POMME de TERRE RIVER

WATERSHED

INVENTORY AND ASSESSMENT

.This information is based on the

Pomme de Terre Inventory and Assessment

prepared by

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EXECUTIVE SUMMARY

Pomme de Terre (PDT) River is a sixth order river originating in southwest Missouri, near Marshfield. The River flows in a northeast direction from Marshfield and originally confluenced with the Osage River southwest of Warsaw, MO. The Pomme de Terre River is now impounded as Pomme de Terre Lake just upstream of Hermitage, MO, and further downstream becomes part of Harry S. Truman Lake. Pomme de Terre Lake is a 7,820 acre (multipurpose pool) reservoir constructed and operated by the United States Army Corps of Engineers (USACE). Pomme de Terre Dam was closed in 1961 forming the lake which contains 113 miles of shoreline. Harry S. Truman Lake was formed in 1979 with the closing of Harry S. Truman Dam. Pomme de Terre River and Little Pomme de Terre River (north) makes up one arm of this 55,600 acre (multipurpose pool) impoundment. The Pomme de Terre River watershed encompasses about 840 square miles and includes parts of six Missouri counties (Benton, Dallas, Greene, Hickory, Polk, and Webster). Major tributaries include Little Pomme de Terre River (north), Little Pomme de Terre River (south), and Lindley Creek

The Pomme de Terre River watershed is located entirely within the Ozark Natural Division and the vast majority lies within the Division's Springfield Plateau region. The Watershed's geology is dominated by Ordovician dolomites and Mississippian limestones. Eleven springs have been identified in the Watershed. Primary Watershed soils are formed in cherty limestone, dolomite, or sandstone and are well to moderately well drained, with the best soils formed in the alluvium of the Watershed's larger streams.

The majority of the Pomme de Terre River watershed is covered in grassland (about 53%) and forest (about 37%). Dairies and beef cattle production play major roles in the Watershed's land use, and most

grassland is used for pasture and/or hay production. Urbanization is also a growing facet of the Watershed's land use.

Pomme de Terre and Truman dams have dramatically changed the physical and biological character of the Pomme de Terre River watershed. The segment of river between Pomme de Terre Dam and the historic confluence with the Osage River (total of 41.6 river miles) no longer functions in the same manner as it did before impoundment. Combined, Pomme de Terre and Truman reservoirs inundate 59.6 river miles, or the downstream 46% of the original PDT River channel, when PDT Lake is at normal pool level and 69.6 river miles, 54%, of the original Pomme de Terre River channel when PDT Lake is at flood pool. Annual "Water Level Management Recommendations" have been recommended by Missouri Department of Conservation to the USACE for managing water levels on Pomme de Terre Lake. The plan has provided positive benefits for fish, habitat, and recreationists on PDT Lake and Pomme de Terre River below Pomme de Terre Dam.

Several known water quality problems exist throughout the Watershed. Problems with discharges from the City of Buffalo's waste water treatment facility have been documented as negatively impacting 4.5 miles of Lindley Creek. These problems were still evident in 1998 (John Ford, MDNR, pers. comm.). In 1997, habitat surveys revealed many Watershed streams containing heavy growth of filamentous algae. Contributing factors to non-point runoff include, cattle with free access to streams and urbanization near Bolivar.

Generally, stream bank stability in the Watershed is good with the exception of localized erosion. Streambank stability was listed as good at 56.1% of the sites surveyed followed by, poor (22.0%), fair (17.1%), and excellent (4.9%). Forest and grassland were the dominant land use in riparian areas. Generally, stream corridors in the lower portion of the Watershed were dominated by forests, while stream corridors in the upper portions of the Watershed were primarily grassland.

Eighty-three species of fish have been collected in the Watershed since 1940. There is one federally protected fish, Niangua darter, and two state protected fish, blacknose shiner and mooneye, known to occur in the Watershed. Reservoir construction and habitat degradation, associated with land use practices, are thought to be major factors in the Niangua darter's decline. Lack of riparian corridors accelerates bank erosion which is a concern to Niangua darter habitat. Future efforts should be undertaken to survey previously unsampled locations and to protect and enhance streams where Niangua darters are known to occur. Common sportfish in streams and reservoirs include smallmouth, largemouth, and spotted bass, black and white crappie, bluegill, channel catfish, and muskellunge.

Major goals for the Watershed are improving water quality, riparian and instream habitat, maintaining a diverse and sustainable populations of native aquatic organisms and improving sportfishing, increasing recreational use and the public's appreciation for streams. Additional fish population sampling and habitat surveys are planned. Fishing regulations will be revised, as needed, and selected stocking will be used to maintain and improve sportfishing. Stream access will be improved, where needed. Cooperative efforts with other resource agencies on water quality and quantity, habitat, and watershed management issues will be critical. Enforcement of existing water quality and other stream related environmental regulations and support for revising existing rules will help reduce violations and improve water quality. Working with other state and federal agencies to promote public awareness and funding cost share programs for best management practices and cooperating with citizen groups and landowners will improve watershed conditions and stream quality.