

MINNESOTA RIVER RECOMMENDATIONS

Progress in improving, restoring and protecting water quality in the Minnesota River basin has been made; however, effort needs to continue at all levels – both large and small. Citizens are leading and helping with city cleanups to reduce stormwater runoff. Nonprofit organizations, such as Clean Up the River Environment (CURE), Coalition for a Clean Minnesota River (CCMR) and Friends of the Minnesota Valley have been assisting communities and citizens with river clean-ups, voicing water quality concerns to both state and national legislators and securing grant funds to protect our water resources. Farmers of all sizes have utilized the latest technology to install Best Management Practices, switch to rotational grazing, and retire marginal farmland for permanent buffers. Government agencies have collaborated with many partners to provide funding, technical assistance and leadership on water quality monitoring, conservation practices and research involving impaired waters, aquatic and terrestrial organisms. Ultimately, everyone has a role in this effort to create and maintain a healthier natural environment. The *Mankato Free Press* spelled it out by stating it is important to share resources, work together, and develop some type of public report card. Numerous reports have come out identifying a wide range of recommendations to improve water quality in the Minnesota River Basin. Below, we organized recommendations from major Minnesota River Reports by themes.

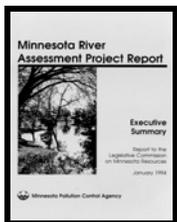
Each publication referenced is shown graphically on the left. For more information about the reports, please see pages 193-194.

Conservation Practices



- ✓ Restore floodplain and riparian areas to its natural purpose. Vegetative buffers along river banks should be reestablished along all of the Minnesota River's major tributaries. Special attention should be given to connecting riparian areas to non-riparian natural areas to create wildlife corridors.

- ✓ Restore wetlands by purchasing perpetual easements on lands that will be inexpensive to restore, offer the biggest "return" for pollution reduction, water retention and habitat restoration, and that landowners want to restore.
- ✓ Improve land management practices by providing more financial incentives for whole-farm resource planning, and in cases where voluntary compliance is not working, we must establish mandatory land-use practices.



- ✓ Reduce phosphorus and nitrogen through agricultural best management practices, feedlot runoff control, septic system upgrades, and control of inadequately treated point sources.

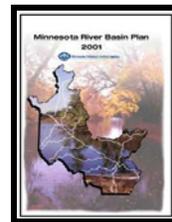
- ✓ Restore wetlands in carefully selected locations to settle solids, remove nutrients, and reduce peak flows, thereby protecting stream banks.



- ✓ Where practical, work with local water managers to develop projects that divert runoff and streamflow through riparian floodplains to limit and treat excessive erosion.

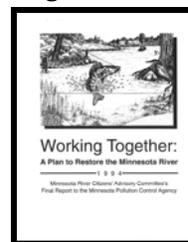
- ✓ Increase the percentage of row-crop acres under conservation tillage.

Stormwater Protection



- ✓ Implement the Phase II Storm Water NPDES Permit Program and work with communities (cities and counties) in developing their storm water programs to reduce sediment loading from urbanized areas.

Regulations and Enforcement



- ✓ Manage drainage ditches and storm sewers as tributaries. We must revise the state drainage code to weigh the environmental costs against the economic benefits of ditch projects, and we must require treatment of all urban storm water before it is discharged into natural bodies of water.
- ✓ Enforce existing laws. A strengthened and coordinated system of enforcing existing environmental laws is needed at both the state and local levels. A conference on enforcement to develop a thorough assessment of enforcement problems should be convened. Additional resources will be needed to train enforcement staff. We should appoint a Minnesota River ombudsperson who will act to ensure that violators of the law are prosecuted. And the Office of the Legislative Auditor should conduct periodic audits of state and local governments charged with enforcement activities.



- ✓ Enforce existing laws – ISTS laws prohibiting discharges to surface water and require regular maintenance, rules governing the rate and location of livestock manure application to fields, rules governing abatement of runoff to waters from open feedlots, and rules requiring point source discharges to limit phosphorus discharges to 1 milligram per liter.

- ✓ Enforce existing drainage law – maintenance of a permanent 16 ½ foot grass strip along all drainage ditches in the State; Specific consideration by drainage authorities of impacts on water quality, fish, and wildlife resources, shallow groundwater impacts, and overall environmental impacts before establishing or improving drainage systems; environmental review when drainage work has the potential for significant environmental effects; and meeting the tests that drainage project benefits must exceed costs and that benefited landowners are not assessed costs that exceed their actual benefits



- ✓ Work with counties to accelerate ISTS compliance through adoption of new ordinances (e.g. adding inspection triggers such as property transfer and adding and enforcing stronger compliance language.

Partnerships and Collaborations



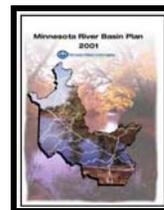
- ✓ Establish local joint powers agreements. The strategies used to accomplish the goals of the Citizens' Advisory Committee and Minnesota River Assessment Project should be developed and managed at the local level. The counties and other units of government within each of the 12 major watersheds in the Minnesota River basin should establish joint powers agreements which allow them to collaborate and share responsibilities for improving the water quality in their particular watershed.

- ✓ Improve technical assistance to local governments. State government, through its agencies and university system, has an obligation to guide local governments in building the expertise that is needed to successfully implement water cleanup projects. Guidance is needed in a number of areas, such as designing surface water monitoring networks, establishing water quality goals, training in the use of Geographical Information Systems, creating design standards for pollution abatement measures, and interpreting research findings.



- ✓ The legislature should establish and fund a Minnesota River Commission, as recommended by the Citizens Advisory Committee. Comprised of agency representatives, citizens, Dakota representatives, and local organizations, the Commission's duties should be to: set priorities; establish an overall implementation plan (including but not limited to the Minnesota River Basin Plan prepared by the MPCA); report biennially on plan progress; direct use of all state resources; speak for the state regarding use of federal resources; and establish and oversee a compatible water quality monitoring program useful for both water quality assessments and long-term trends analysis.

- ✓ The Natural Resource Conservation Service, Soil and Water Conservation Districts, soil and water researchers, natural resource and pollution control specialists, local and state policymakers, and conservation and sustainable agriculture groups need to work together to insure that all agricultural subsidy programs intended for environmental improvement be targeted



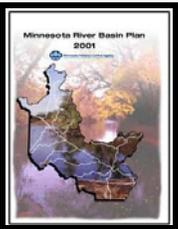
- ✓ Establish a Basin team through the Minnesota River Basin Joint Powers Board to deal with the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force Hypoxia Action Plan in the Minnesota River Basin.
- ✓ Work with other agencies and organizations to assist watershed partnership teams with (1). Identification of water quality problems and the prioritization of water resources of concern, (2). Identification of water quality indicators (biological, physical, and chemical) and measurable targets for indicators, (3). Assessments of sources of pollutants, (4). Identifying linkages

between sources of pollutants and measurable targets, (5). The determination of loading allocations and reductions needed to meet water quality goals, (6). The development of implementation plans, and (7). Implementation activities as needed. Involve Minnesota River Basin Data Center.

Education and Information Outreach



- ✓ Engage the general public. Within each of the 12 major watersheds, citizens should be involved in developing shared visions of social, economic, and environmental health. The emphasis should be on encouraging citizen participation. Existing information exchange and peer support networks will be utilized and supplemented as necessary.



- ✓ Continue educational focus on pollutants of concern identified in the MRAP including bacteria, phosphorus, sediment, nutrients, and oxygen demanding materials. Identify one pollutant or issue annually as a target, develop educational materials/programs around issue. Work in cooperation with other agencies and organizations, such as the Minnesota River Basin Data Center and Minnesota River Basin Joint Powers Board (MRB).
- ✓ Support Rivers Curriculum in an effort to include water quality information in the classroom.
- ✓ Develop materials to provide communities with useful information on more environmentally sound development patterns.
- ✓ Plan and coordinate a Minnesota River Summer Conference.

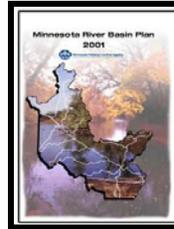
Water Quality Monitoring



- ✓ Monitor water quality throughout the Minnesota River Basin. To establish a permanent and state-of-the-art monitoring network and stations on all the major tributary outlets and throughout the watersheds. All data gathered should be housed in an academic institution and made readily available to the public.

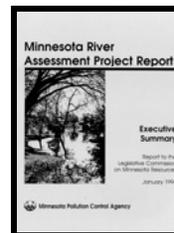


- ✓ An appropriate water quality monitoring program for drainage system discharges should be developed, perhaps as a pilot project in the heavily drainage-impacted Greater Blue Earth River basin.



- ✓ Create an official multi-agency task force operating as a subcommittee of the Minnesota River Basin Joint Powers Board to coordinate the development and implementation of the Basin monitoring strategy and an ensuing long-term physical, chemical, and hydrologic monitoring plan.
- ✓ Promote and expand the Citizen Stream-Monitoring Program to enhance volunteer stream monitoring at the basin, major watershed, and minor watershed scales.
- ✓ Support other (non-MPCA) volunteer monitoring efforts in the Basin by providing technical support.
- ✓ Develop a macroinvertebrate multimetric index for the Minnesota River Basin and validate the fish index of biotic integrity (IBI) developed during Minnesota River Assessment Project.

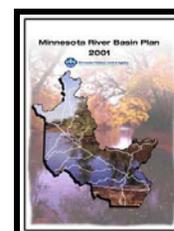
Water Quality Standards



- ✓ Establish a phosphorus standard for the Minnesota River basin.



- ✓ All point source discharges of phosphorus in the Minnesota River basin should be required to meet a one milligram per liter phosphorus limit.



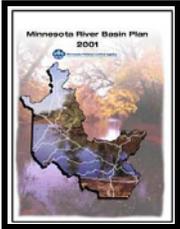
- ✓ Develop stream criteria for turbidity and suspended sediment concentrations throughout the Basin for high, medium and low flows.

Research and Studies



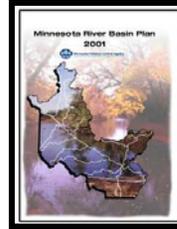
- ✓ Develop and use computer models to characterize and predict pollutant loads and water quality responses.
- ✓ Promote the research on the effects of surface tile intake management on water quality.
- ✓ Promote research for improved assessment including measurement or estimation of sediment loads coming from stream bluff and bank erosion in the Minnesota River main stem and its major tributaries.
- ✓ Promote research on deep aquifer recharge. Deep aquifer recharge is an issue during drought conditions. Promote studies to delineate and quantify useable ground water supplies, especially in southwest Minnesota.
- ✓ Determine people's attitudes on the Minnesota River. Work with other organizations to identify current information on social attitudes.

Evaluation



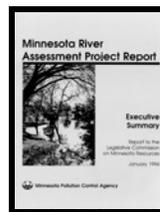
- ✓ Incorporate monitoring of additional sites for use in problem investigation and/or effectiveness monitoring. Efforts will be made to partner with watershed or stream restoration projects currently underway.
- ✓ Measure the change in sediment delivery in terms of load and concentration due to implementation activities.
- ✓ Track the implementation of riparian corridors and flood plain area practices.
- ✓ Incorporate monitoring of additional sites for use in problem investigation and/or effectiveness monitoring. Efforts will be made to partner with watershed or stream restoration projects currently underway.
- ✓ Generate and publish an annual "State of the Minnesota River" report documenting annual monitoring results and long-term trends as a means of establishing a baseline for assessing trends.
- ✓ Begin measuring nitrate-nitrogen concentrations in point source effluent.

Funding



- ✓ Utilize funding sources in addition to assessments on benefited landowners to construct drainage systems designed (or redesigned) to improve water quality. Among the key sources to consider are the tiered payments to farmers under the new Conservation Security Program of the 2002 Farm Bill.
- ✓ Seek better coordination of multi-agency funding. Work with Minnesota River Basin Joint Powers Board (MRJPB) and other agencies and organizations to develop a five-year multi-agency plan for financial support for critical activities.
- ✓ Maintain a stable level of funding by the MPCA for the Basin as well as from other state and federal agencies for implementing of state programs in the Minnesota River Basin and for priority in statewide project funding.
- ✓ Provide funding for continued assessment, planning and evaluation.
- ✓ Fund the highest priority local projects both strategically and environmentally.

Coordination and Planning



- ✓ Strategies should be set to meet a 10-year goal for addressing pollution in the basin. Watersheds should be prioritized so that resources can be used to address critical problems first.
- ✓ Key stakeholders should be convened to develop and disseminate consistent guidance to local authorities, state agencies, and the public on environmental considerations in decision-making for drainage improvement and repair projects.
- ✓ Provide clear information on state and national priorities to local resource managers so that where possible, they may coordinate a "win-win-win" approach so that projects are identified that have benefits to the implementor, as well as meet local, regional and national water quality goals.