Maule Coulee Subwatershed

Maule Coulee (map 4) is located north of the Trempealeau River between the cities of Independence and Whitehall. Only a small part of Independence and Whitehall are in this subwatershed. Maule Coulee Creek, plus several other unnamed creeks, drain this subwatershed to the Trempealeau River. Maule Coulee contains 6,900 acres.

Water Resource Conditions

Maule Coulee Creek (Cr. 30-1, township of Lincoln, Trempealeau Co.) - is a 1.1 mile tributary of the Trempealeau River. The stream is managed as a forage fishery. The 1990 fish survey found 93 largemouth bass ranging from 1.5-2.9 inches and seven forage species. It is assumed that the bass were escapees from a farm pond upstream of the survey site. The dominant substrate type is sand with lesser amounts of gravel, silt and rubble. The stream HBI was 5.44, indicating some organic pollution, and the Habitat Rating was "fair".

Water resource problems in Maule Coulee Creek include lack of instream cover, sedimentation of the stream bottom, excessive streambank erosion and dissolved oxygen depletion due to organic loading. A diurnal dissolved oxygen survey in 1990 found a minimum D.O. concentration of 2.09 mg/L, well below the Fish and Aquatic Life water quality standard of 5.0 mg/L D.O. (see Fig. 3). In addition, a portion of the downstream area completely dried up for a short period in 1990, even though Maule Coulee Creek is shown as a perennial stream on the USGS topographical map.

The stream fishery is severely limited by low flow, excessive grazing, and animal waste from several upstream barnyards. A reduction in organic and sediment loading would be necessary to maintain a viable forage fishery.

Water Resource Objectives

The following water resource management objectives are recommended for the Maule Coulee Creek subwatershed:

1. Enhance the forage fish community in Maule Coulee Creek.

Traverse Valley Subwatershed

Traverse Valley (map 5) subwatershed is the second largest subwatershed with 14,800 acres. It is located east of the city of Independence with a small portion of Independence included in it. The Elk Creek Watershed borders to the north and the Waumandee Creek Watershed

in Buffalo County borders to the west. Traverse Valley drains the valleys of Pape, Bautch, and part of Lyga in Buffalo County, while Hunt Valley and the lower part of Lyga Valley in Trempealeau County drain to Traverse Valley Creek which empties into the Trempealeau River.

Water Resource Conditions

Traverse Valley Creek - is a 8.2 mile tributary of the Trempealeau River. The stream is managed as a Class II brook and brown trout fishery. A 1988 fish survey found 47 brown trout (7.0-18.9 inches) and 101 brook trout (3.5-12.9 inches and 11 forage species. White sucker and creek chub were the dominant forage species. The size range of brook trout indicates some natural reproduction occurs in the upstream (Buffalo County) portion. The stream is annually stocked with nine-inch brown trout. Fishing pressure is high during the first few weeks of the annual trout fishing season.

The stream substrate is primarily sand with varying amounts of gravel, rubble and silt. The upstream portion has gravel riffle areas suitable for brook trout spawning. The stream HBI was 2.45 at a downstream station and 3.70 at an upstream site, indicating a decrease in impacts from organic loading moving downstream. The stream Habitat Rating was "good" at the upstream site and "fair" at the downstream station.

Water resource problems in Traverse Valley Creek include insufficient instream cover, extreme turbidity after storm events, sedimentation of pools and riffles, and severe streambank erosion in some areas. The downstream portion is generally wide and shallow with eroding streambanks and numerous sandbars. The upstream reach was typically narrower and deeper and has some gravel riffle areas suitable for trout spawning. Several areas of the stream were previously ditched.

Temperature was generally not limiting to trout in the upper one-third of the stream during summer 1990. Continuous temperature monitoring in Traverse Valley Creek found temperatures within the optimal range for growth and survival of brown trout (Fig. 4). Water temperatures exceeded the optimal temperature for brown trout growth approximately 2% of the time during the survey.

Land use in the subwatershed is primarily dairy farming, and the stream is significantly impacted by cattle grazing on streambanks and cropland runoff. Barnyards on the mainstem and several tributaries are contributing organic loading to the stream. Corn planted in close proximity to the streambanks is a likely source of sediment and pesticide loading.

Traverse Valley Creek has considerable potential for improvement of the trout fishery with implementation of BMPs. Brook trout reproduction could be improved in the upstream portion by controlling sediment and organic loading to the stream. Carryover of adult trout could be improved throughout the stream by improving instream habitat and reducing nonpoint source loading.