Abstract:
Lake sturgeon Acipenser fulvescens declined in abundance in Lake Superior's St. Louis River during the late 1800s and were eliminated from the river during the early 1900s because of the combined effects of exploitation, pollution, and habitat alteration. Since then, exploitation in the river and in Lake Superior has been reduced. Furthermore, water quality in the St. Louis River has improved, and its upper-estuary spawning habitat has remained relatively unchanged and adequate. Lake sturgeon have been stocked annually in the St. Louis River since 1983; from 1983 to 1994 stockings included 736,000 fry, 128,000 fingerlings, and 500 yearlings of the Lake Winnebago strain. Relative abundance, distribution, and growth were determined by sampling marked fish in the St. Louis River estuary and western Lake Superior with graded-mesh gill nets and bottom trawls. During 1983-1998, 644 lake sturgeon were caught in 15,486 m of gill net, and 196 were caught in 1,200 trawl tows. Lake sturgeon were sampled most frequently near channelized portions of the St. Louis River and stayed in the estuary up to 5 years before entering Lake Superior. Lake sturgeon were not captured in western Lake Superior prior to stocking, but abundance increased dramatically after 1985. Of 582 lake sturgeon sampled along the Wisconsin shore of Lake Superior from 1985 through 1998 (347,000 m of gill nets), 93% were captured in less than 30 m of water. A total of 93 lake sturgeon were reported from assessment netting conducted along the Minnesota shore of Lake Superior from 1992 through 1997. The current range of stocked lake sturgeon extends from the St. Louis River 145 km east to the Apostle Islands in Wisconsin and 110 km northeast to Little Marais in Minnesota. Increases in lake sturgeon abundance were directly attributed to the stocking program. We recommend stocking a minimum of 20 year-classes and the use of a Lake Superior egg source, if possible. Final evaluation of the project will be detection of tagged lake sturgeon successfully spawning at historical spawning areas.
Reintroduction of lake sturgeon in the St. Louis River, western Lake Superior