

year (White *et al.*, 2002). Telemetry and aerial survey data indicate that peak numbers occur between March and June with heaviest use along the St. Johns River shorelines (typically within 213 meters or 700 feet of shore) upstream of the Fuller Warren Bridge and along the southeast shoreline of Doctors Lake. The latter appears to correlate with the highest quality feeding habitat. Recent studies demonstrate little use during the December through February period (White *et al.*, 2002). While there were warm water discharges (*i.e.*, power plant and industrial effluents) located within the area of the refuge, these man-made attractants no longer exist.

Vessel speeds are currently restricted throughout the manatee protection area. In 1989, boating restricted areas were adopted by Duval County and established by the State of Florida for portions of the St. Johns River. These include a bank-to-bank, slow-speed zone between the Florida East Coast Railroad Bridge and the Main Street Bridge and a "slow down/minimum wake when flashing" zone between the Main Street and Hart Bridges, activated during special events at the discretion of the Jacksonville Sheriff's Office (16N-24.016 Duval County Boating Restricted Areas). The first manatee protection areas were adopted in 1989 by Duval County and in 1994 by the State of Florida. These measures included a slow speed (channel exempt) zone from Reddie Point to the Main Street Bridge and a 91-meter (300-foot) shoreline buffer in portions of the St. Johns River upstream of the Fuller Warren Bridge. The manatee protection areas were reconfigured in 2001. Current protection measures consist of shoreline buffers that vary in width from 91 to 274 meters (300 to 900 feet). There are provisions upstream of the Fuller Warren Bridge that include a shoreline buffer of 152 meters (500 feet) or 61 meters (200 feet) from the end of docks, whichever is greater (an expansion of the 1989 91-meter (300-foot) buffer) (68C-22.027 FAC). We believe that the variable shoreline buffers are not adequately posted, which makes these areas hard to enforce and difficult for the boating public to understand and comply with these measures.

Overall, 270 manatee deaths were recorded in Duval County between 1974 and 2002 (FWCC: FMRI Manatee Mortality Database, 2003). Ninety-four of these deaths included deaths caused by watercraft collision. Fifty-one watercraft-related manatee carcasses were recovered within the manatee protection area. Of these, 24 were recovered between Channel Marker "73" and the Matthews Bridge, 10 were

recovered between the Hart and Acosta bridges, 6 were recovered between the Fuller Warren and Buckman bridges, and 11 were recovered upstream of the Buckman Bridge. Most of these carcasses have been recovered in that portion of the river where manatees and boats are most constricted (FWCC 2003). From 1994 to 2001, when the area was protected under the initial State rule, watercraft-related manatee deaths averaged two per year between Channel Marker "73" and the Fuller Warren Bridge. In 2002, subsequent to adoption of the current rule, one watercraft-related carcass was documented in this area; a single watercraft-related carcass was recovered upstream of the Fuller Warren Bridge in 2001.

We believe the measures in this regulation will improve manatee protection in the Lower St. Johns River and are necessary to prevent the taking of at least one manatee in this area through harassment, injury, and/or mortality. The regulation extends coverage to currently unprotected areas used by manatees, improves the ability of the public to comply with the vessel operation restrictions, and improves the ability of law enforcement personnel to enforce the restrictions. The configuration is less complicated, easier to post, and will reduce reliance on waterway users to judge distances from the shoreline or the ends of docks and piers. The regulation will not detract from operation of the boater safety zone downstream of the Main Street Bridge during special events.

Halifax and Tomoka Rivers Manatee Refuge

We are establishing a manatee refuge in portions of the Halifax River and associated waterbodies in Volusia County (in the Atlantic Region) for the purpose of regulating vessel speeds, from the Volusia/Flagler county line to New Smyrna Beach. Except as provided in 50 CFR 17.105, watercraft will be required to proceed as follows:

a. From the Volusia County/Flagler County line at Halifax Creek south to Channel Marker "9," a distance of approximately 11.3 km (7.0 miles) in length, not more than 40 km per hour (25 mph) in the channel;

b. from Channel Marker "9" to a point 152 meters (500 feet) north of the Granada Bridge (State Road 40) (including the Tomoka Basin), a distance of approximately 5.0 km (3.1 miles) in length, not more than 40 km per hour (25 mph) in areas between the existing 91-meter (300-foot) buffers (and including the marked navigation channel);

c. in the Tomoka River, the current 40-km-per-hour (25-mph) zone approximately 1.6 km (1 mile) downstream of the I-95 bridge will be slow speed shoreline to shoreline from April 1 through August 31;

d. from 152 meters (500 feet) north to 305 meters (1,000 feet) south of the Granada Bridge (State Road 40), a distance of approximately 0.5 km (0.3 miles) in length, slow speed, year-round, channel included;

e. from a point 305 meters (1,000 feet) south of the Granada Bridge (State Road 40) to a point 152 meters (500 feet) north of the Seabreeze Bridge, a distance of approximately 6.4 km (4.0 miles) in length, not more than 40 km per hour (25 mph) in areas between the existing 91-meter (300-foot) buffers, and including the marked navigation channel;

f. from 152 meters (500 feet) north of the Seabreeze Bridge, to 152 meters (500 feet) north of the Main Street Bridge, a distance of approximately 1 km (0.6 miles) in length, slow speed, year-round, channel included;

g. from Channel Marker "40" south of the Seabreeze Bridge to a point a minimum of 152 meters (500 feet) north, as marked, of the Dunlawton Bridge, a distance of approximately 6.6 kilometers (4.1 miles) in length, not more than 40 km per hour (25 mph) in areas between the existing 91-meter (300-foot) buffers, and including the marked navigation channel;

h. from a minimum of 152 meters (500 feet) north, as marked, to a minimum of 152 meters (500 feet) south, as marked, of the Dunlawton Bridge, a distance of approximately 0.3 km (0.2 miles) in length, slow speed, year-round, channel included. The existing 30-meter (100-foot) shoreline buffer immediately north and west of the bridge/causeway for a distance of approximately 640 meters (2,100 feet) would also be increased to 91 meters (300 feet) as marked;

i. from a minimum of 152 meters (500 feet) south, as marked, of the Dunlawton Bridge to Ponce Inlet, a distance of approximately 10.5 km (6.5 miles) in length, not more than 40 km per hour (25 mph) in waters not more restrictively designated; along the western shore of the Halifax River, a distance of approximately 3.1 km (1.9 miles), not more than 40 km per hour (25 mph) in the waters not more restrictively designated; in Rose Bay, a distance of approximately 2.7 km (1.7 miles), not more than 40 km per hour (25 mph) in waters not more restrictively designated; in Turnbull Bay, a distance of approximately 3.9 km (2.4 miles), not more than 40 km per