**Mapping the Spread Teacher Key: Purple loosestrife**

Directions: Choose an invasive species in your region and research how and where it was introduced into North America and the Great Lakes basin. Use a map to follow the path of how it spread throughout the Great Lakes region.

1. What is the species? (Include both common name and *scientific name*.)

Purple loosestrife; *Lythrum salicaria*

1. Where is the species’ native range?

Found in Europe, Asia, Northern Africa

1. Why is the species a problem in the Great Lakes region?

Purple loosestrife crowds out native wetland plants, eliminates food for native wildlife, has a negative impact on fish spawning and waterfowl habitat, interferes with recreational activities (boating, fishing, hunting), affects agriculture by blocking flow in drainage & irrigation ditches.

1. How does the species expand its range (move to new locations)?

Purple loosestrife seeds travel by water, wind, bird feathers, animal fur, footwear, boats, trailers, and vehicles.

1. If not originally from North America, where was the species introduced into North America? **(Mark this location on the map)**

Resources for introduction information include:

<https://nyis.info/invasive_species/purple-loosestrife/>; <https://www.dnr.state.mn.us/invasives/aquaticplants/purpleloosestrife/index.html>; <https://www.michigan.gov/invasives/id-report/plants/aquatic/purple-loosestrife>)

Purple loosestrife was well-established in New England by the 1830s. It was probably introduced multiple times to North America: unintentionally in solid ship ballast; through importation of seeds on raw wool and sheep; or as an ornamental plant.

1. How was the species first introduced in the Great Lakes region?

Purple loosestrife was introduced to the Great Lakes through contaminated solid cargo ship ballast as well as through the deliberate importation of seeds.

1. Where was the species first documented in the Great Lakes Region? **(Mark this location on the map)**

Purple loosestrife was first documented in Lake Ontario in 1869.

1. Where was the species first documented in Michigan? **(Mark this location on the map)**

Muskegon County, 1879

1. List all the other places in Michigan this invasive species has spread in-order of year it was found. **(Mark these locations on the map.)**

Some answers are below:

* Wayne County, 1885
* Ingham County, 1887
* Saginaw County, 1893
* St. Clair County, 1893
* Bay County, 1896
* Crawford County, 1897
* Allegan County, 1898
* All MI counties now
1. What patterns did you notice in the spread of this invasive species?

Purple loosestrife spread quickly within a fairly short period of time (~20 years) it spread from Michigan’s western coast to the east and into north-central lower Michigan. Most counties where it was identified were along coastal regions except for Ingham and Crawford counties.

1. What might be the cause of the patterns you noticed?

People may have shared seeds or cuttings of the plant as they visited each other but it may have also been transported through waterfowl feathers along migration routes.

1. What could have stopped or slowed the spread of this invasive species?

Awareness of potential problems with introducing this species to new ecosystems may have reduced spread but the introduction of this plant started so long ago that it was fully established in many areas before anyone realized the issue with it. Now we can bring awareness to people to not share cuttings or seeds and use alternative ornamentals in their gardens. It would be nearly impossible to stop the seeds from spreading so cutting or pulling plants prior to seeding would be possibilities to slow the spread at this point.



