RECONNAISSANCE OF THE MANISTEE RIVER, A COLD-WATER RIVER IN THE NORTHWESTERN PART OF MICHIGAN'S SOUTHERN PENINSULA

By G. E. Hendrickson and C. J. Doonan

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

HYDROLOGIC INVESTIGATIONS ATLAS HA-45M (SHEET 1 OF 2)

INTRODUCTION

The cold-water streams of the southern states provide the principal source of water for navigation, industry, and agriculture. They are of particular importance to the residents of the region. National Park, local governments, and industries, dependent on water for power and industrial processes.

The Manistee River is one of Michigan's outstanding water resources. The river is a tributary of the Manistee County and is used for the purpose of water supply, irrigation, and navigation. The river is also an important source of fish and wildlife habitat.

The Manistee River has a long history of development and use. The river has been dammed at various points for hydroelectric power generation. The river is also used for recreational purposes, including fishing, boating, and canoeing. The river's water quality is of concern due to the potential for pollution from upstream sources.

The Manistee River is located in the Manistee National Forest and is part of the Michigan Water Resources Initiative. The river is also part of the National Estuary Program, which is a collaborative effort to protect and restore the nation's estuaries.

The management of the Manistee River is a complex issue due to the competing interests of the various stakeholders. The river is also part of the Great Lakes Basin, which is a region of concern due to water quality issues.

GEOLOGIC SETTING

The Manistee River basin is a part of the larger Lake Michigan basin, which is a part of the Great Lakes basin. The basin is characterized by a landscape of rolling hills and valleys, with a diversity of soils and vegetation.

The Manistee River flows through a variety of geologic units, including glacial till, sandstone, and shale. The river is also affected by the presence of the Manistee River Dam, which is a hydroelectric power plant.

The geologic setting of the Manistee River is important to understanding the water quality of the river. The geology of the basin can influence the sources of pollution and the potential for water quality degradation.

STREAMFLOW

The frequency and magnitude of the Manistee River's streamflow can be attributed to the region's climate and topography. The river is characterized by a wide range of streamflow conditions, from high flow during the spring and fall to low flow during the summer.

The Manistee River's streamflow is affected by the upstream tributaries, which contribute a significant amount of water to the river. The river's flow is also influenced by the presence of the Manistee River Dam, which regulates the flow of water downstream.

The Manistee River is also affected by the seasonal changes in temperature and precipitation. The river's flow can be impacted by the presence of snowmelt and the timing of the spring snowmelt.

The Manistee River's streamflow is important to understanding the water quality of the river. The flow can influence the transport of pollutants and the potential for water quality degradation.

QUALITY OF WATER

The quality of water is an important factor in determining the suitability of the Manistee River for various uses, including navigation and recreation. The quality of water is also important for the health of the river's aquatic ecosystem.

The Manistee River's water quality is influenced by a variety of factors, including the presence of upstream sources of pollution and the characteristics of the river's geology.

The Manistee River's water quality is monitored by the U.S. Geological Survey, which collects water quality data from various locations along the river. The data is used to assess the water quality of the river and to identify areas of concern.

The water quality of the Manistee River is important to understanding the potential for water quality degradation and the need for management actions to protect and restore the river.