

PREFACE

Part 305, Natural Rivers, of P.A. 451 of 1994 authorizes the Natural Resources Commission to establish a system of "natural" rivers in the state and to provide for their preservation, protection and enhancement. As a result of this charge, the Michigan Department of Natural Resources has studied the White River and its tributaries for possible inclusion in the natural rivers system. The river system and adjacent lands were investigated to determine: (1) aesthetic and historic values, (2) free-flowing condition--now and prospectively, (3) water quality, (4) fish, plant and wildlife resources, and (5) ecological values. The river ranked high in such values and will be proposed for inclusion in the Michigan natural rivers system. A preliminary river management plan has been prepared with the participation of concerned public officials, property owners and citizens and will be presented to the public at hearings in the area. After public hearings, the Natural Resources Commission may designate the river or portions of it as either a Wilderness, Wild Scenic or Country-Scenic River.

This report is the preliminary river plan for the White River, which is tentatively proposed as a Country-Scenic River. Briefly, the Country-Scenic River is a stream in an agricultural setting with narrow bands of woods or pastoral borders. Farms and other developments may be visible from the river and it may be readily accessible by road. It may have undergone some impounding and its waters should meet established water quality standards. The plan provides: (1) a physical description of the river, surrounding lands and nearby structures, (2) reviews values of the river and factors affecting its future nature and use, and (3) provides a plan for its management so as to preserve, protect and enhance the natural qualities of the river area.

THE STUDY AREA

A. General Description

The White River is located in Newaygo, Oceana and Muskegon counties, in west central lower Michigan. It rises from the extensive Oxford Swamp in north central Newaygo County and flows in a southwesterly direction into White Lake then Lake Michigan, near the towns of Whitehall and Montague. The White River system drains a surface area of approximately 300,000 acres and includes about 253 linear miles of streams.

This river system represents the southern most major trout stream in the Lake Michigan drainage. Except for the areas around Hesperia and White Cloud, much of the White River, especially the lower reaches are wild in nature, scenic, remote and crossed by few bridges.

B. Physiography and Soils

Moraines, outwash plains and till plains are the major surface formations in the watershed. The topography is level to gently rolling along stream borders and slightly hilly in the uplands.

The White River originates in a large swamp area at an elevation of 980 feet above sea level and drops to an elevation of 580 feet at White Lake.

Roselawn, Grayling and Plainfield sand, averaging 0-7 percent slope are the most dominant upland soil types. Sandy loams with 0-3 percent slope are the next most important. The minor classifications are loamy sands, clay loams and peats and muck. Along the streams, Griffin sandy soils constitute the major flood plain soil types. The central portion of the watershed around Hesperia is unique from the rest of the drainage in having a higher proportion of clay loams. The better soils in this area gives it a higher land capability class than the rest of the drainage.

Of particular interest are the Winterfield soils along the White River. Detailed soils survey maps indicates that, in general, a band of soils in the Winterfield Series extends along much of the mainstream and its tributaries. Soils in this series are poorly drained alluvial soils developed in sands to loamy sands. They occur on nearly level bottomlands along streams and are subject to flooding especially in spring. They also have seasonally high water tables. These soils place severe limitations on residential, cottage and intensive campground development due to high water tables, periodic flooding, severe limitations for septic tank drain fields and the possible contamination of shallow wells.

C. Stream Characteristics

The streams of the White River system differ greatly in water characteristics. The diversity in water color, turbidity, seepage, temperature and flooding can be easily understood in a watershed located in the fringe area between cold and warmwater stream systems.

Summary of Streams (Linear Length in Miles)

Stream	Trout	Non-Trout	Average Width
Mainstream	70.0	(Includes marginal trout and andromous)	80 feet
Wright's Creek	4.0		4 feet
Martin Creek (incl. Heald Creek)	16.0		18 feet
Mena Creek	9.0		10 feet
Delong Creek		16.0	12 feet
Robinson Creek		7.0	8 feet
First Cole Creek	1.0		8 feet
Second Cole Creek	3.0		6 feet
Rattlesnake Creek	2.0		5 feet
Flinton Creek	7.0		15 feet
Five Mile Creek	5.0		15 feet
Mullen Creek	3.0		8 feet

Stratton Creek	3.0		5 feet
Braton Creek	5.0		
Cushman Creek	7.0		12 feet
Skeel Creek	5.0		8 feet
Cleveland Creek	3.0		
Silver Creek	3.0		
Carleton Creek	10.0		12 feet
Mud Creek	4.0		
Sand Creek	7.0		10 feet
North Branch White	20.0	5.0	25 feet
Newman Creek	5.0		
Knutson Creek	5.0		
Robinson Creek	4.0		
Cobmoosa Creek	4.0		
Unnamed Tributaries	<u> </u>	<u>20.0</u>	
	205.0	48.0	

Roughly 20 lakes ranging in size from a few acres up to several hundred acres, drain into the White River. In addition to the two impoundments on the mainstream at White Cloud (60 acres) and Hesperia (100 acres), five smaller impoundments (3-35 acres) on tributaries, drain into the White River. Some of these lakes through their contribution of warmwater and undesirable competing species have a negative influence on the White as a trout drainage.

The Surface Water Quality Division of the Department of Environmental Quality has established intrastate water quality standards and use designations¹ for the White River. It is to be protected for recreation - total body contact (i.e., swimming); intolerant fish - cold water species; industrial water supply, agricultural and commercial water supply and other uses. Where water is to be protected for more than one use under these standards, the most restrictive individual standard of designated water use applies. Also, if existing water quality is superior to the designated use requirements, it must be maintained at that level until it has been adequately demonstrated to the Michigan Water Resources Commission that the change in quality does not or will not become injurious to the public health, safety or welfare, or become injurious to any other uses being made of such waters.

Studies conducted on the White River by the Department of Environmental Quality staff, Department of Natural Resources, indicated that the quality of the waters within the White river basin meet or exceed all standards, as mentioned above, established for the river.

¹ Use Designation Areas for Michigan Intrastate Water Quality Standards published by Michigan Water Resources Commission, Bureau of Water Management, Department of Natural Resources, March 1969.

The mainstream of the White from 8-Mile Road downstream to Whitehall is approximately 70 miles in length. The river in this stretch falls six feet per mile on the average and is comparable to that of the Pere Marquette River. According to U.S. Geological Survey streamflow records, the average flow near the Muskegon County line over the last 15 years has been 389 cubic feet per second. The yearly average will vary from this figure due to variations in climate from year to year. However, hot dry years with minimal summer precipitation do not cause extreme low flows on the White. The surface geology of the area explains this fact. Surface soils (mostly sands) insure that much of the total precipitation infiltrates the soil mass and is released slowly throughout the year and maintains stream flows during dry summers.

The mainstream gains considerable groundwater from extensive glacial deposits between "the Pool" and White Cloud. The river in this area has a good gradient and ample gravel bottom for trout spawning.

Most of the tributaries (Stratton, Flinton, Five Mile and Mullen Creeks) and the mainstream above White Cloud have a mixture of bottom types composed of sand, silt and gravel which are productive enough to produce a fair quantity of trout food.

Between White Cloud and Hesperia, the White is a sizeable stream that flows first through a broad elm swamp where the bottom is mostly sand and deep holes have been gouged by countless logjams. North of Robinson Lake (Lutes Bridge) the river again flows through glacial moraines and for several miles downstream the current is moderate and the bottom type has an abundance of gravel with some larger boulders. The river then slackens and the bottom type changes to mostly sand before the river enters the impoundment at Hesperia.

Below Hesperia for eight to ten miles, the river is fairly swift and flows over a sand and gravel bottom. This stretch of river is an important area for spawning steelhead. Below Pine Point Campground to White Lake, the river has a moderate current, sandy bottom, meanders considerably and has many oxbows.

The North Branch of the White is significant enough to warrant a separate description. It rises at McClaren Lake a few miles north of Hesperia, flows west to Ferry and then south to its junction with the mainstream. Due to the influence of its headwater lakes, the North Branch has warmwater temperatures for the first four or five miles. Below this area, groundwater entering the stream cools temperatures suitable for trout. Bottom types on the North Branch in general are sandy, but fair amounts of gravel bottom are scattered throughout its length.

D. Vegetation

Tag alder and dogwood form the dominant vegetative cover along the streams. White cedar is common along the stream especially the upper portions of the White and along many of the tributaries. Vegetative cover on lands adjacent to

the mainstream and tributaries varies from lowland hardwoods in lowland sites to oak, northern hardwoods, aspen and pine on the higher sites. All except the pine are second growth, uneven-aged stands resulting from natural reproduction and selective cutting following the original logging operations. Most of the pine types are plantations established by the U.S. Forest Service on federally owned land.

E. Climate

The White River watershed is in the latitude where convergence of polar and tropical air masses create rapidly changing weather patterns. Lake Michigan, however, modifies the climate and creates generally cooler summers and milder winters than those experienced by other areas of the same general latitude. The area has an average annual precipitation of about 32 inches with a fairly uniform distribution throughout the year. Areas along the Lake Michigan shore receive more precipitation, usually in the form of snow, than the inland portions of the watershed. Average annual snowfall is 54 inches near Newaygo and 74 inches at Muskegon. The average annual temperature is 46° F with the highest monthly maximum temperature occurring in July (70° F) and the lowest monthly minimum temperature occurring in February (22° F).

F. Ownership

The White River watershed contains roughly 300,000 acres of land. Of this total, 245,000 acres are in private ownership and the remainder is in federal and state ownership. The federal acreage (roughly 54,000 acres) is all within the boundaries of the Manistee National Forest. Ownership along the mainstream from Eight Mile Road downstream to old U.S. 31 is estimated to be 81 percent private and 19 percent public. Of the roughly 70 miles of stream in this stretch of river, only 11.5 miles or 23 miles of frontage are in public ownership. The bulk of this frontage is located below Taylor Bridge.

G. Accessibility

Highway access to the White River area is good with a number of state highways connecting the area to the population areas of southern Michigan. M-20 bisects the watershed in an east-west direction and connects U.S. 31 on the west to U.S. 131, at Big Rapids on the east. M-37 crosses the eastern portion of the watershed at White Cloud and is the most direct route for the people travelling from the Grand Rapids area. U.S. 31 crosses the White near Whitehall and is the major route for recreationists coming from Indiana, Illinois and western Michigan cities. These major highways are connected by numerous county black top roads, however, there are large areas in the central portion of the watershed served only by sand roads or trails.