2022 Clean Water Fund Report Card

Minnesotans care deeply about the state's natural resources and cultural heritage. In 2008, we voted to increase our sales tax and pass the Clean Water, Land and Legacy Amendment, providing 25 years of constitutionally dedicated funding for clean water, habitat, parks and trails, and the arts.

The following report card highlights work done using Clean Water, Land and Legacy Amendment dollars for Minnesota's many water resources. The Report Card tracks a suite of performance measures that are described in the full report that follows. It provides a qualitative assessment of how well actions are being implemented and what outcomes are being achieved.

Measures are scored according to their status as of the end of fiscal year 2021 (FY21) and for their trend over time. Scores were developed using data-informed professional judgment of agency technical staff and managers. The legend shows the symbols used to describe how measures were scored.

Action status legend

Symbol	Meaning
	We are making good progress/ meeting the target
	We anticipate difficulty; it is too early to assess; or there is too much variability across regions to assess
	Progress is slow/we are not meeting the target; or the activity or target is not commensurate with the scope of the problems

Outcome status legend

Symbol	Meaning
	Water quality is high – we are on track to meet long-term water resource needs and citizen expectations
	Water quality needs improvement or it is too early to assess – it is unclear if we will meet long-term water resource needs and citizen expectations; and/or water quality varies greatly between regions
	Water quality is under intense pressure – long-term water resource needs and/or citizen expectations exceed current efforts to meet them

Trend legend

Symbol	Meaning
	Improving trend
	No change
	Declining trend
NEI	Not enough information to determine trend at this time

Investment measures

INVESTMENTS

Measure	Status	Trend	Description
Total Clean Water Fund dollars appropriated by activity	$1.2B has been appropriated to the Clean Water Fund from FY10-21, ranging from $157M in FY 10-11 to $261M in FY 20-21.	FY 16-17: $228M FY 18-19: $212M FY 20-21:$261M FY 22-23: $257M	For FY10-21, all 80 watersheds benefited from Clean Water Fund supported activities. Implementation activities comprise the largest portion of spending in watersheds statewide.
Total Clean Water Fund dollars per watershed or statewide by activity	All watersheds in the state are benefiting from local and statewide projects.		For FY10-19, all 80 watersheds benefited from Clean Water Fund supported activities. Implementation activities comprise the largest portion of spending in watersheds statewide.
Total Clean Water Fund dollars awarded in grants and contracts to non-state agency partners	$625M was awarded in grants and contracts to non-state agency partners in FY10-21.		About 83% of grant and contract awards are for implementation activities; 42% of total FY10-21 appropriations were awarded to non-state agency partners.
Total dollars leveraged by Clean Water Fund	$492M was leveraged by Clean Water Funds in FY10-21, or $1.09 for every implementation dollar invested.		Required Clean Water match funds were exceeded.

Surface Water Measures

ACTION

Measure	Status	Trend	Description
Percent of monitoring addressing state & local needs			Nearly 40% of watersheds met goals for addressing state and local needs for monitoring. Ongoing program development is aimed to ensure local needs are identified for monitoring.
Local partner participation in monitoring efforts			As of 2021, all programs are meeting participatory goals.
Number of nonpoint source best management practices implemented with Clean Water Funding and estimated pollutant load reductions			Although funding has increased and there is a continued increase in practices and projects being implemented, the total request for projects has remained significantly greater than available funds.
Number of municipal point source construction projects implemented with Clean Water Funding and estimated pollutant load reductions			Pace of awards is linked to permit cycles, compliance schedules, and available Clean Water Funds. Applications exceed currently available funds even after significant infusion of bond funds over the past several cycles.

OUTCOME

Measure	Status	Trend	Description
Rate of impairment/unimpairment of surface water statewide and by watershed: Stream aquatic life		NEI	Water quality varies greatly by region. In general, good water quality remains where land is intact; where considerable alteration has occurred, water quality is poor.
Rate of impairment/unimpairment of surface water statewide and by watershed: Stream swimming		NEI	Water quality varies greatly by region. In general, good water quality remains where land is intact; where considerable alteration has occurred, water quality is poor.
Rate of impairment/unimpairment of surface water statewide and by watershed: Lake swimming		NEI	Water quality varies greatly by region. In general, good water quality remains where land is intact; where considerable alteration has occurred, water quality is poor.
Changes over time in key water quality parameters for lakes and streams: Lake clarity		NEI	There are improving trends in lake water clarity in more lakes than not.
Changes over time in key water quality parameters for lakes and streams: Sediment in large rivers		NEI	There are more improving trends than declining trends in total suspended solids.
Changes over time in key water quality parameters for lakes and streams: Nitrate in large rivers			Nitrate concentrations are increasing in major rivers.
Changes over time in key water quality parameters for lakes and streams: Phosphorus in large rivers		NEI	There are more improving trends than declining trends in phosphorus.
Changes over time in key water quality parameters for lakes and streams: Pesticides in streams			Detections in streams vary greatly as a result of hydrologic and agronomic conditions; exceedances of pesticide water quality standards are rare. Some "surface water pesticides of concern" are showing increasing detection frequency and concentrations.
Changes over time in key water quality parameters for lakes and streams: Pesticides in lakes			With the exception of detecting chlorpyrifos in two lakes, pesticide detections have been low relative to water quality reference values and generally stable since 2007.
Changes over time in key water quality parameters for lakes and streams: Chloride in streams and rivers			Concentrations are increasing in almost all metro area rivers and streams.
Number of previous impairments now meeting water quality standards due to corrective actions			Although many projects are making progress in improving water quality, more waterbodies are being listed as impaired relative to the slower rate of waterbodies being restored.
Mercury in fish			Mercury in game fish is not yet responding to decreases in local mercury emissions, although these reductions likely have prevented a steeper upward trend. Global emissions have increased. The time lag between emission reductions and response is likely several decades. It is too soon to see a measurable response in fish mercury levels. Long-term and consistent monitoring is necessary to track changes in fish tissue.
Mercury emissions			Significant progress has been made reducing mercury emissions from power plants. Emissions from mercury use in various products saw a decrease for the 2020 emission inventory. Conversely, emission from the mining sector have remained relatively steady since 2017. To meet our 2025 emissions goal, significant reduction of mercury emission from the mining sector and further reduction of mercury use in various products will be necessary.
Municipal wastewater phosphorus discharge trend			Significant phosphorus load reductions have been achieved through regulatory policy, infrastructure investments, improved technology, and optimization of operations.

Drinking water and groundwater measures

ACTION

Measure	Status	Trend	Description
Number of community water supplies assisted with developing source water protection plans			On track to meet goal of protecting all vulnerable systems under Source Water Protection Plans by 2020.
Number of grants awarded for source water protection			Increasing funds accelerate implementation of proven strategies for source water protection.
Number of local government partners participating in groundwater nitrate-nitrogen monitoring and reduction activities			New partnerships continue to be established for nitrate-nitrogen monitoring and reduction activities.
Number of new health-based guidance values for contaminants of emerging concern			Did not meet target for FY 18-19. On track to meet goal of 10 guidance values developed next biennium.
Number of counties completing a county geologic atlas for groundwater sustainability			County atlases (including the geologic & groundwater atlases) are being completed at the planned rate, and counties continue to step up to participate. With continued and consistent funding, completion of geologic atlases for all counties is expected around 2035, and completion of groundwater atlases for all counties around 2040.
Number of long-term groundwater monitoring network wells			Many areas of the state still lack important groundwater information. Long-term ramp up in monitoring accelerated by Clean Water Fund investments is filling gaps.
Number of unused groundwater wells sealed			FY18 funding was awarded to seven public water-suppliers to assist in sealing 17 unused wells. FY 19 funding was awarded to nine local government units to assist in sealing over 300 private unused wells.
Land use in Drinking Water Supply Management Areas			There is increasing research, engagement and activity to protect vulnerable areas in DWSMAs.

OUTCOME

Measure	Status		Description
Changes over time in pesticides, nitrate-nitrogen, and other key water quality parameters in groundwater: Pesticides			Variable trends for five common pesticides indicate a mixed signal. Low levels are frequently detected in vulnerable groundwater.
Changes over time in pesticides, nitrate-nitrogen, and other key water quality parameters in groundwater: Nitrate-nitrogen statewide		NEI	In many agricultural areas, drinking water supplies are not vulnerable to surficial contamination and most wells have low levels of nitrate-nitrogen. However, in vulnerable groundwater areas (the southeast, Central Sands and southwest), nitrate contamination is a significant concern.
Changes over time in pesticides, nitrate-nitrogen, and other water quality parameters in groundwater: Nitrate-nitrogen southwest region		NEI	In areas where groundwater is vulnerable, nitrate levels can be high. Of the 21 vulnerable townships tested in southwest Minnesota (2013-2018), 100% of them were determined to have 10% or more of the wells over the nitrate-nitrogen 10 mg/L standard.
Changes over time in pesticides, nitrate-nitrogen, and other key water quality parameters in groundwater: Nitrate-nitrogen Central Sands			Trend data from the Central Sands Private Well Network shows a slight downward trend in the 90th percentile . However, township testing data show a high level of nitrate in some vulnerable aquifers in the Central Sands.
Changes over time in pesticides, nitrate-nitrogen, and other key water quality parameters in groundwater: Nitrate-nitrogen southeast region			Trend data from the Southeast Minnesota Volunteer Nitrate Monitoring Network shows no change. However, township testing data show a high level of nitrate in some vulnerable areas in southeast Minnesota.
Changes over time in source water quality used for community water supplies		NEI	Identifying correlations between drinking water contaminants is a significant step in trend analysis of source water quality.
Nitrate concentrations in newly constructed wells			Since 1992, there has been a general increase in the percent of new wells that have nitrate levels above the drinking water standard.
Arsenic concentrations in newly constructed wells			The percentage of wells with arsenic above the drinking water standard has remained steady over the past 10 years. Evaluation of ways to reduce this percentage is ongoing and may take years before significant progress is made.
Changes over time in groundwater levels			Most observation wells show no signficant change or an upward trend; many areas of the state lack important groundwater information while some areas experience declines.
Changes over time in total and per capita water use			There has been a slight improvement in water efficiency in recent years, although continued tracking is needed to determine the amount of impact from annual difference in weather versus changes in management.

Social measures and external drivers

DRIVERS

Measure	Status	Trend	Description
Social measures		NEI	In recent years, state agencies have developed and piloted the Social Measures Monitoring System — integrating social science into Clean Water Fund projects.
External drivers			The external drivers identified continue to alter land-water interactions across Minnesota, impacting how Clean Water Funds need to be invested.