

# Des Moines River Watershed Monitoring and Assessment Report Summary



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## Why is it important?

Overall poor water quality in the Des Moines River affects not only recreational use and general quality of life in southwestern Minnesota. As a headwaters the impacts flow downstream into Iowa, where the city of Des Moines faces high costs of treating drinking water.

The Des Moines, East Fork Des Moines, and Lower Des Moines drain a total of 1,559 square miles in seven Minnesota counties (Cottonwood, Jackson, Martin, Murray, Nobles, Lyon, and Pipestone). Intensive agricultural land use has drastically changed the landscape and the water quality of these watersheds. Only a small percentage of land is undeveloped forest and wetlands and only 1% is open water (lakes, rivers, streams, ditches).

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## Key issues

Water quality issues include bacteria, sediment, and poor habitat. High levels of bacteria, sometimes incredibly high, are widespread across the basin making the water unsuitable for swimming and other aquatic recreation. High turbidity – cloudy or murky water – creates poor habitat observed across many biological stations. Soil erosion from adjacent land use results in high sediment and turbidity levels.

The variety and health of aquatic life suffer from pollutants. Macroinvertebrate (insects, bugs) and fish communities are equally poor throughout the basin, except for Beaver Creek Watershed where the presence of macroinvertebrates is much healthier.

Unstable streambanks release high amounts of sediment, and along with poor in-stream habitat, reduce the health and variety of aquatic life. High nutrient levels, which fuel algae growth, are also likely to be influencing fish and bug communities, as seen in other watersheds across southern Minnesota. Fish tissue samples from the Des Moines River Headwaters and Lower Des Moines analyzed for mercury show both impaired for aquatic consumption, meaning limits on how much fish to eat.

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## About the study

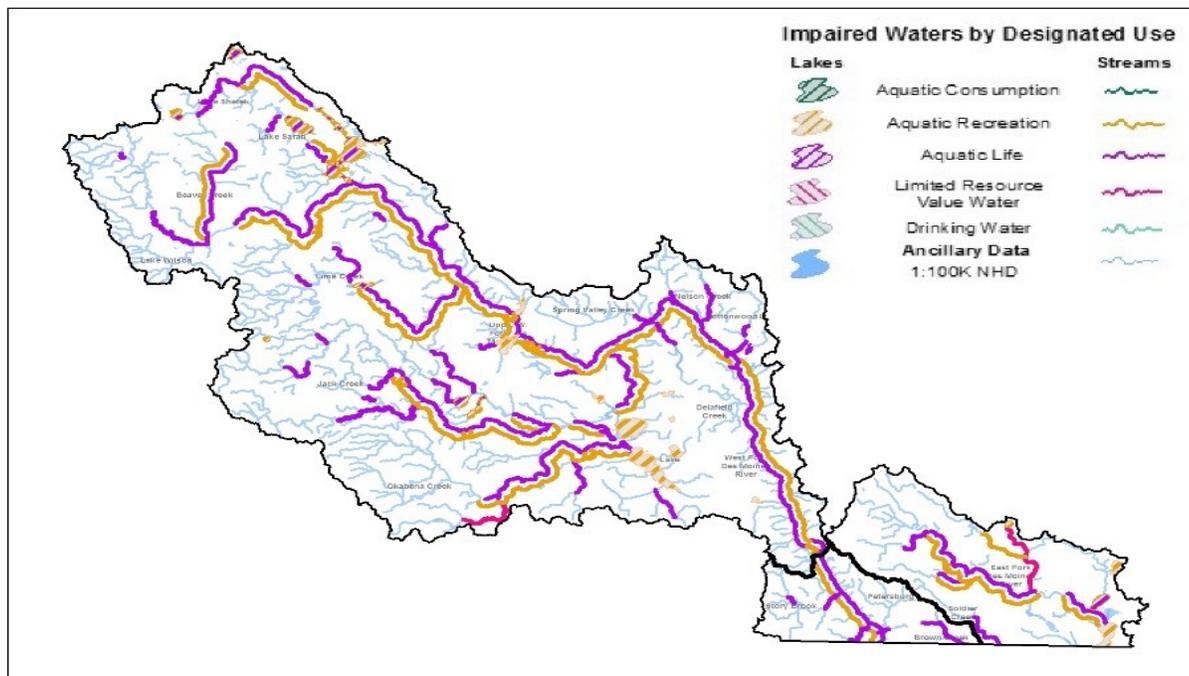
As part of its watershed approach to examine all major river systems in Minnesota, the Minnesota Pollution Control Agency and local partners conducted intensive water monitoring in the Des Moines Rivers Watersheds in Minnesota beginning in the summer of 2014. This report provides a summary of all water quality assessment results and incorporates all data available for the assessment process including watershed monitoring, volunteer monitoring and monitoring conducted by local government.

Monitoring indicates that water quality in 9% of streams examined support aquatic life, and 7% of streams examined fully support aquatic recreation. Water quality in 60 stream sections does not support aquatic life. Those that do not fully support standards are considered impaired.

## Monitoring information

Aquatic life impairments are widespread due to a number of water chemistry impairments determined from monitoring: Turbidity (19), low dissolved oxygen (3), chloride (1), pH (1), eutrophication (3), and ammonia (1).

Of a total 134 lakes greater than 10 acres, 31 were assessed for the above impairments. Only two, First Fulda Lake and Second Fulda Lake, supported aquatic recreation. Ten lakes were not supporting the aquatic life, and 19 were not supporting aquatic recreation.



## Recommendations

Nonpoint source pollution – stormwater runoff from streets and fields, failing septics, etc. – is negatively affecting immediate and downstream designated uses of aquatic life, recreation, consumption, and drinking water. Action is needed to reduce land use impacts on waters in the Des Moines River Basin.

Improvements in water quality should target nonpoint sources of pollution, such as stormwater runoff, cropland drainage, livestock manure, and septic systems. The Watershed Restoration and Protection Strategy will include Best Management Practices targeting landscape areas known to impact water quality.

## Full report

A copy of the full report is available on the Des Moines River Watershed webpage: <https://www.pca.state.mn.us/water/watersheds/des-moines-river-headwaters>.

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