population declined since 1950 due to loss of habitat, including blocked access to historical spawning areas and summer thermal refuges and to water quality degradation. It is believed that the only naturally occurring population of native Gulf striped bass exists in the Apalachicola-Chattahoochee-Flint (ACF) river system in Florida, Georgia, and Alabama.

During the 1960s and 1970s, Atlantic-origin striped bass were stocked into many Gulf coast drainages, including the ACF, in efforts to restore the species to its historic range. With the exception of Lake Lanier, Georgia, Atlantic-origin striped bass have not been stocked into the ACF since 1974. Beginning in the 1980s the ACF has only been stocked with progeny of broodfish taken from the ACF system. Presently, the occurrence of striped bass in coastal areas of the Gulf of Mexico is generally believed to be dependent upon continued stocking. Striped bass young-of-year (YOY) surveys have been conducted annually on Lake Seminole and the Apalachicola River, including 1985 and 1997, when no striped bass were stocked. Survey results indicated that mean numbers of YOY striped bass collected were substantially lower in 1985 and 1997 than during years when stockings occurred, indicating extremely limited natural reproduction and substantiating the need for supplemental stocking. Additional findings based on the ratio of recaptured oxytetracycline (OTC) marked YOY stocked fish to unmarked natural fish during 2001 and 2002 support the need for continued stocking to support current minimum harvest levels.

Since the early 1980s, striped bass broodstock have been collected from the ACF system and artificially spawned at state and federal fish hatcheries, with the progeny stocked into the ACF and other Gulf coast river systems. Results of creel surveys conducted on the tailrace of Jim Woodruff Lock and Dam demonstrated that estimated striped bass angler catch increased approximately tenfold, from 150 fish in 1980 to 1,500 fish in 1992, as a result of stocking and restoration efforts

Independent genetics research conducted over the past 20 years indicated that some striped bass in the ACF system possess unique genetic markers not observed in any Atlantic coast populations. Additionally, a comparison of genetic markers of striped bass recently collected from the ACF system with museum specimens taken prior to any Atlantic introductions, indicated no significant difference in the frequency of unique markers within the extant population. Therefore, current interagency fish management strategies recommend that striped bass genetic integrity be maintained in the ACF system to conserve the Gulf race of striped bass.

Biotelemetry studies demonstrated that striped bass in the Apalachicola River generally remain within the system throughout the year. Other studies have identified the importance of coolwater habitat for the survival of adult fish during warm summer months. Age three, and older, striped bass begin using these thermal refuges when ambient temperature exceeds a threshold of 23°C, usually in early May, and remain in or near coolwater habitat throughout the summer. Fish begin to vacate the refuges as ambient temperature drops below the threshold temperature, usually in mid October.

Restoration activities for Gulf striped bass are guided by an interstate Striped Bass Fishery Management Plan (FMP) prepared by the Gulf States Marine Fisheries Commission (GSMFC) in 1986 and amended in 1992. At the present time, the FMP is being revised, and should be completed by January 2005. The FMP goal, as amended in 1992, is “to restore and maintain

61 *striped bass throughout the Gulf of Mexico region, and to establish self-sustaining populations of*
62 *striped bass in at least ten coastal river systems.”* The ACF Technical Committee will utilize the
63 revised FMP as a guide to support striped bass restoration in Gulf river systems including the
64 ACF.
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66 The respective agency directors and commissioners from Florida, Georgia, and Alabama, and
67 Regional Director of the U. S. Fish and Wildlife Service signed a Cooperative Agreement in 1987,
68 to establish by mutual consensus the restoration of striped bass in the ACF river system. The
69 goal of the agreement was *“to restore a self-sustaining stock of striped bass to the maximum*
70 *extent possible.”* In addition, it was mutually agreed that the partners would provide personnel,
71 equipment, and related facilities for production and evaluation of striped bass stocking in the ACF
72 river system. Partners in the Agreement have determined that supplemental stocking of striped
73 bass into the ACF system is necessary to maintain the current population and harvest levels
74 because of alterations to essential habitat. The Agreement specified that a Technical Committee
75 comprised of member agencies develop and implement a striped bass restoration plan for the
76 ACF river system. The purpose of the document is to outline an implementation plan for the
77 Agreement by defining quantifiable goals, objectives, and tasks that would help measure
78 progress in achieving striped bass restoration. This 5 year plan should be reviewed annually and
79 revised as necessary.
80

81 Goal: Restore and maintain a population of native Gulf race striped bass in the Apalachicola-
82 Chattahoochee-Flint river system leading to a self-sustaining population that will: 1) provide a
83 broodfish source for the ACF and other Gulf state restoration programs; 2) support recreational
84 fishing opportunities at optimum yield levels consistent with the carrying capacity of available,
85 restored, and enhanced habitat; and 3) maximize natural reproduction and recruitment of Gulf
86 race striped bass into the reproducing population.
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