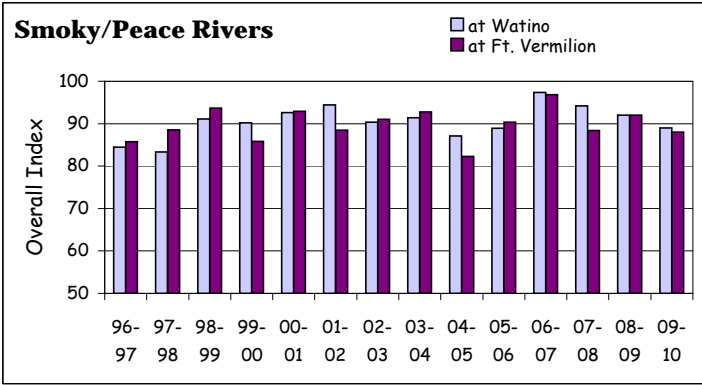
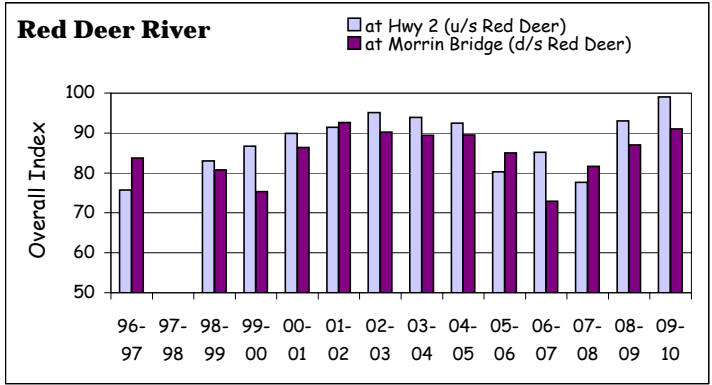


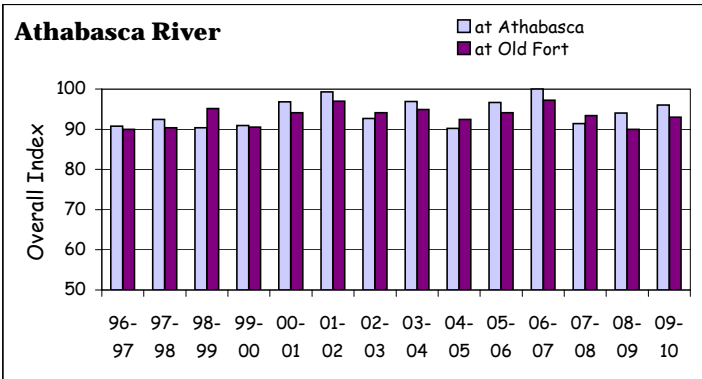
Alberta Surface Water Quality Index, April 1996 - March 2010



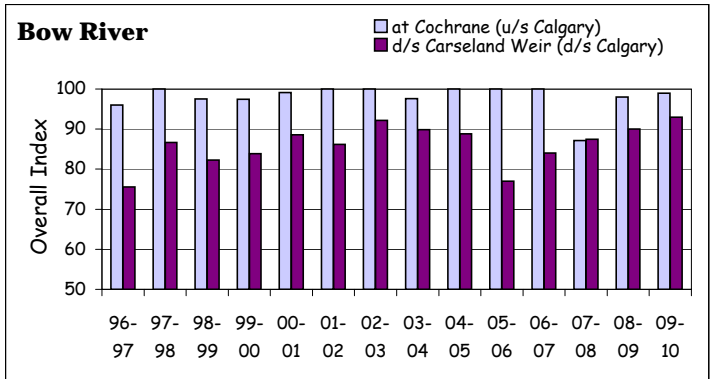
Water Quality Index ratings for the Smoky and Peace Rivers have been relatively consistent over the period of record. Ratings for the 2009/10 period, although slightly lower than the 2008/09 period, are no exception to this. Stream flows during this period were also comparable to the historical average. Water quality guideline exceedances for nutrients and metals were largely responsible for the observed decline in Index ratings, relative to the previous reporting period.



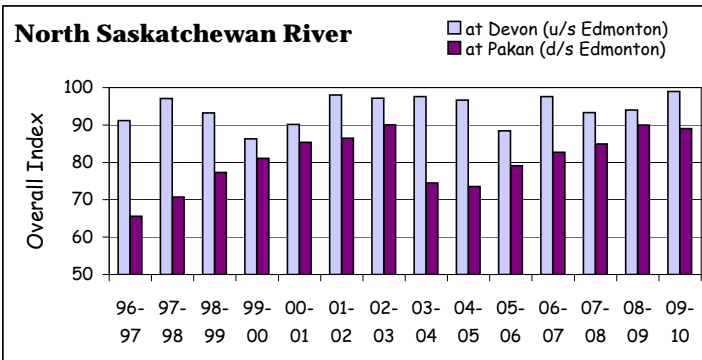
Index ratings for the Red Deer River in the 2009/10 reporting period are somewhat higher than they have been in the past several years. Of particular note is the upstream monitoring station, which has not received a rating of excellent in the history of index reporting. Higher ratings in the 2009/10 Index period may be due to relatively little precipitation in the basin. During the current reporting period, spring, summer, and early fall stream flows were generally below the historical average, suggesting a lesser contribution from snowmelt and rainfall. This, in turn, may indicate a reduced influence of non-point source runoff, which can contribute various contaminants to the river and cause guideline exceedances. A few guideline exceedances for nutrients (four exceedances) and pesticides (five exceedances) contributed to a lower rating at the downstream sampling site.



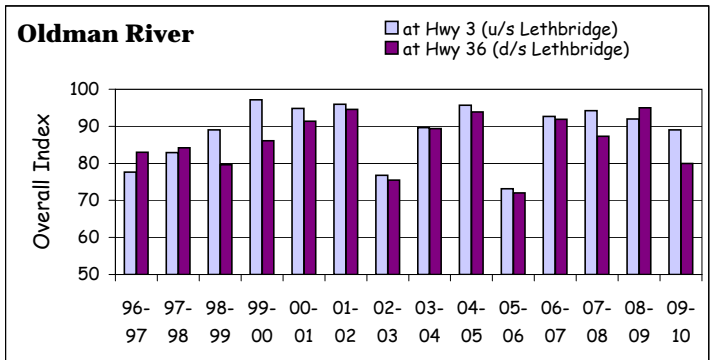
Monitoring stations on the Athabasca River have consistently achieved ratings of good to excellent since the onset of Water Quality Index reporting. Compared to the previous (2008/09) reporting period, the 2009/10 period saw a slight increase in Index ratings at both sites. For the upstream station, this resulted in a rating shift from good to excellent, while the downstream site maintained a rating of good. The downstream rating was largely influenced by Water Quality Guideline exceedances for metals (four exceedances) and nutrients (six exceedances).



Water Quality Index ratings for the Bow River have remained relatively high during the period of record. 2009/10 ratings maintain this tendency, with the upstream monitoring location achieving a score of excellent and the downstream site demonstrating a rating of good. Lower than average summer flows, as reported by the Water Survey of Canada, may be a reflection of less precipitation. Lower volumes of precipitation suggest a reduced influence of non-point source contamination and fewer guideline exceedances. As a result, 2009/10 Water Quality Index scores for the river indicate good to excellent water quality.



2009/10 Index ratings for the North Saskatchewan River are somewhat higher than they have been in recent history. As in the case of several other provincial rivers, this may have been partly influenced by a decline in precipitation. This is evidenced by stream flows that were well below the historical average. Lower flows are frequently indicative of fewer non-point source inputs to the river, which may result in fewer guideline exceedances and higher Index ratings. In the case of the downstream monitoring station, a handful of guideline exceedances for metals, nutrients, pesticides, and bacteria led to a lower Index rating than was seen at the upstream station.



2009/10 Index ratings for the Oldman River fall within the historical range for this basin. While the upstream sampling location achieved a rating of good, the downstream site was somewhat lower than it has been during the past three reporting periods. Episodic rainfall events in the Oldman basin during the summer of 2009 likely contributed to guideline exceedances for bacteria, nutrients, and pesticides at the downstream sampling location. Runoff events associated with rainfall and snowmelt can lead to the introduction of non-point source contaminants to rivers. These contaminants, including metals, nutrients, pesticides, and bacteria, may lead to water quality guideline exceedances and subsequent reductions in Index scores.