

Wild Rice Restoration and Canada Goose Management in the St. Louis River Estuary

Wild Rice Restoration Team Talking Points

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Project Purpose & Justification:

The restoration of wild rice (*Zizania palustris*) in the St. Louis River Estuary is of cultural and ecological significance. Restoration goals developed in the Wild Rice Restoration Implementation Plan for the St. Louis River Estuary (Minnesota Department of Natural Resources 2014) include the establishment of 275 acres of self-sustaining rice beds. These efforts will contribute to the removal of beneficial use impairments for the St. Louis River Area of Concern (BUI 9 – Loss of Fish and Wildlife Habitat).

Wild rice restoration efforts are hampered by Canada goose (*Branta canadensis*) herbivory and a variety of techniques have been implemented to reduce the impacts (e.g., adapting restoration techniques, hazing, egg addling, mylar flashing, swan decoys, and exclosures). Despite this effort, the impact of Canada goose herbivory has not been sufficiently reduced to allow for the establishment of self-sustaining wild rice beds. As a result, the Wisconsin Department of Natural Resources, in partnership with the Minnesota Department of Natural Resources and the Animal and Plant Health Inspection Service (APHIS) – Wildlife Services will coordinate a Canada goose roundup in the St. Louis River Estuary in support of the 2014 Wild Rice Restoration Implementation Plan for the St. Louis River Estuary.

Key Talking Points:

1. **Wild rice restoration is an ecological and cultural priority in the St. Louis River Estuary with large-scale, collaborative restoration efforts beginning in 2015. Recent studies have identified Canada goose herbivory as a major impediment to successful establishment of self-perpetuating wild rice beds.**
 - a. Monitoring data, camera traps and observations have documented heavy browse by Canada geese.
 - b. Goose herbivory stops rice plants from maturing to the flowering stage and producing seed.
 - c. Wild rice is an annual grass and needs to produce a seed head each year to sustain a rice bed.
 - d. Canada goose herbivory is occurring during the plant's development and goose feather molt coincides with rice emergence, a time when rice is extremely vulnerable to herbivory. This results in high herbivory during this critical wild rice growth stage.
2. **This roundup effort has been preceded by multiple attempts to reduce the impact of goose herbivory. And despite these efforts, the impact of Canada goose herbivory has**

not been sufficiently reduced to allow for the establishment of self-sustaining wild rice beds. Non-lethal techniques have been implemented to reduce the impacts (e.g., adapting restoration techniques (e.g., seeding sites and rates), hazing, egg addling, mylar flashing, swan decoys, and exclosures).

- a. The greatest impact of herbivory occurs during the floating leaf and emergent stages of the wild rice growth cycle (typically late-June thru August).
 - b. Canada goose hunting in the Wisconsin side of the St. Louis River Estuary has not sufficiently reduced the impact of goose herbivory on wild rice restoration. All the WI restoration areas are open to waterfowl hunting.
- 3. Canada goose management in the St. Louis River Estuary is guided by wildlife professionals utilizing proven management practices for Canada goose control.**
- a. We have worked with our partners to develop a plan for reducing the impacts of goose herbivory that utilizes goose exclosures and goose roundups where monitoring data indicates high levels of herbivory.
 - b. Geese are euthanized using carbon dioxide, an approved method by the American Veterinary Medical Association. This technique is considered humane by wildlife and veterinary professionals and conducted by USDA-APHIS personnel.
 - c. When possible, geese are donated to the Lake Superior Zoological Society in Duluth to be utilized as food for carnivores at the zoo and provides enrichment to the animals.
 - d. Efforts are being made to determine if geese removed from the St. Louis River Estuary can be donated to local food pantries for human consumption.
- 4. Canada goose management is succeeding in estuary locations within Wisconsin such as Allouez Bay.**
- a. The 2021 goose roundup in Allouez Bay resulted in fewer geese present in 2022.
 - b. Herbivory was significantly reduced.
 - c. Density, plant height, and biomass increased.