



Non-native Species - Terrestrial

Indicator #9002

Note: This is a progress report towards implementing this indicator.

Assessment: Not Assessed

Purpose

- To assess the presence, number and distribution of terrestrial nonindigenous species (NIS) in the Laurentian Great Lakes basin; and
- To aid in the assessment of the status of biotic communities, because nonindigenous species can alter both the structure and function of ecosystems.

Ecosystem Objective

Only a small percentage of non-native species introduced into the ecosystem, primarily through human activity, pose a hazard to the economy, environment or human health. However, the lack of naturally-occurring predators allows some non-native species to become invasive by colonizing and proliferating unchecked. This destroys wildlife habitats, crowds out competitors and depletes prey, thereby threatening biodiversity.

Once established, terrestrial non-native species can also impact water quality, by changing water tables, runoff dynamics, fire frequency, and other watershed attributes that in turn can alter watershed conditions. Attempts to eradicate terrestrial non-native species could lead to greater use of pesticides and herbicides, in turn potentially increasing the amount of chemicals entering surface water through runoff.

State of the Ecosystem

The negative impact of a wide range of non-native species, such as reed canary grass, garlic mustard, common buckthorn and purple loosestrife, has been documented throughout the Great Lakes basin. However, the extent of invasion by terrestrial non-native species is not known. It is not clear what metric should be used to report on this indicator.

Federal and state agencies, tribal governments, nongovernmental organizations, and universities are actively collecting data on terrestrial non-native species. At this point, most projects focus on a single species on a local basis. Projects range from mapping where non-native species have been detected in a given jurisdiction, to measuring the actual population or extent of area covered by that species. This large body of research presents an opportunity to increase our understanding of the problem posed by terrestrial non-native species. Coordination of these data collection efforts may produce the comprehensive data necessary

for assessment, not to mention monitoring, control and eradication.

Future Pressures

Growth in international trade and travel increases the risk that a larger number of terrestrial non-native species will become established in the Great Lakes region. The spread of microbes such as the West Nile virus and the SARS virus demonstrates the speed and ease in which non-native species can migrate on a global basis. Response efforts vary by species. It is believed that terrestrial non-native species that do not pose an immediate threat to agriculture, industry or human health may not prompt sufficient response to mitigate their impacts to the ecosystem.

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