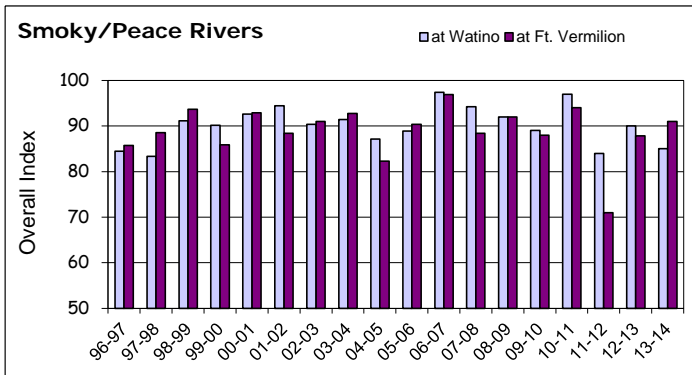
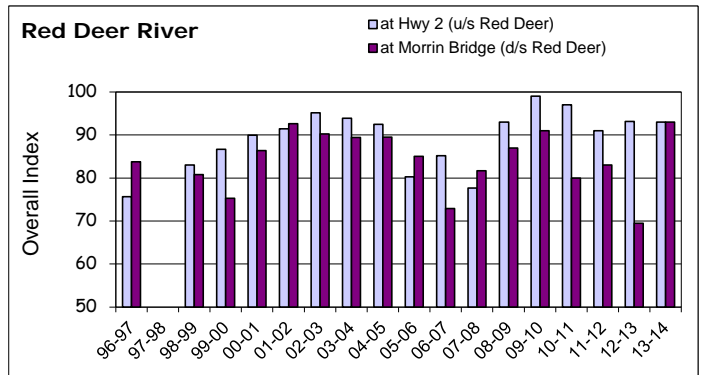


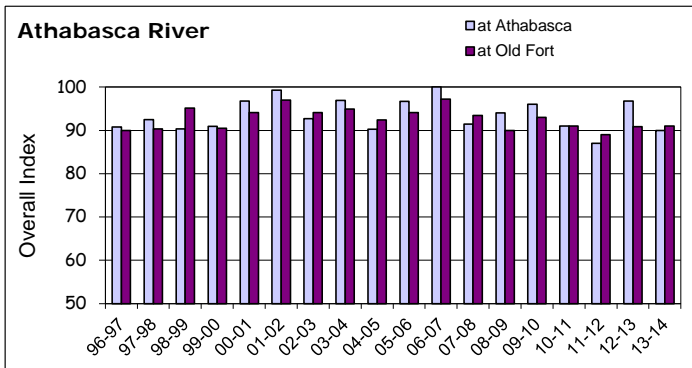
Alberta River Water Quality Index, April 1996 - March 2014



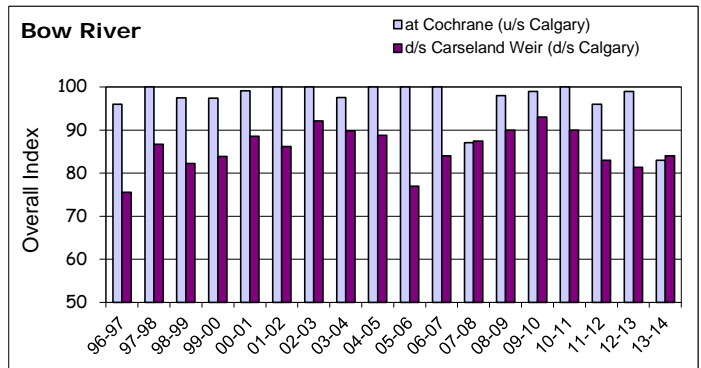
The Index scores for the Smoky/Peace river stations have received consistently good index ratings, with the exception of 2011/12, when the downstream site rated 'Fair'. The lower scores were likely due to higher summer precipitation throughout the basin and the resulting higher flows as recorded by the Water Survey of Canada in the river. Runoff events associated with rainfall and snowmelt can lead to the introduction of non-point source contaminants to rivers. In 2013/14, there were a few exceedances of metals (4) and nutrient (6) at the Smoky River site, which led to lower scores at the site compared to the downstream Peace River site.



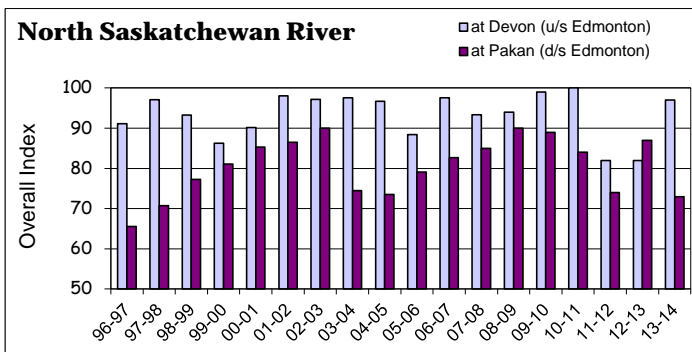
Index scores for the Red Deer River have varied more than other sites over the period of record and are generally linked with precipitation events. In 2012/13, sampling at the Morrin Bridge coincided with a July precipitation event that resulted in exceedances of nutrient, bacteria and metals guidelines, resulting in an annual rating of fair. In 2013/14, both sites had similar ratings of 'Good' with a few exceedances of nutrients and a few pesticide detections.



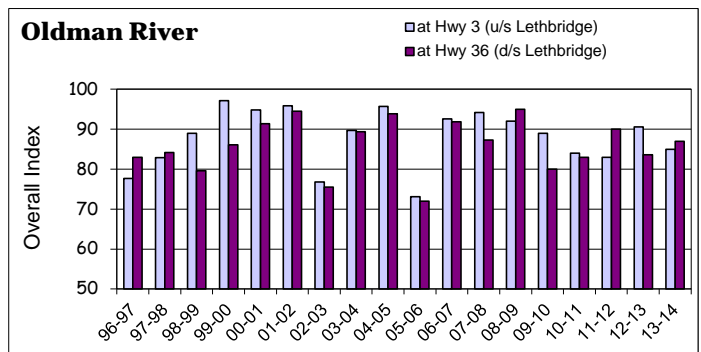
Monitoring stations on the Athabasca River have consistently achieved ratings of good to excellent since the onset of Water Quality Index reporting. Both sites received a rating of good in 2013/14. The upstream site was influenced by water quality guideline exceedances for nutrients (4 exceedances), bacteria (2 exceedances) and for metals (4 exceedances). The downstream rating was largely influenced by Water Quality Guideline exceedances for metals (seven exceedances) and nutrients (eight exceedances).



Since the development of the Index, ratings upstream of Calgary have generally been 'excellent'. However, in 2013/14, scores were the lowest observed at the upstream site. This was in part due to the large flooding event that resulted in some metals exceedances (2), for the first time since 1998. As well, bacteria exceeded guidelines at the site in October. However, water quality impacts from the flood were not sustained for a long duration and this is reflected in the 'good' rating on both sites. Downstream of Calgary there are typically more frequent exceedances of nutrient and bacteria guidelines. In 2013/14, this site was rated as 'good' due to exceedances of nutrient guidelines (8), bacteria (2), metals (1) and a pesticide detection.



Index ratings for the North Saskatchewan River for the past three years have been somewhat lower than they have been in recent history. This was due to the fact that in these years, sampling coincided with large precipitation and runoff events, which resulted in exceedances in nutrient and bacteria guidelines. In 2013/14, however, the Devon site rated excellent with only a few exceedances of nutrient guidelines. Downstream at the Pakan site, July sampling coincided with a rainfall event. This combined with the additional bacteria guideline exceedances and pesticide detections, resulted in a rating of 'Fair' at the site.



2013/14 Index ratings for the Oldman River fall within the historical range for this basin, with similar results for the past few years. The flood event of June 2013 contributed to guideline exceedances for nutrients and bacteria at both the upstream and downstream sites. There were also additional guideline exceedances for nutrients and bacteria as well as a few pesticide detections, leading to a rating of 'Good' at both Oldman River sites.