What are Performance Indicators in the context of the International St. Mary and Milk Rivers Study, and why are they important?

Background

For over a century, the United States and Canada have shared the waters of the St. Mary and Milk Rivers through agreements negotiated by both countries. Over time, changing conditions in the watershed -- including climate and the state of the infrastructure used to store and move water to where it needs to be -- have impacted the extent to which each country can access their share of water.

The International St. Mary and Milk Rivers Study is a four-year effort (2021-2025) to determine if improvements can be made to the current water-sharing system. The Study will present its report to the International Joint Commission in June 2025. The Commission will review the report and make recommendations to the governments of both countries for their consideration.

What is a 'performance indicator'?

A performance indicator is an index that quantifies the effect of changing water availability on the use or value of water. Because making changes to a watershed will have differing effects, positive or negative, on a use or value, using a performance indicator can help help quantify and compare each use or value, and highlight any trade-offs that need to be considered.

Here are a couple of potential examples:

Fall river flows are important for fish spawning success rates. An indicator could be developed that considers the fall flow rates in the river to examine the potential impacts on fish spawning in a particular river.

Summer river flows are important for the irrigation season. An indicator could be developed based on summer river flows to examine the impacts on irrigated agriculture in a particular area.

Important to consider:

Weather patterns and climate have the biggest influence over water availability, levels, and flows in the watershed. Dams, reservoirs, and canals are no match for nature! That said, the study team will be doing its best to determine if there are ways to make the current water-sharing procedures and infrastructure more resilient to these factors, and how any proposed changes might affect the rivers and those who rely on them.

What role will performance indicators play in the study?

Performance indicators, or PIs for short, will play an important role in helping the study team measure, and communicate the effects of the different options being examined. Most changes to the water management will have tradeoffs for water uses. Those tradeoffs will be able to be quantified by evaluating performance indicators that show improvement and comparing to those PIs showing declines. For example, if we use the types of PIs described above, we will be able to see how different water management scenarios may affect fall fish spawning and summer irrigation. The PIs will show to what extent one scenario may improve fish spawning while decreasing the availability of water for irrigation, or vice versa.

How are performance indicators being developed for the study?

The first step in developing performance indicators is to understand as much as possible about the watershed, how water is used, who uses it, and how it is currently shared. Each of the technical working groups has spent time reviewing existing information about the basin to ensure they have a good foundation for their work.

Input from advisory groups, public meetings, and stakeholders is also critical to the development of performance indicators that are relevant to the basin. This will in turn support the development of recommendations that are well-founded in the conditions and needs of the St. Mary and Milk Rivers.