

## Anticipating threats to Minnesota waters

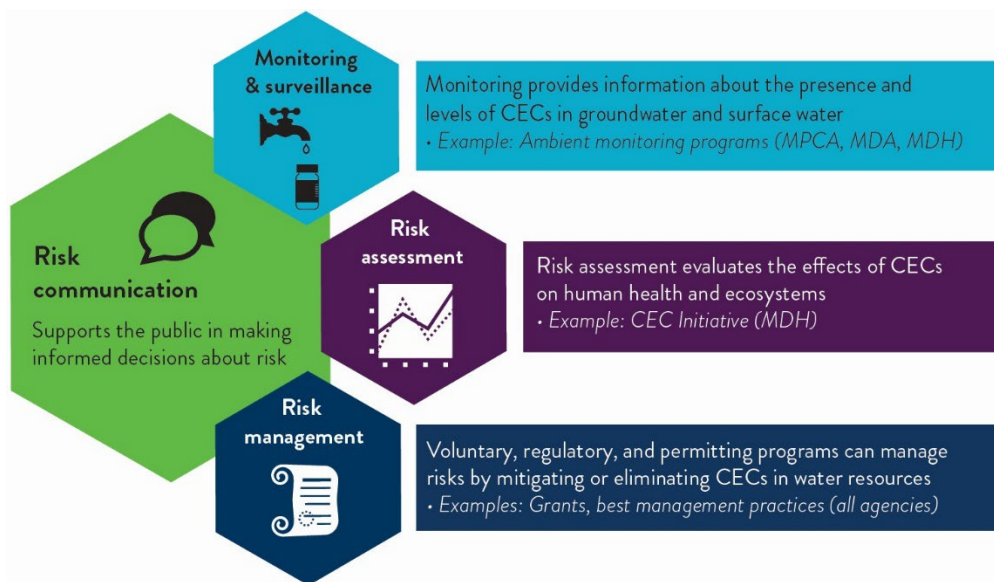
State and regional agencies collaborate closely to protect Minnesota’s water resources from threats, including threats from contaminants of emerging concern (CECs). Thousands of chemicals are used in our modern, industrial world that can end up in water resources and pose threats to public or ecological health. CECs can be newly discovered in the environment or known contaminants that are generating interest because of new scientific information. Most CECs are not regulated under the Clean Water Act or Safe Drinking Water Act.

Agencies prioritize their work on CECs based on what is found in Minnesota and what is most important to protect public and ecosystem health. State agencies aim to supplement and complement activities at the federal and local levels. Actions to address CECs often depend on having sufficient research, methods, tools, and resources to support the work.

### Interagency activities and coordination to address CECs

Several interagency teams and workgroups coordinate on water issues, including sharing information and aligning actions on CECs. There are interagency teams dedicated to topics including research, watershed management and implementation, groundwater drinking water, surface water concerns, and data management, as well as specific contaminants such as per- and polyfluoroalkyl substances (PFAS) and microplastics.

Agencies’ activities to address CECs can be organized into the following categories: monitoring and surveillance; risk assessment; risk management; and risk communication. CEC activities do not necessarily go through this framework sequentially. Agencies can initiate processes to regulate CECs based on their available analysis methods, data, and risks.



Through their various program activities, agencies anticipate and track CEC threats on the horizon. When agencies take actions to address CECs posing higher risks, they use their existing programs and established processes and adapt them as needed for the contaminant.

## Monitoring and surveillance

Monitoring and surveillance investigate presence and levels of CECs in water resources. The Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Agriculture (MDA) have ambient monitoring programs to assess occurrence of contaminants in groundwater, and the Minnesota Department of Health (MDH) is establishing an ambient monitoring program for CECs in drinking water sources.

Special programs and projects also examine presence of CECs in groundwater and surface water, including: pesticides, wastewater compounds, harmful algal blooms (HABs), pharmaceuticals and personal care products, endocrine-disrupting compounds, pathogens, manganese, and perfluoroalkyl substances (PFAS). For example, MPCA works with the U.S. Environmental Protection Agency on National Aquatic Resource Surveys to investigate the presence of CECs in surface waters. MDA participates as well. Agencies share information about CEC detections through their workgroups and use this data to target subsequent monitoring.

## Risk assessment

Risk assessment is a science-based tool that evaluates the effects of a chemical or substance on human and ecological health. MDH provides risk assessment and guidance on CEC exposure. Through its CEC Initiative, MDH collaborates with partners and the public to identify contaminants of interest. This process starts with nominations, which are based on scientific knowledge about contaminants and their presence in the environment. Along with partners and the public, MDH investigates the health risk and exposure potential of CECs in water and shares information on actions to prevent pollution and reduce exposures.

MPCA reviews and studies the impacts of CECs on aquatic life and develops toxicological profiles. MDA also shares pesticide data for impaired water assessment and cumulative health risk assessments.

## Risk management

Risk management encompasses a wide spectrum of activities. Many activities are supported by Clean Water Funds and implemented by local partners. These include:

- Permitting and regulations for stormwater, feedlots, and mining;
- Grants programs for projects that manage sources of contamination;
- Development of best management practices and voluntary programs;
- Registration and permitting use of pesticides;
- Research projects to characterize risks and provide guidance; and
- Addressing unregulated and newly regulated chemicals in products.

## Risk communication

Risk communication is embedded in all agency activities to address CECs. Agency staff use science-based risk communication principles to help Minnesotans make informed decisions about choices to promote personal and ecological health.