

Summary of Wild Rice River Watershed Monitoring and Assessment Report



Why is it important?

The watershed drains a total of 1,636 square miles across six counties: Becker, Clay, Mahnommen, Norman, Clearwater, and Polk. Eighty percent of the lakes in the watershed are located in the headwaters region in the eastern region of the watershed while the western region of the watershed has very few lakes. However, throughout the watershed there are many streams and small tributaries flowing into the Wild Rice River.

Although several impairments were found in the watershed, the Wild Rice River Watershed provides some of the best habitat for fish, aquatic insects, and other aquatic life in the larger Red River Basin. The good habitat is typically found in the headwaters region of the river in the eastern portion of the watershed. Much of the landscape in this region remains mostly natural and has not been altered since this area is not ideally suited for farming.

The natural portions of the Wild Rice River support a diverse biological community, home to more than 62 fish species and 300 macroinvertebrate species (aquatic insects such as mayfly and dragonfly larvae).

Protecting healthy portions of the watershed will be as important as addressing the impairments that threaten other areas within the watershed.

Key issues

Although the headwaters region in the east lacks ideal conditions for farming, other portions of the watershed present much better conditions and extensive ditch/drainage networks were developed. These alterations often create conditions that impact aquatic life. Ditches and control structures such as culverts pose barriers to fish passage/spawning.

Extensive drainage increases flows, and hence erosion and turbidity during spring runoff and rain events, and contributes to not enough flows during other periods. This lack of a good "base flow" stresses fish and aquatic insects.

The headwaters region has many lakes that support a healthy fish community and recreation. Protecting these areas is key, by keeping forested and wetland areas intact, and working with shoreland owners to protect shore habitat.

Highlights of report

In general, the headwaters region remains natural with excellent habitat. Altered portions further west have poor habitat and excessive sedimentation.

Only 51% of streams studied fully support aquatic life (fish and aquatic insect communities). The main contributors to the aquatic life impairments include habitat degradation, inadequate flow, and total suspended solids/turbidity from erosion/runoff from nearby fields as well as from the streambank and streambed during high-flow periods in the spring and from summer heavy rain events.

Only 23% of streams supported recreation (swimming).

In addition to the aquatic life impairments, 15 river reaches (including sections of the Wild Rice River) will be listed for *E. coli* bacteria, a type of bacteria that poses a health threat to people. The headwater areas of the Wild Rice sometimes exceed the standards for bacteria, but overall the new listings are concentrated in the central and western portions of the watershed.

Drainage ditch systems are meant to drain the land as quickly as possible, which can lead to lack of water in streams during drought periods. The lack of base flow is a major source of stress on fish and aquatic insect communities. During dryer periods when there is little or no flow, critical habitat may not be submerged, dissolved oxygen is subject to extreme fluctuations, and water temperatures can soar.

High turbidity and total suspended solids (soil from field runoff and in-stream/bank erosion) increase in western portions of the watershed. Too much sediment can cover stream bottom areas that might otherwise provide good spawning conditions for fish and aquatic insects.

Nearly all lakes assessed in the watershed (11 of 13) supported recreational use.

Actions that can protect/promote a higher species diversity include:

- Restore flow patterns that naturally reduce peak flows and increase base flow
- Create/strengthen buffers along streams and ditches using native vegetation.

About this report

Minnesota has adopted a “watershed approach” to address the state’s 80 major watersheds. This approach incorporates water quality assessment, watershed analysis, civic engagement, planning, implementation, and measuring results into a 10-year cycle that addresses both restoration and protection.

Waters not meeting state standards are still listed as impaired and Total Maximum Daily Load studies are performed as they have been in the past, but in addition the watershed approach includes a more cost-effective and comprehensive assessment of the watershed’s overall health. A key aspect of this effort is to develop and utilize watershed-scale models and other tools to help state agencies, local governments and other watershed stakeholders determine how to best proceed with restoring and protecting lakes and streams. This report summarizes past assessment and diagnostic work and outlines ways to prioritize actions and implement strategies. This is phase one of a four phase process outlined at right.

Watershed Approach

Phase 1: Monitor and assess health of waters

Phase 2: Identify conditions stressing biological life

Phase 3: Determine maximum pollutant loads

Phase 4: Determine Watershed Restoration and Protection Strategies

Start process over every 10 years



Full report

To view the full, report visit the Wild Rice River Watershed page on our website.

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