BALANCING ACT:

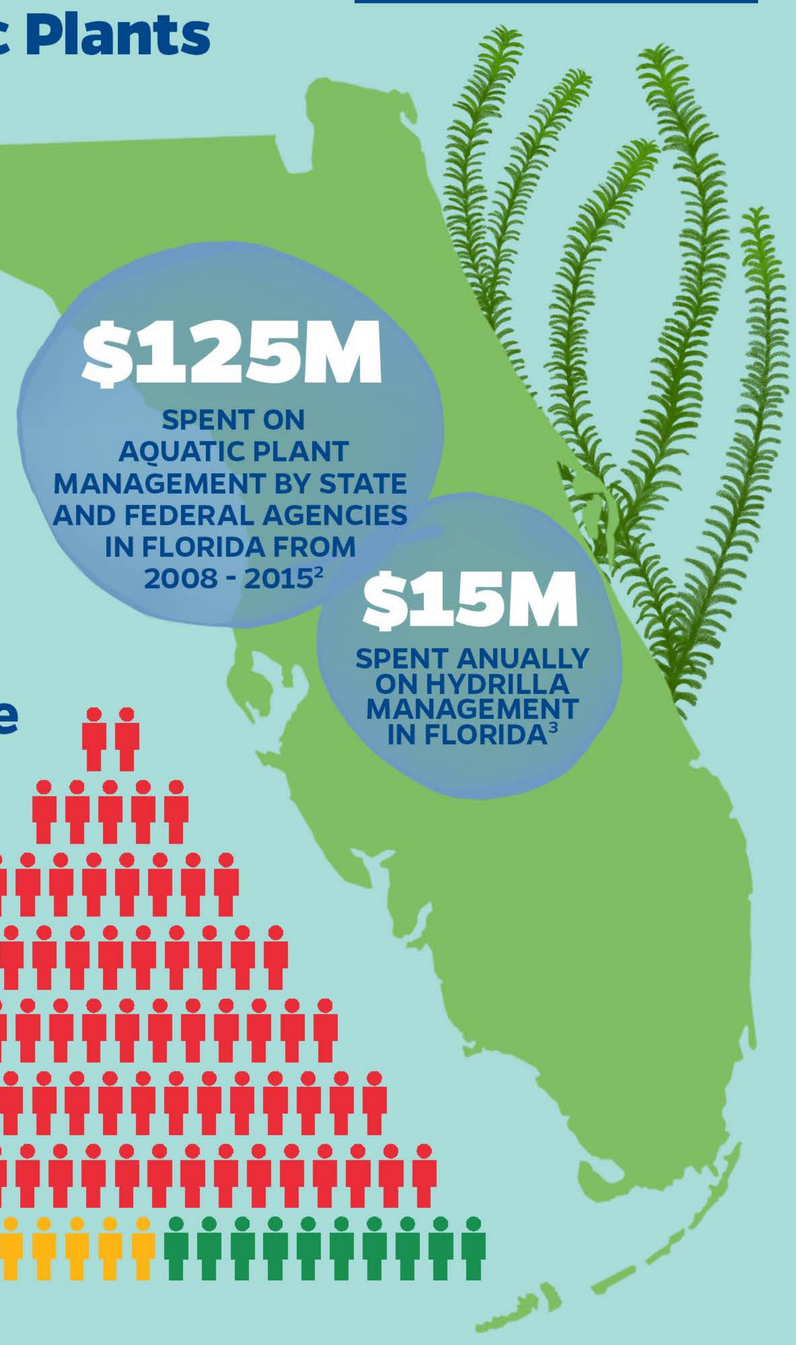
Unveiling Public Perspectives on Taming Invasive Aquatic Plants

Amanda B. Heinzmann, Olesya M. Savchenko, Candice Prince, James K. Leary

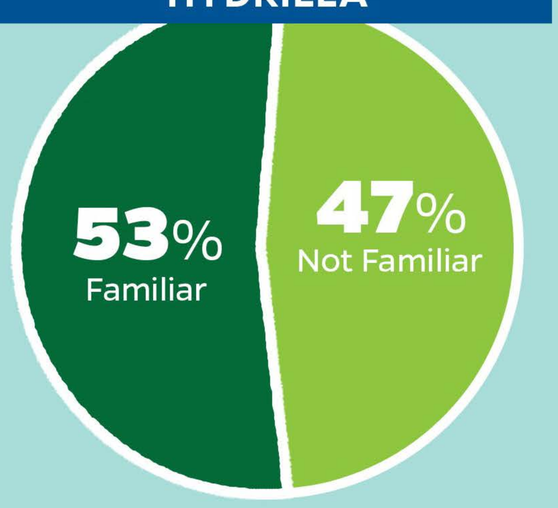
UF IFAS UNIVERSITY of FLORIDA

Background

Hydrilla (*Hydrilla verticillata*) is an invasive aquatic plant that displaces native species, alters water quality, and impedes recreational activities across the United States[1]. It is extremely difficult to manage, costing millions of dollars for state and federal governments. Florida is a national leader in aquatic invasive plant management but has faced public concerns about the environmental impacts of herbicides, similar to other states trying to manage hydrilla. To inform aquatic invasive plant management policy, we surveyed 3,000 Florida residents about their preferences for the use of aquatic herbicides and mechanical harvesting to control hydrilla.



FAMILIARITY WITH HYDRILLA



Concern Over Aquatic Herbicide Use

10% NOT CONCERNED

13% NOT SURE

77% CONCERNED

APPLYING HERBICIDE

PRIMARY CONCERNS

- **94%** Use of water for recreation
- **95%** Impact on plants and animals
- **96%** Accumulation in lakes

PROS

- Undergo 8-10 years of testing for EPA approval
- Water is safe for recreational use after most treatments
- Prevents plant regrowth for up to 300 days
- Cost effective
- No impacts on non-target species

CONS

- Decaying plants cause muck buildup
- Waiting periods may be required before using water for irrigation, drinking, and livestock water use

MECHANICAL HARVESTING

PRIMARY CONCERNS

- **93%** Pollution risk from harvester
- **94%** Cost
- **95%** Impact on plants and animals

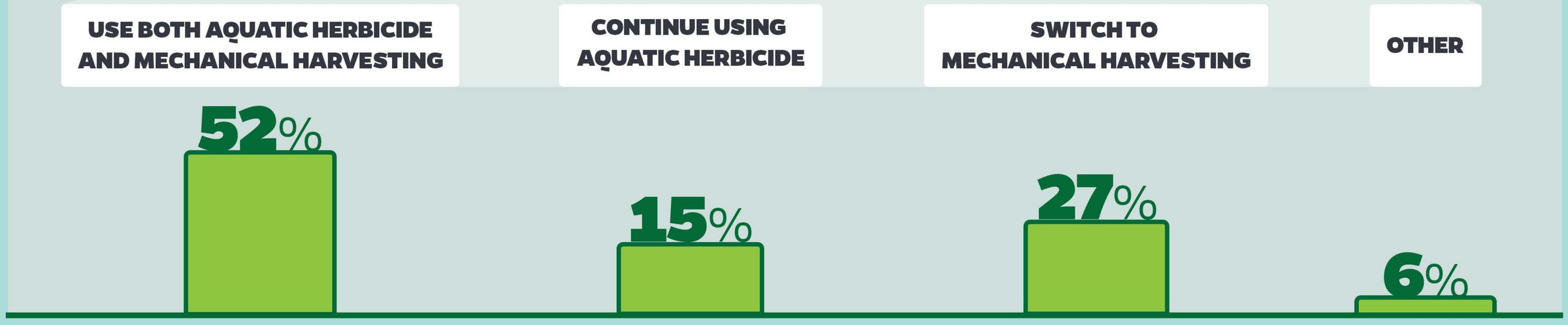
PROS

- Removes plants from water
- Reduces muck build up
- No water use restrictions after application
- Prevents plant regrowth for up to 100 days

CONS

- 2-3x as expensive compared to aquatic herbicides
- Often kills non-target plants and animals also present in the water
- Potential for pollution from diesel powered harvesters

WHAT ARE THE PUBLIC PREFERENCES FOR HYDRILLA MANAGEMENT?



1. USGS. (2020, February 3). *Hydrilla (hydrilla verticillata) - species profile*. Nonindigenous Aquatic Species Database. Retrieved January 30, 2023, from https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=6

2. Gettys, L. A., & Enloe, S. F. (2019, April 28). *Hydrilla: Florida's worst Submersed Weed*. askIFAS. Retrieved January 30, 2023, from https://edis.ifas.ufl.edu/publication/AG404?downloadOpen=true.

3. Matthew A. Weber, Lisa A. Wainger, Nathan E. Harms & Geneviève M. Nesslage (2021) *The economic value of research in managing invasive hydrilla in Florida public lakes*, Lake and Reservoir Management, 37:1, 63-76, DOI: 10.1080/10402381.2020.1824047

Author Information: Amanda B. Heinzmann (amandaheinzmann@ufl.edu) is a Research Assistant and PhD Student with the Food and Resource Economics Department at the University of Florida.
Olesya M. Savchenko* (olesya.savchenko@ufl.edu) is an Assistant Professor with the Food and Resource Economics Department at the University of Florida.
Candice Prince (cprince14@ufl.edu) is an Assistant Professor with the Agronomy Department at the University of Florida, Gainesville.
James K. Leary (learyj@ufl.edu) is an Assistant Professor at the Center of Aquatic and Invasive Plants with the Institute of Food and Agricultural Sciences at the University of Florida.
*Corresponding Author: Olesya M. Savchenko, email address: olesya.savchenko@ufl.edu; postal address: 1183 McCarty Hall A, Gainesville, FL, 32611.
Acknowledgement: This study was funded by the Florida Fish and Wildlife Conservation Commission's Invasive Plant Management Section and the USDA National Institute of Food and Agriculture, Hatch project FLA – FRE - 006434

AAEA Agricultural & Applied Economics Association
CHOICES Data Visualization Series
Quarter 1 2024
CHOICES