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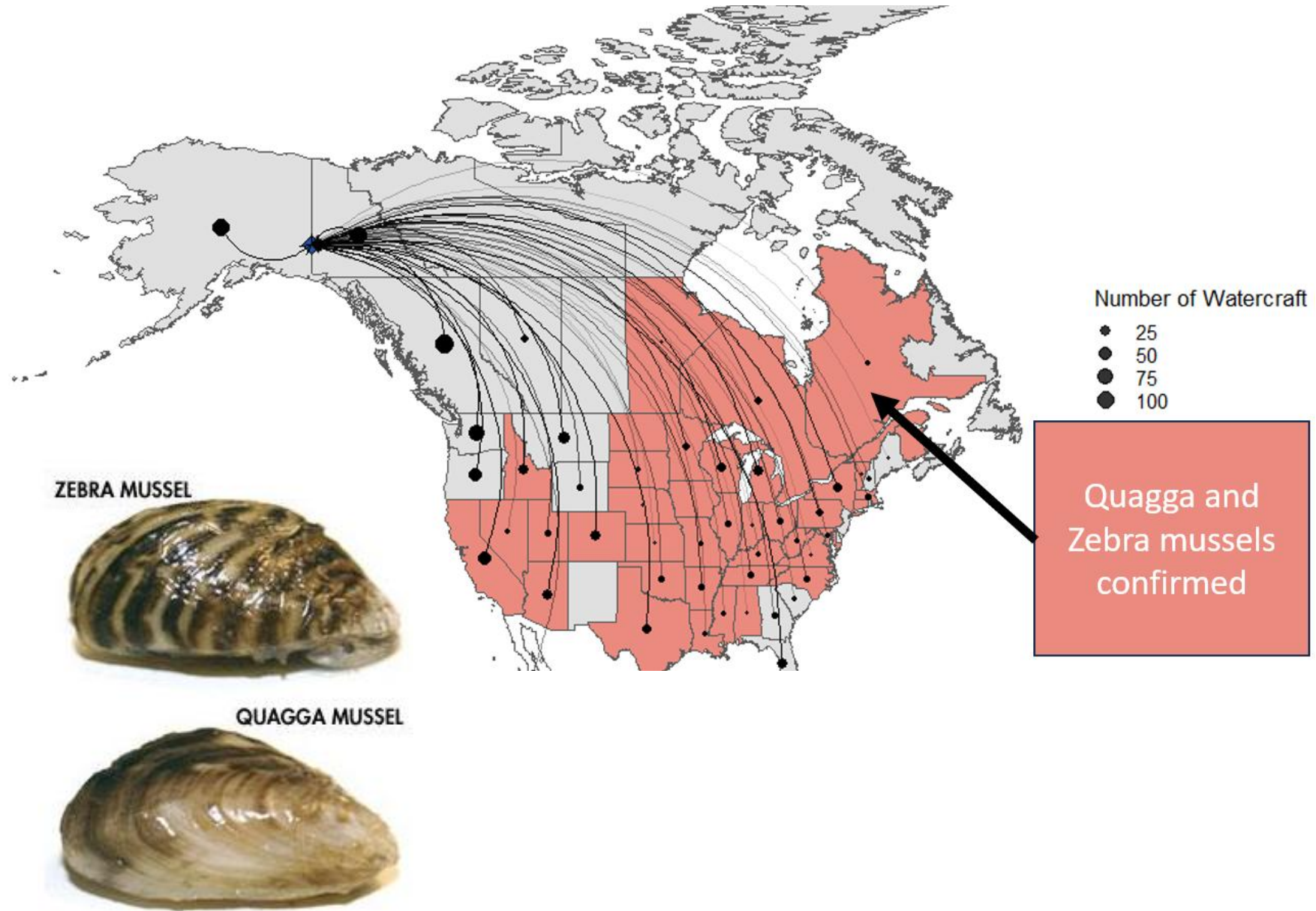
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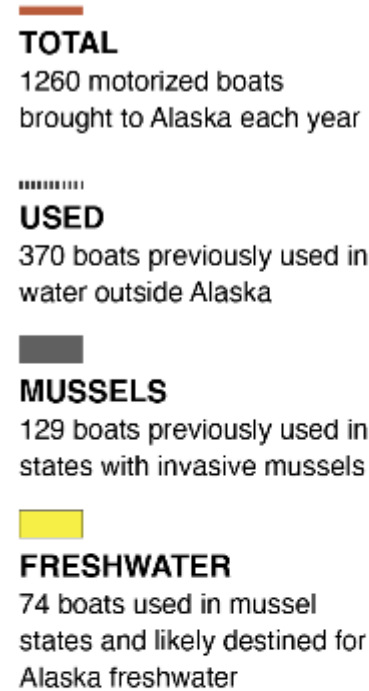
**International Arctic
Research Center**



Alaska's increasing biosecurity risk

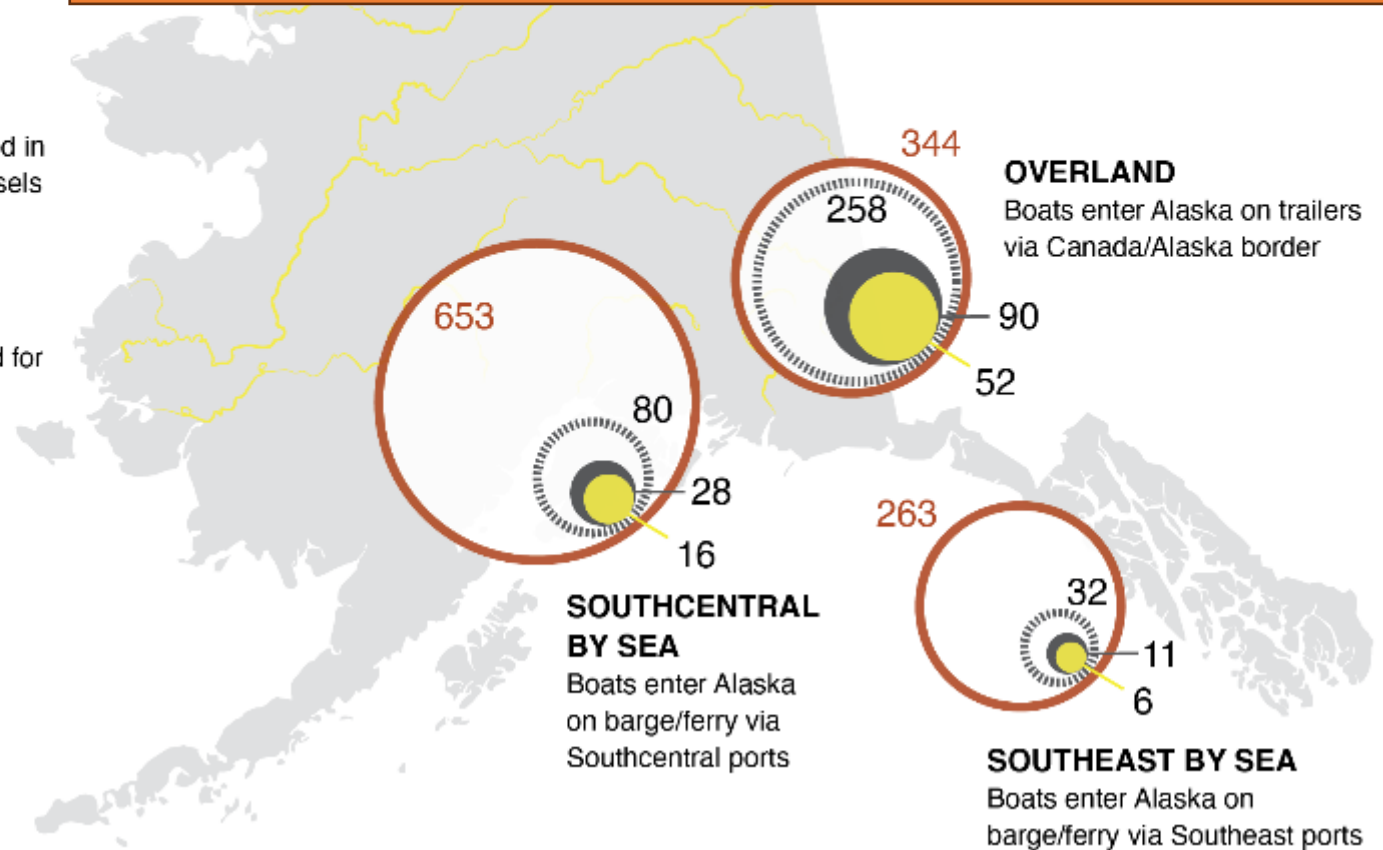


Is Alaska prepared?



**All data based on 2017*

Annually, more than 1,000 watercraft from outside enter Alaska through multiple unprotected / not monitored ports of entry



Example:

Elodea response

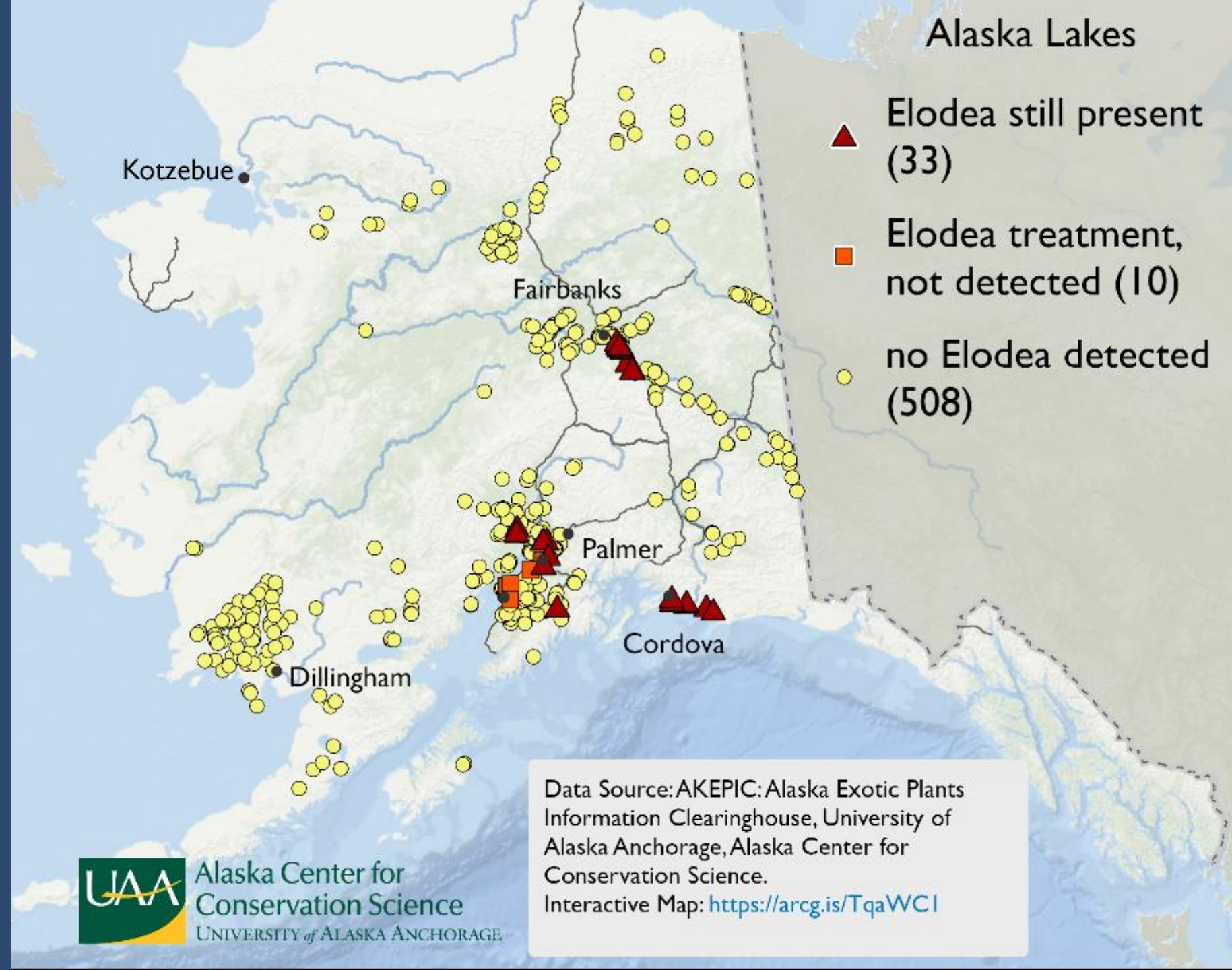


- Current cum. damages from Elodea: > \$1,000 million
- Current cum. spending managing Elodea: \$7 million
- Insufficient resources
- Fragmented decision making
- Need for strategy, efficiency, and coordination
- Need for resource emergency response plan



Elodea infestation

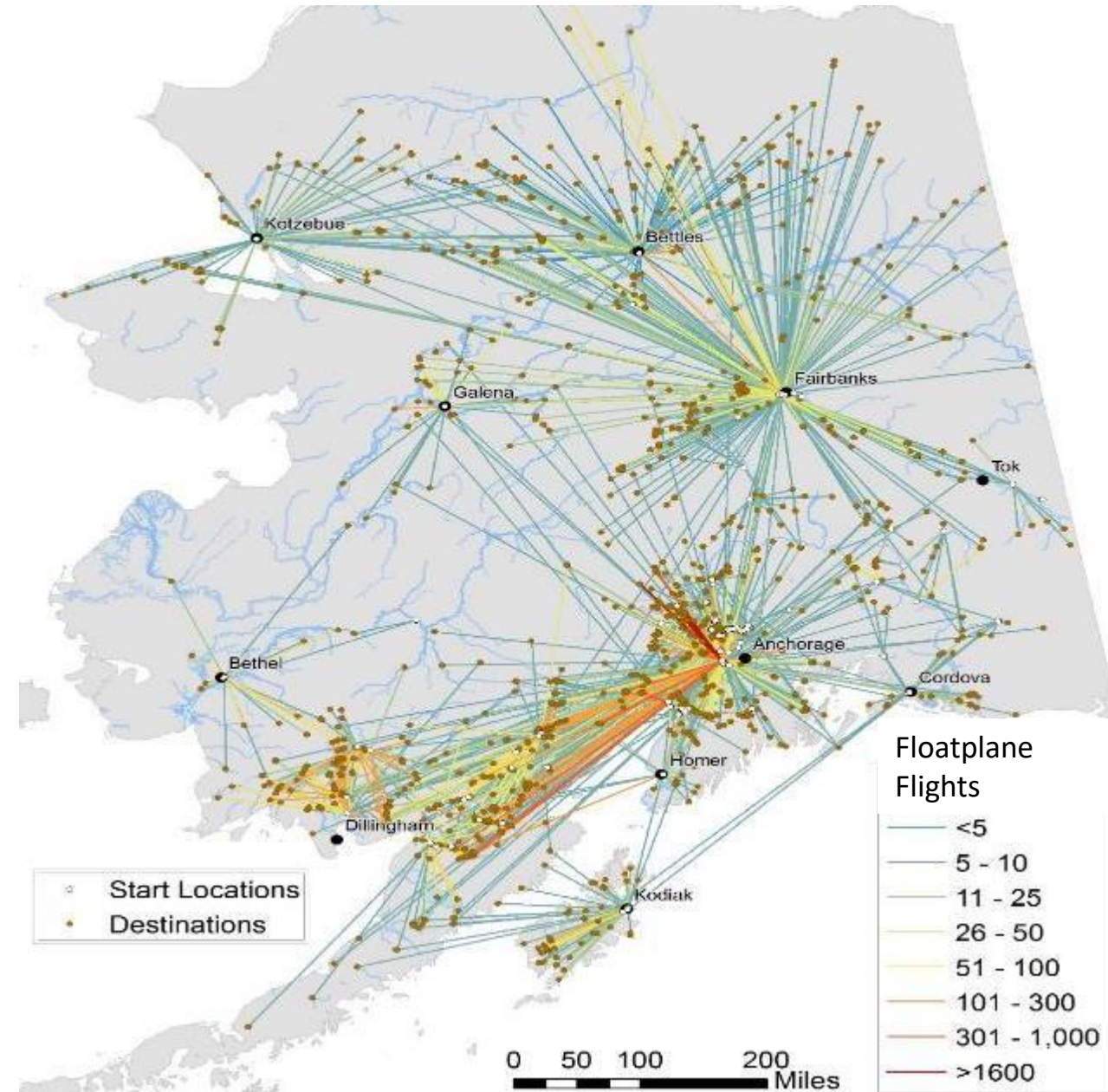
Elodea infestations - current status



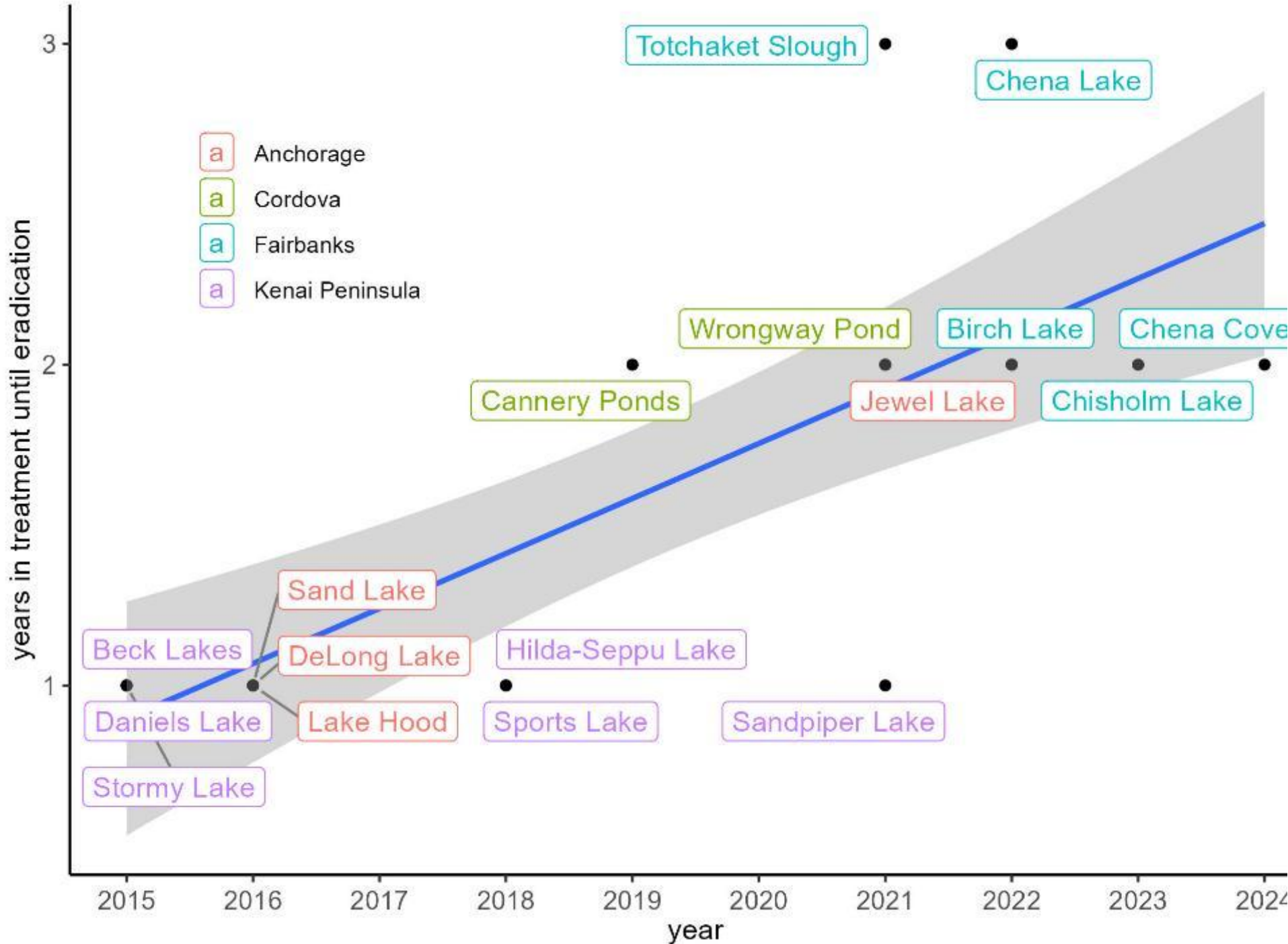
Increasingly
remote &
complex
infestations



Floatplanes transport Elodea



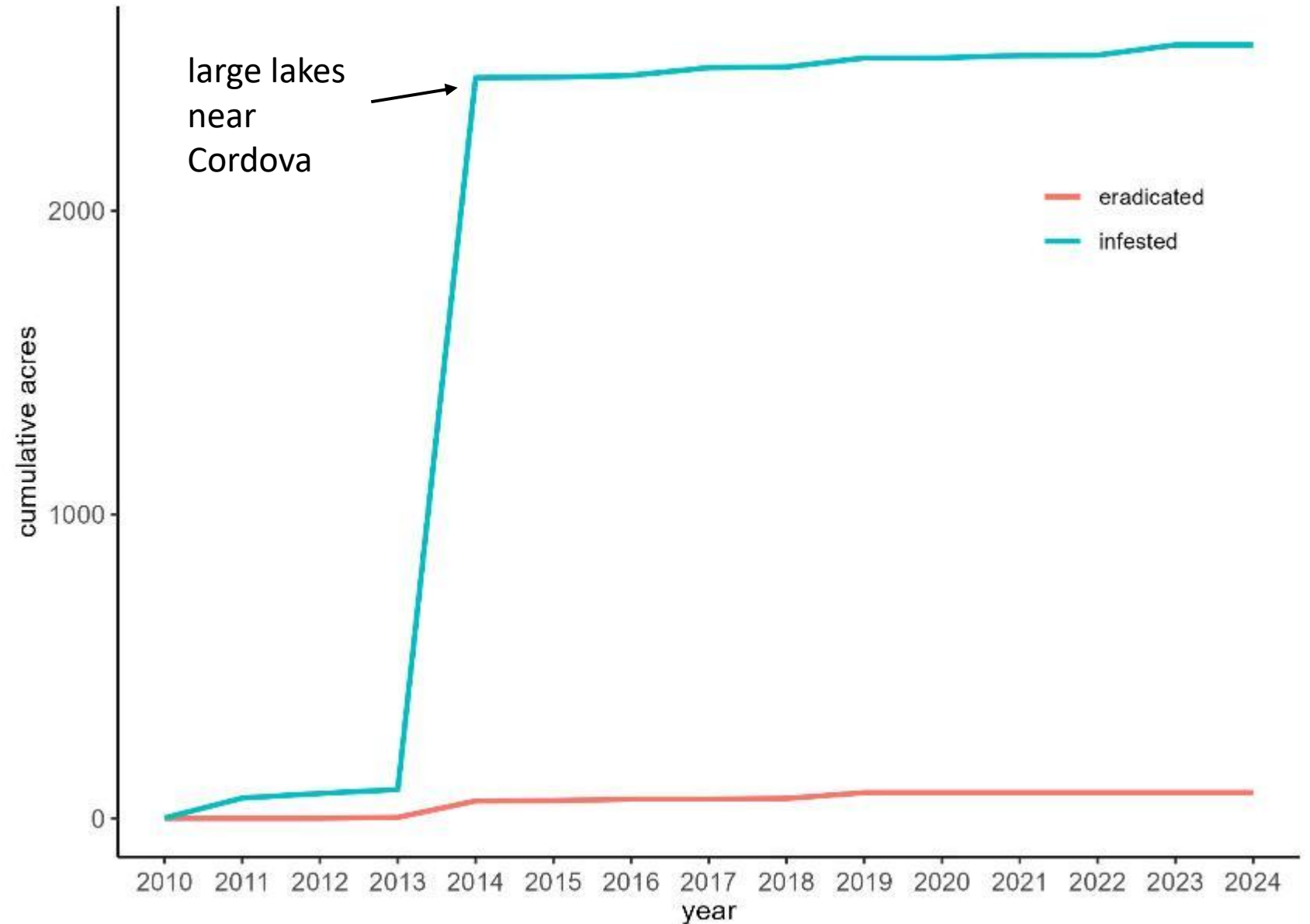
7 Under-
resourced
response
=
longer,
more costly
response



Larger
infestations
=
higher
cost
=
higher
spread



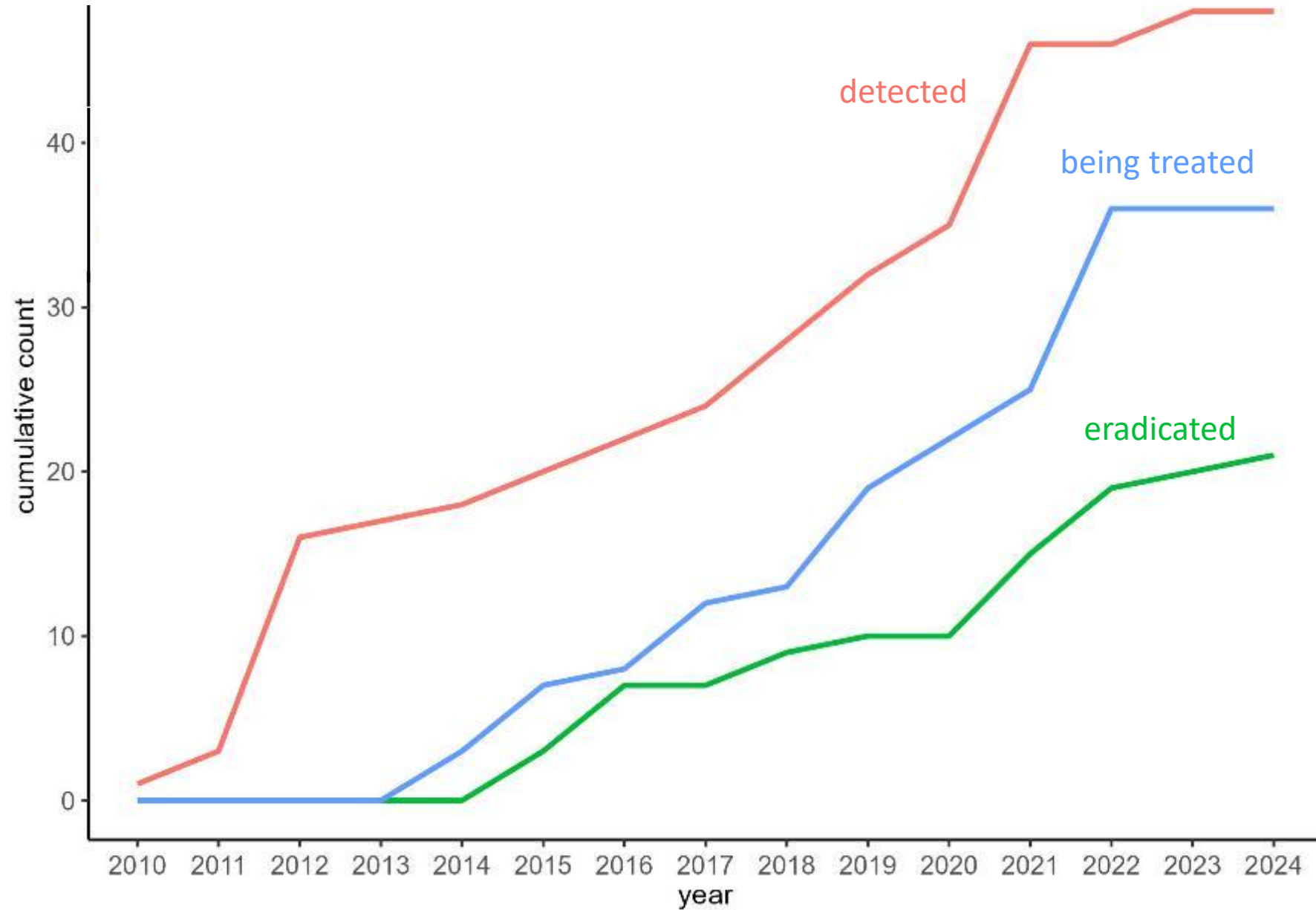
Elodea-infested acreage



The Elodea eradication failure



Number of Elodea-infested waterbodies








Cost of not cleaning up *Elodea*

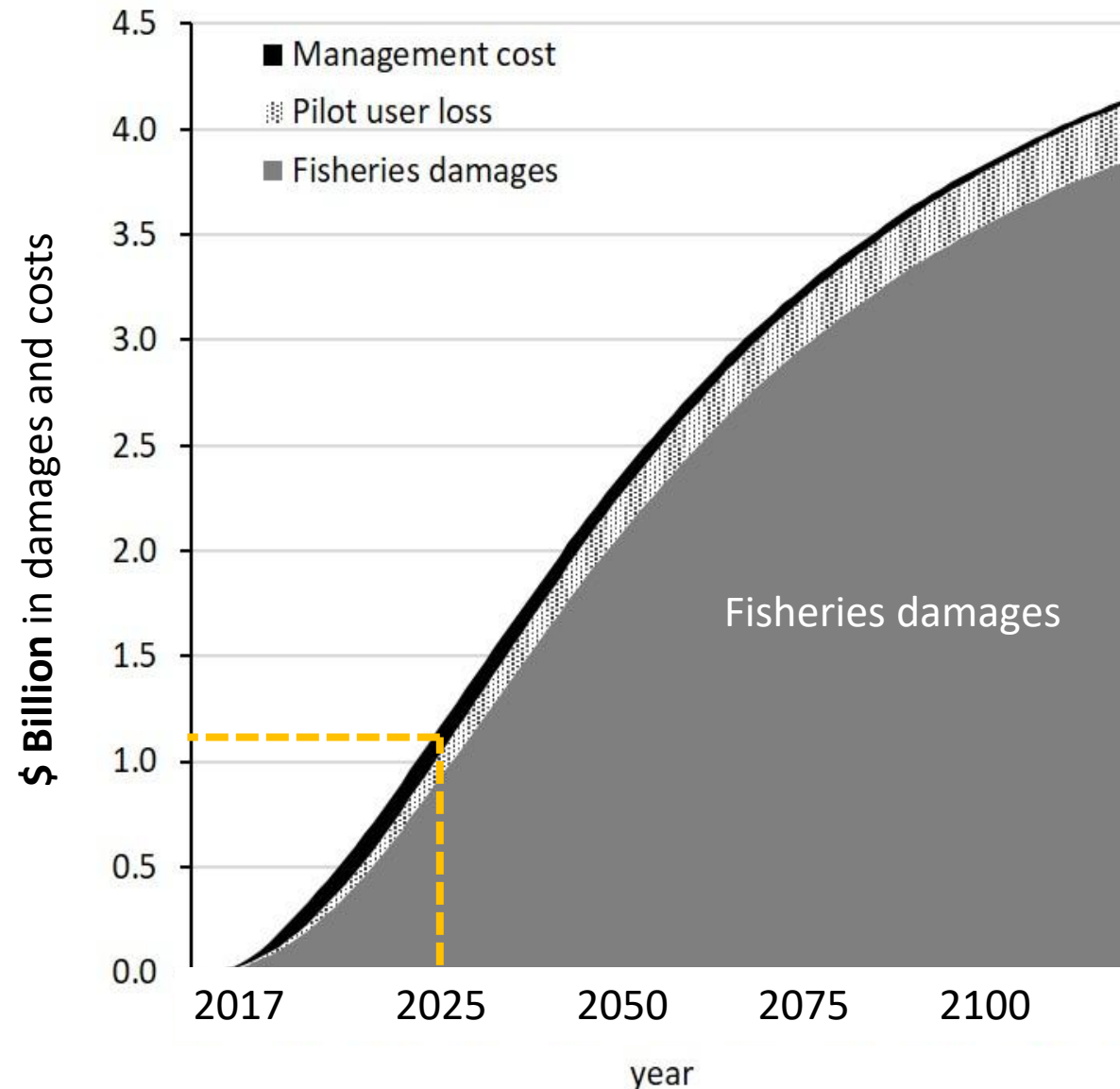
Biol Invasions (2023) 25:1509–1525
<https://doi.org/10.1007/s10530-022-02992-3>

ORIGINAL PAPER

Elodea mediates juvenile salmon growth by altering physical structure in freshwater habitats

Michael P. Carey  · Gordon H. Reeves · Suresh A. Sethi  ·
 Theresa L. Tanner · Daniel B. Young  · Krista K. Bartz  ·
 Christian E. Zimmerman 

Hidden fisheries damages



Sources



[Carey, Michael P., et al. 2023. "Elodea Mediates Juvenile Salmon Growth by Altering Physical Structure in Freshwater Habitats." *Biological Invasions*, February.](#)

[Schwoerer, T. et al. 2019. "Aquatic Invasive Species Change Ecosystem Services from the World's Largest Wild Sockeye Salmon Fisheries in Alaska." *Journal of Ocean and Coastal Economics* 6 \(1\).](#)

[Schwoerer, T. et al. 2020. "Hitchhikers on Floats to Arctic Freshwater: Private Aviation and Recreation Loss from Aquatic Invasion." *Ambio* 49 \(8\): 1364–76.](#)

[Schwoerer, T. et al. 2022. "Flight Plan for the Future: Floatplane Pilots and Researchers Team up to Predict Invasive Species Dispersal in Alaska." *Biological Invasions* 24: 1229-1245](#)

[Schwoerer, T. et al. 2023. "Batten down the Hatches: Opportunities to Protect Alaska from Biological Invasions through Watercraft Trade and Traffic." *Marine Policy* 148 \(February\): 105448.](#)

[Schwoerer, T. et al. in preparation. "Lessons learned from Alaska's 15 years of Elodea response." *Biological Invasions*.](#)