

Update to the Costs of Invasive Species in Alberta

Summary: Based on calculations and estimates from a 2004 economic assessment, a revised assessment that accounts for inflation and increased abundance and diversity of invasive species in Alberta suggests that invasive species cost Albertans \$2.1 billion annually.

Invasive species are plants, animals, or other organisms that are not native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. Invasive species out-compete native species for food and space, alter or destroy ecosystems, disrupt food sources, and can introduce parasites and disease. They also harm local economies by reducing crop yields and livestock forage production, decreasing property values, interfering with irrigation and water control structures, and can discourage outdoor recreation.

Researchers estimated that invasive species were costing Albertans \$1 billion each year based on a 2004 report (McClay et al.). This report does not provide species-level economic impact estimates due to the lack of information available for invasive species impacts in Alberta. Rather, the authors extrapolated based on an economic assessment of the impacts of invasive species in the United States, which was estimated to be \$137 billion annually (Pimentel et al. 2000). That amount represented 1.3% of the Gross Domestic Product (GDP) of the United States in 2000 (\$10.5 trillion). In 2003, Alberta's GDP was estimated to be \$150 billion and 1.3% of that is \$2 billion (McClay et al. 2004). The authors of the 2004 Alberta report used a conservative estimate of \$1 billion because invasive species impacts in Alberta are presumably less severe than those in the United States due to climatic conditions and other factors.

The Costs and Threats of Invasive Species to Alberta report was published in 2004 and is almost 20 years old. During that time, inflation rose 38% in Alberta (Bank of Canada, 2022) while existing invasive species infestations grew, and new invasive species were introduced. Hence, a revised estimate of the economic impacts of invasive species is warranted. Using the same extrapolation of 1.3% of Alberta's GDP, which was \$323.1 billion in 2021 (Government of Alberta 2021) and amounts to \$4.2 billion. Considering the reduced severity of invasive species impacts in Alberta compared to the United States and deducting 50 percent from this value, results in a conservative estimate of \$2.1 billion. Note that this does not account for the increased abundance of existing invasive species and the introduction of new invasive species since the 2004 report. This estimate utilizes the same calculation as the 2004 report but corrects for increases in GDP and inflation.

It is important to note that these estimates are not based on actual assessed economic impacts of invasive species in Alberta because those assessments do not exist. With the continued absence of such assessments, this estimate provides a general idea of the magnitude of the economic impacts of invasive species in Alberta.

Literature Cited

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