



# Clean Water Fund Report: Highlights in the 4th Edition

## Tracking spending patterns

- Legislative appropriations of Clean Water Funds focused on implementation activities and drinking water protection have increased over time, spending on monitoring/assessment and the development of watershed restoration and protection plans has remained constant (p. 10);
- When spending is tracked by watershed, a broad-based pattern across the state is seen, with project implementation funding, in particular, more concentrated in watersheds with significant water quality challenges (p. 12);
- Projects implemented with Clean Waters Funds continue to leverage substantial amounts of matching funds from local and federal sources (p. 14).

## Expanding information and resources to guide local planning and implementation efforts

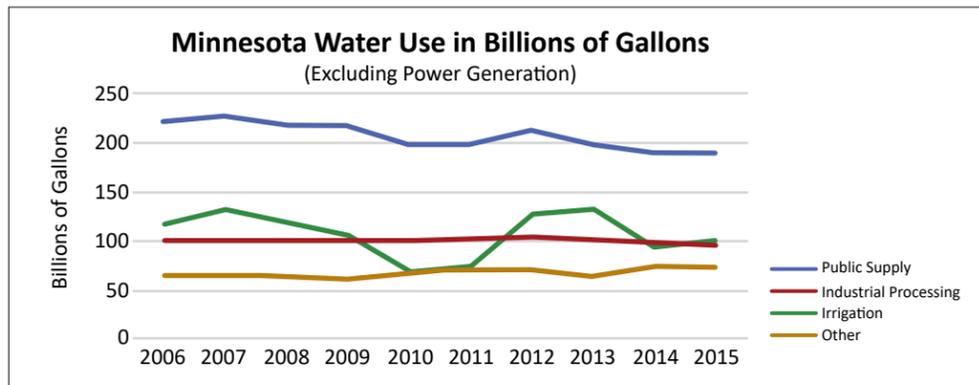
- MPCA's initial comprehensive assessment of all of the state's watersheds is on schedule to be completed in 2018 (p. 16);
- Public water suppliers have increased their source water protection efforts using Clean Water grant funds and technical assistance provided by MDH (pp. 36 & 38);
- More information on status of the state's groundwater resources (nitrate, arsenic, chloride, and pesticide concentrations, and trends in ground-water levels) is being organized and provided to local communities and land-owners to guide their decisions (pp. 39, 50, 56, & 58).

## Reducing pollutants and documenting successes

- Clean Water Fund supported wastewater construction projects (p. 23) and nonpoint source BMP implementation efforts (p. 21) are each reducing the amount of phosphorus entering the state's waters by an estimated 100,000 pounds or more per year;
- Minnesota continues to make progress towards reaching its goal of a 93 percent reduction in air emissions of mercury (p. 31);
- Clean-up efforts have now allowed 46 lakes and streams to be taken off Minnesota's list of impaired waters (p. 29).

## A new measure – Water Efficiency

- A new measure focused on statewide and per-person water use was added to the 2018 report (p. 60).



# 2018 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.

The legend shows the symbols used to describe how measures were scored. Measures are scored according to their status as of the end of fiscal year 2017 (FY17) and for their trend over time. Scores were developed using data-informed professional judgment of agency technical staff and managers.

## Report Card Legend

Action Status Scores	
	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 Scores	
	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	
	Improving trend
	No change
	Declining trend





# Clean Water Fund Report Card

	MEASURE	STATUS	TREND	DESCRIPTION
<b>INVESTMENTS</b>	<b>INVESTMENT MEASURES</b>			
	Total Clean Water Fund dollars appropriated by activity	FY10-11: \$152.2M FY12-13: \$179.4M	FY14-15: \$182.5M FY16-17: \$228.3M FY18-19: 201.4M	Appropriation levels will vary by biennium and the strength of the economy. FY10-17 funds have been allocated, while FY 18-19 allocations are in progress.
	Total Clean Water Fund dollars per watershed or statewide by activity	Most watersheds in the state are benefiting from local and statewide projects.		For FY10-17, 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	\$361M was awarded in grants and contracts to non-state agency partners in FY10-17.		About 81 percent of grant and contract awards are for implementation activities; 48 percent of total FY10-17 appropriations were awarded to non-state agency partners.
	Total dollars leveraged by Clean Water Fund	\$199M was leveraged by Clean Water Funds in FY10-17, or 73 cents for every implementation dollar invested.		Required Clean Water match funds were met and exceeded.
<b>ACTION</b>	<b>SURFACE WATER MEASURES</b>			
	Percent of major watersheds intensively monitored through the watershed approach	●	➔	Steady progress is being made at the pace set in 2008.
	Local partner participation in monitoring efforts	●	➔	As of 2017; 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 three times greater than available funds.
	Number of municipal point source construction projects implemented with Clean Water Funding and estimated pollutant load reductions	●	➔	Total applications for eligible projects is twice the amount of funds available.
	Rate of impairment/unimpairment of surface water statewide and by watershed	Stream/lake swimming ▲ Stream aquatic life ▲	Not enough information for a trend determination at this time.	Water quality varies greatly by region. Watersheds yet to be assessed will influence the statewide impairment/unimpairment rate. It is unclear whether long-term goals will be met.
	Changes over time in key water quality parameters for lakes and streams	Lake clarity ●	Not enough information for a trend determination at this time.	There are improving trends in lake water clarity in more lakes than not.
		Nutrients and sediment in large rivers ▲		In general, concentrations in phosphorus and sediment are declining while nitrates are increasing in surface water.
		Pesticides in streams ▲		Detections in streams vary greatly as a result of hydrologic and agronomic conditions; concentrations above water quality standards are rare.
		Pesticides in lakes ▲		Detections in lakes vary by region; detections in lakes have been well below water quality standards.
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 and is expected from the mining sector. To meet Minnesota's 2025 emissions goal, 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 and improved technology.	

	MEASURE	STATUS	TREND	DESCRIPTION	
<b>ACTION</b>	<b>DRINKING AND GROUNDWATER MEASURES</b>				
	Number of community water supplies assisted with developing source water protection plans	■	➔	It will be difficult to meet the 2020 goal for vulnerable systems because of competing demands for plan development resources.	
	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 local partnerships continue to be established for nitrate-nitrogen monitoring and reduction activities.	
	Number of new health-based guidance values for contaminants of emerging concern	●	➔	Met target for FY 16-17. On track to meet goal of ten guidance values developed each biennium.	
	Number of counties completing a county geologic atlas for groundwater sustainability	●	➔	Significant progress has been made completing county geologic atlases and the rate of completion has increased. Counties continue to step up to participate. Substantial work remains before all counties in Minnesota are done.	
	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	●	➔	FY16 funding was awarded to seven public water-suppliers to assist in sealing nine unused wells. FY17 funding was awarded to six local government units to assist in sealing over 200 private unused wells.	
	<b>OUTCOME</b>	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
			Nitrate-Nitrogen statewide ▲		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, nitrate contamination is a significant concern.
Nitrate-Nitrogen southwest region ■			No trend information available. Most agricultural areas in southwest do not have vulnerable groundwater. In areas where groundwater is vulnerable, nitrate levels can be high. Of the 11 vulnerable townships tested in southwest Minnesota (2013-2016), 100% of them were determined to have 10% or more of the wells over the nitrate-N 10 PPM standard.		
Nitrate-Nitrogen Central Sands ■			➔ Trend data from the Central Sands Private Well Network shows no change. However, Township Testing data show a high level of nitrate in some vulnerable aquifers in the Central Sands. Of the 119 vulnerable townships tested (2013-2016), 29% of them were determined to have 10% or more of the wells over the nitrate-N 10 PPM standard.		
Nitrate-Nitrogen southeast region ■			➔ Trend data from the Southeast Minnesota Domestic Well Network shows no change. However, Township Testing data show a high level of nitrate in some vulnerable areas in southeast Minnesota. Of the 46 vulnerable townships tested (2013-2016), 54% of them were determined to have 10% or more of the wells over the nitrate-N 10 PPM standard.		
Changes over time in source water quality used for community water supplies		●	Not enough information for a trend determination at this time.	Identifying correlations between drinking water contaminants is a significant step in trend analysis of source water quality.	
Nitrate concentration 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. Since 2014, there has been a slight decrease in the percent of new wells with nitrate higher than the drinking water standard.	
Arsenic concentration 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 significant change or an upward trend (up 24% since 2014), but many areas of the state lack important groundwater information while some areas experienced groundwater level 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.	
<b>DRIVERS</b>	<b>SOCIAL MEASURES AND EXTERNAL DRIVERS</b>				
	Social measures	▲	Not enough information for a trend determination at this time.	In recent years, state agencies have developed and piloted the Social Measures Monitoring System. This work integrates 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.		