

The term 72 COLREGS is defined as demarcation lines which delineate those waters upon which mariners shall comply with the International Regulations for Preventing Collisions at Sea, 1972 and those waters upon which mariners shall comply with the Inland Navigation Rules (33 CFR 80.01). The waters inside of these lines are Inland Rules waters and the waters outside the lines are COLREGS waters. These lines are defined in 33 CFR 80, and have been used for identification purposes to delineate boundary lines of the estuarine and marine habitat Units 8, 9, 11, and 12.

*Unit 1. Pearl River System in St. Tammany and Washington Parishes in Louisiana and Walthall, Hancock, Pearl River, Marion, Lawrence, Simpson, Copiah, Hinds, Rankin, and Pike Counties in Mississippi*

Unit 1 includes the Pearl River main stem from the spillway of the Ross Barnett Dam, Hinds and Rankin Counties, Mississippi, downstream to where the main stem river drainage discharges at its mouth joining Lake Borgne, Little Lake, or The Rigolets in Hancock County, Mississippi, and St. Tammany Parish, Louisiana. It includes the main stems of the East Pearl River, West Pearl River, West Middle River, Holmes Bayou, Wilson Slough, downstream to where these main stem river drainages discharge at the mouths of Lake Borgne, Little Lake, or The Rigolets. Unit 1 also includes the Bogue Chitto River main stem, a tributary of the Pearl River, from Mississippi State Highway 570, Pike County, Mississippi, downstream to its confluence with the West Pearl River, St. Tammany Parish, Louisiana. The lateral extent of Unit 1 is the ordinary high water line on each bank of the associated rivers and shorelines.

The majority of recent Gulf sturgeon sightings in the Pearl River drainage have occurred downstream of the Pools Bluff Sill on the Pearl River, near Bogalusa, Washington Parish, Louisiana, and downstream of the Bogue Chitto Sill on the Bogue Chitto River in St. Tammany Parish, Louisiana. Between 1992 and 1996, 257 Gulf sturgeon were captured from the Pearl River system (West Middle River, Bogue Chitto River, East Pearl River, and West Pearl River). The subpopulation was estimated at 292 fish, of which only 2 to 3 percent were adults (Morrow *et al.*, 1998b). The annual mortality rate was calculated to be 25 percent. Preliminary results from captures between 1992 and 2001 suggest a stable subpopulation of 430 fish, with approximately 300 adults (Rogillio *et al.*, 2002). These Pearl River

tributaries are used for migration to spawning grounds, summer resting holes, and juvenile feeding. Gulf sturgeon have been captured in all of these tributaries and all are designated as critical habitat.

The presence of juvenile Gulf sturgeon (1 to 4 years old) in the Pearl River system indicates successful spawning at some location in the Pearl River system. It is believed that the only suitable habitat for spawning for the Pearl River subpopulation of Gulf sturgeon occurs above the sills on the Pearl River and the Bogue Chitto River with access to these areas only during high flows (Morrow *et al.*, 1996; and Morrow *et al.*, 1998a). Bedrock and limestone outcropping that are typical of Gulf sturgeon spawning areas in other systems do not occur here. However, within the Pearl drainage, spawning areas likely include soapstone, hard clay, gravel and rubble areas, and undercut banks adjacent to these substrates (W. Slack, pers. comm. 2001). Although the Pools Bluff Sill blocks upstream movement on the Pearl River during periods of low water, potential spawning sites have been identified upstream of the sill at various locations between Monticello, Lawrence County, Mississippi, and the Ross Barnett Dam spillway, Hinds and Rankin Counties, Mississippi (F. Parauka, pers. comm. 2002). Gulf sturgeon have also been recently reported as far upstream as Jackson, Hinds County, Mississippi (Morrow *et al.*, 1996; Lorio, 2000; and W. Slack, pers. comm. 2002). The Ross Barnett Dam upstream of Jackson prevents sturgeon movement further upstream at all flow conditions. Identified suitable spawning habitat, presence of juvenile fish, and documented adult captures support our inclusion of the Pearl River up to the spillway of the Ross Barnett Dam.

The Bogue Chitto Sill, located on the Bogue Chitto River near its confluence with the Pearl River, also hinders movement of Gulf sturgeon upstream of the sill except during high water flows. Suitable spawning habitat occurs within the Bogue Chitto upriver of the sill (W. Slack, pers. comm. 2001; W. Granger, FWS, pers. comm. 2002; and F. Parauka, pers. comm. 2002) and juvenile, adult and subadult Gulf sturgeon have been documented on the Bogue Chitto River as far upstream as one mile north of Quinn Bridge (Mississippi State Highway 44), McComb, Pike County, Mississippi (W. Slack pers. comm. 2001; D. Oge, Louisiana Department of Environmental Quality, pers. comm. 2002; and F. Parauka, pers. comm. 2002). We, therefore, have designated as critical habitat the main stem of the

Bogue Chitto River upstream of Quinn Bridge (Mississippi State Highway 44) to Mississippi State Highway 570 for ease of identification.

*Unit 2. Pascagoula River System in Forrest, Perry, Greene, George, Jackson, Clarke, Jones, and Wayne Counties, Mississippi*

Unit 2 includes all of the Pascagoula River main stem and its tributaries, portions of the Bouie, Leaf, and Chickasawhay tributaries, and all of the Big Black Creek tributary. It includes the Bouie River main stem beginning on the southern-most road crossing of Interstate 59, Forrest County, Mississippi, downstream to its confluence with the Leaf River, Forrest County, Mississippi. The Leaf River main stem beginning from Mississippi State Highway 588, Jones County, Mississippi, downstream to its confluence with the Chickasawhay River, George County, Mississippi is included. The main stem of the Chickasawhay River from the mouth of Oak Creek, Clarke County, Mississippi, downstream to its confluence with the Leaf River, George County, Mississippi is included. Unit 2 also includes Big Black Creek main stem from its confluence with Black and Red Creeks, Jackson County, Mississippi, to its confluence with the Pascagoula River, Jackson County, Mississippi. All of the main stem of the Pascagoula River from its confluence with the Leaf and Chickasawhay Rivers, George County, Mississippi, to the discharge of the East and West Pascagoula Rivers into Pascagoula Bay, Jackson County, Mississippi, is included. The lateral extent of Unit 2 is the ordinary high water line on each bank of the associated rivers and shorelines.

Subpopulation estimates, calculated from sturgeon captures in 1999 and 2000 in the summer holding areas on the Pascagoula River, range between 162 and 216 individuals (Heise *et al.*, 1999a; and Ross *et al.*, 2001b). Due to the sampling technique, these estimates are based primarily on large fish and do not account for juvenile or subadult fish (S. Ross, USM, pers. comm. 2001).

Gulf sturgeon spawning on the Bouie River was confirmed via egg collection in 1999 (Slack *et al.*, 1999; and Heise *et al.*, 1999a). This is the only confirmed spawning area in the Pascagoula River drainage. Downstream, the Bouie River is sometimes used as a summer holding area (Ross *et al.*, 2001b). Gulf sturgeon have been documented using the area above the known spawning habitat approximately 0.80 rkm (0.50 rmi) north of Glendale Road (Reynolds, 1993; and W. Slack, pers. comm. 2002). Additional