

# **Overview of dredge efficiency experiments**

**CBSAC Winter meeting January 11, 2021**

**Between 1992 and 2012, there were 379 depletion experiments conducted by MDNR, VIMS, and CBL to estimate gear efficiency.**

**Methodology is described in:**

Vølstad, J.,A. Sharov,G.Davis, B.Davis. 2000. A method for estimating dredge catch efficiency for blue crabs, *Callinectes sapidus*, in Chesapeake Bay. Fish Bull 98(2).

**20 different river systems or mainstem regions.**

**Depths: 4 ft – 38 ft**

**Conducted by six vessels:**

*R/V Bay Eagle* 57 \*

*F/V Erin Kay* 39

*F/V Loni Carol* 84

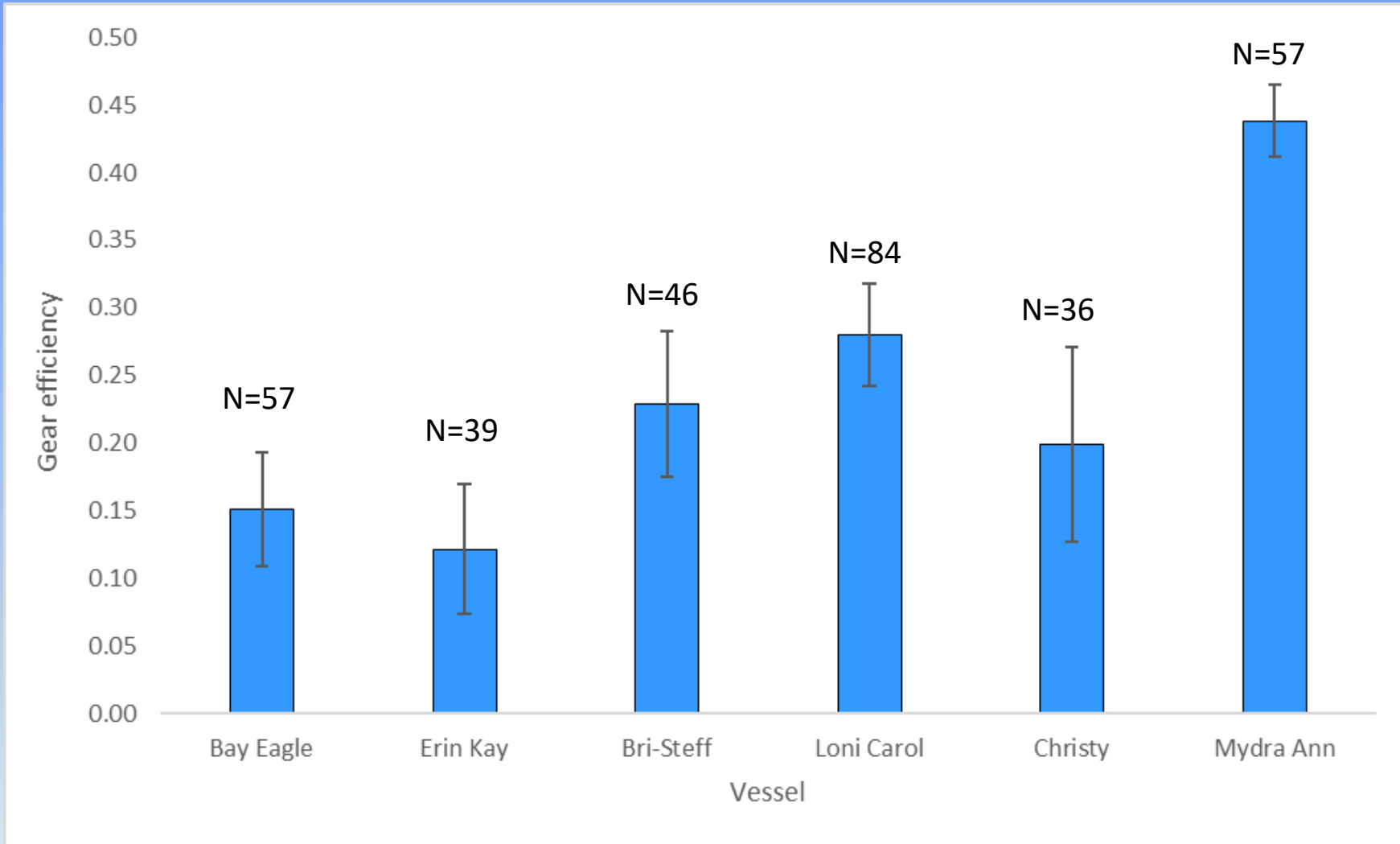
*F/V Bri-Steff* 46

*F/V Christy* 36

*F/V Mydra Ann* 57 \*

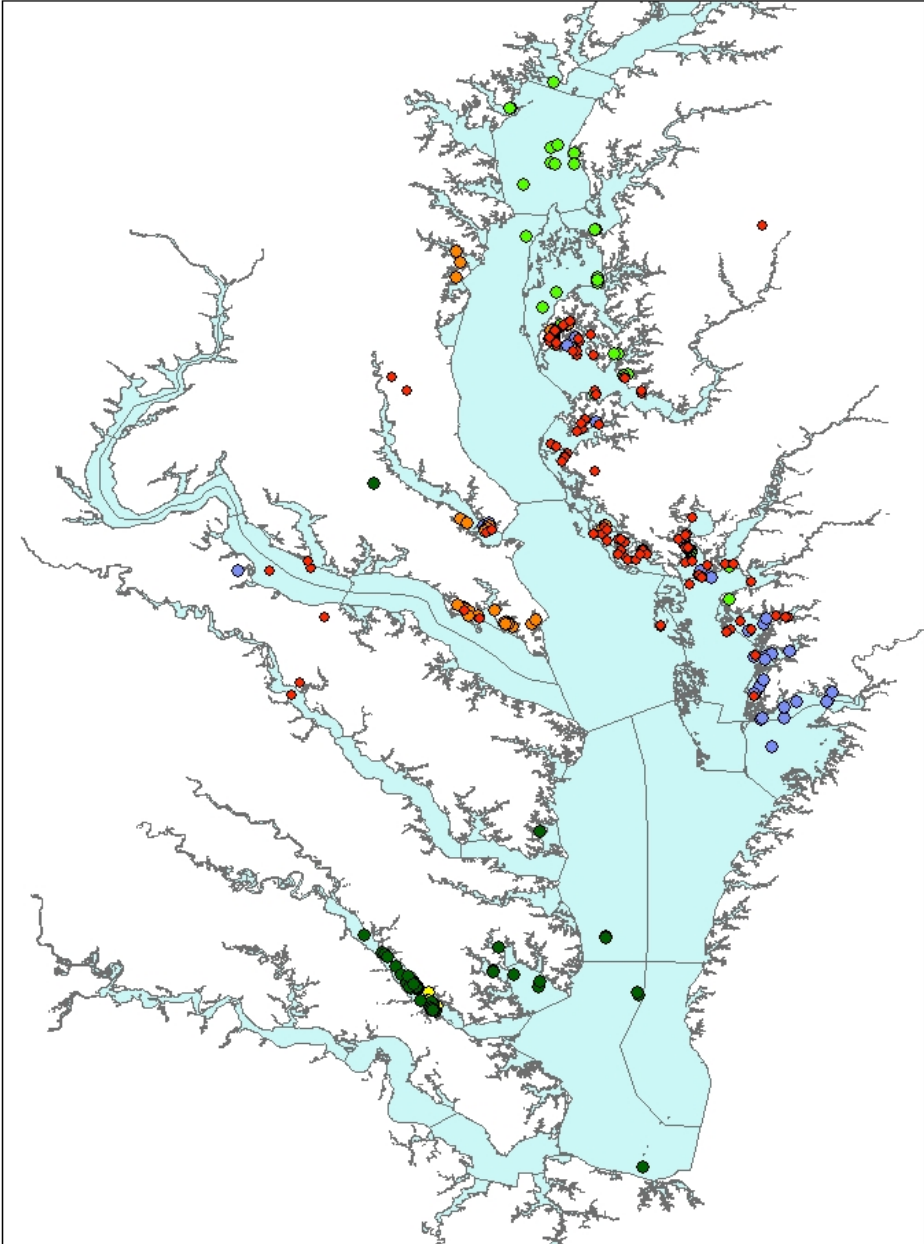
Virginia, Maryland, both states

Missing contextual data for 50 experiments (location, lat/long, depth, and/or temperature/salinity)



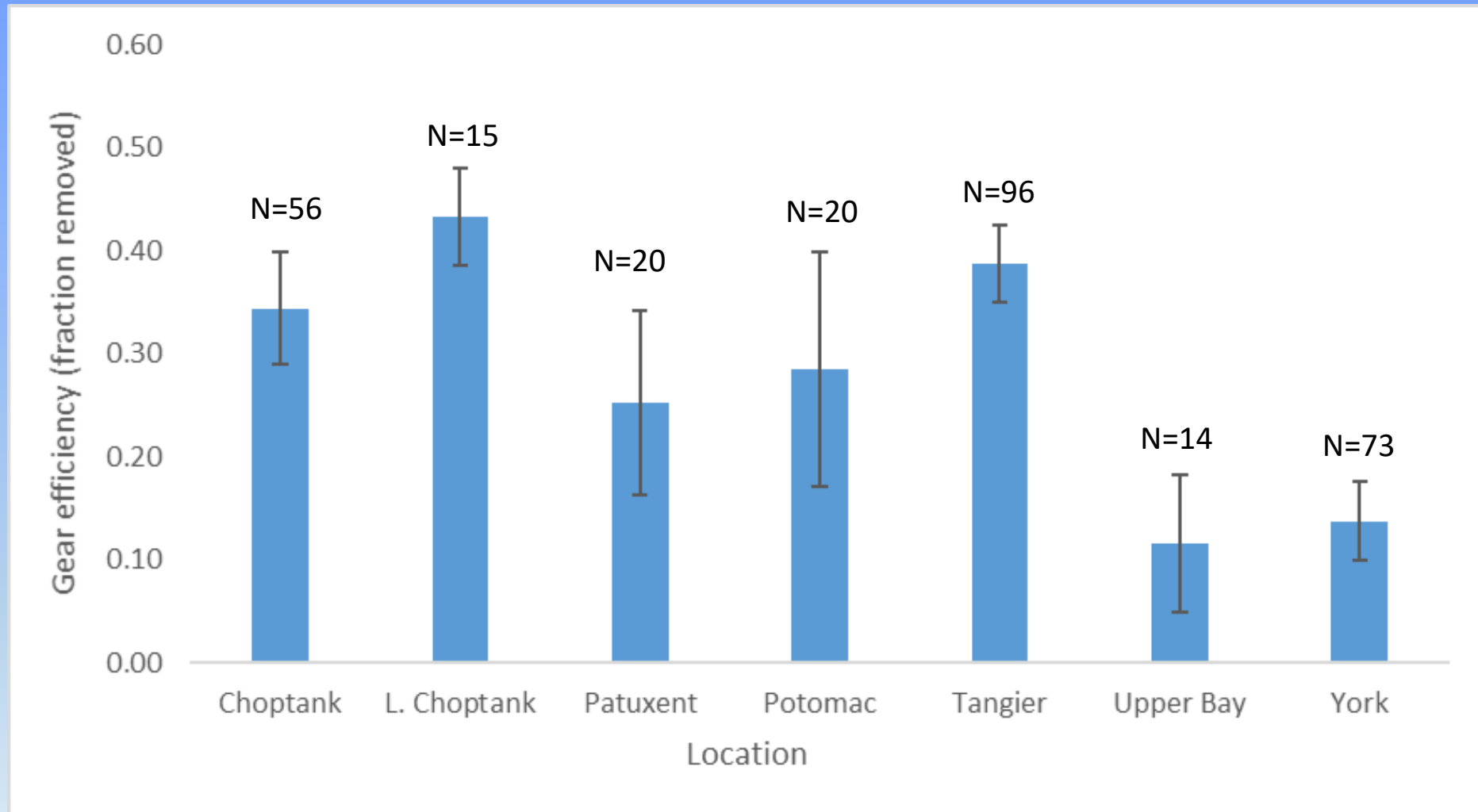
Estimated gear efficiency by vessel, 1992-2012.

**Locations of depletion experiments to estimate gear efficiency.**

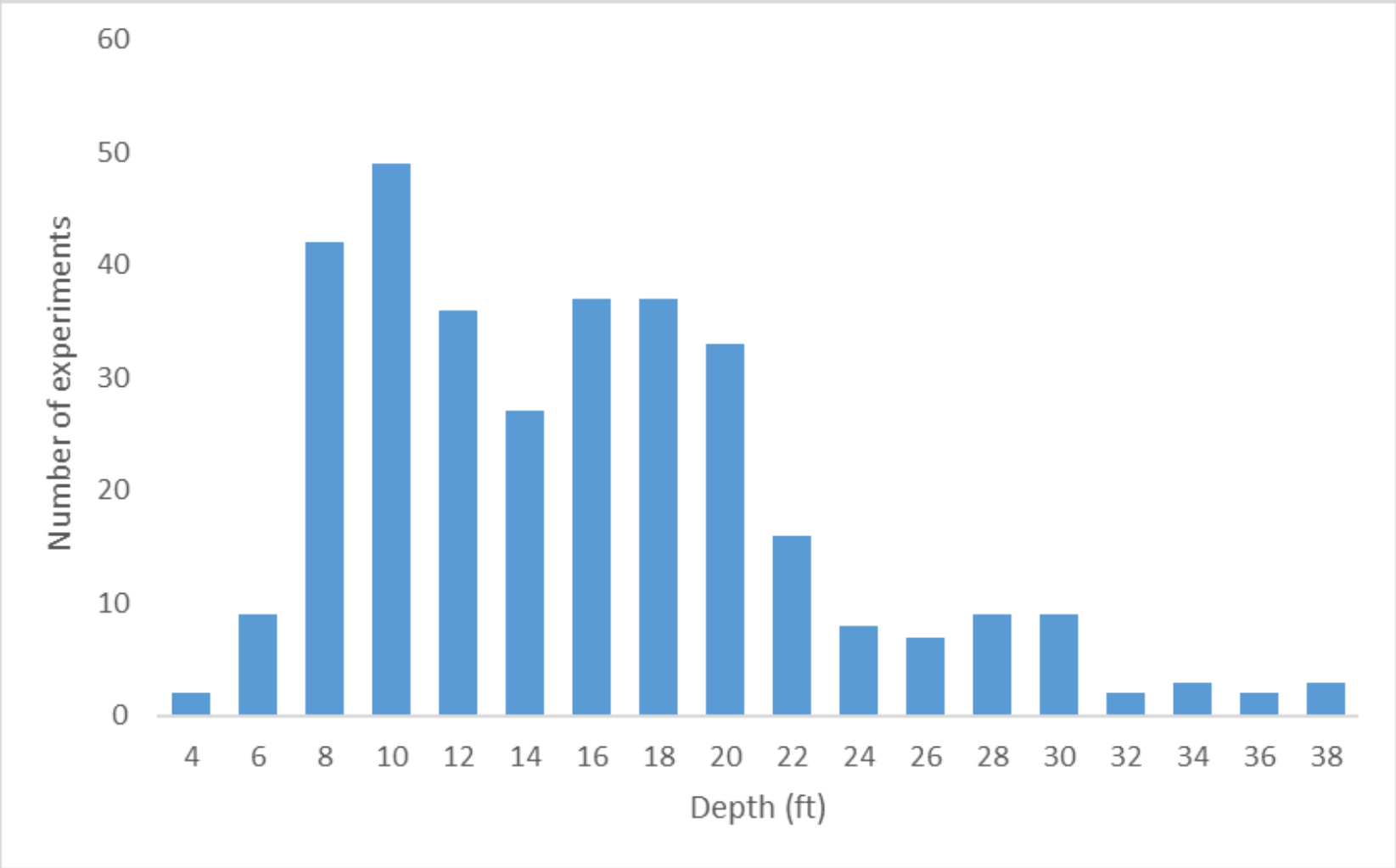


Vessels

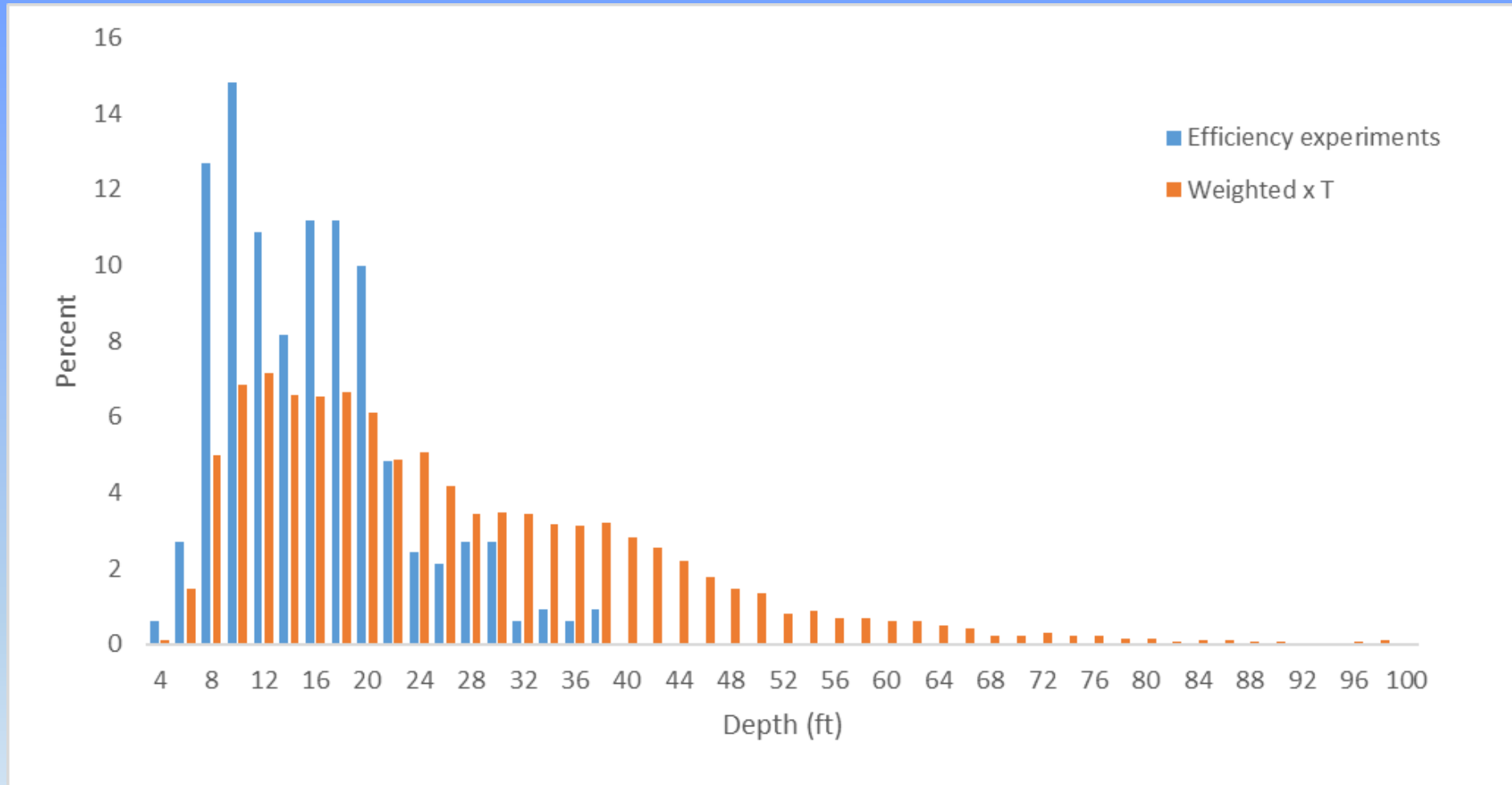
- Bay Eagle
- Erin Kay
- Bri-Steff
- Loni Carol
- Christy
- Mydra Ann



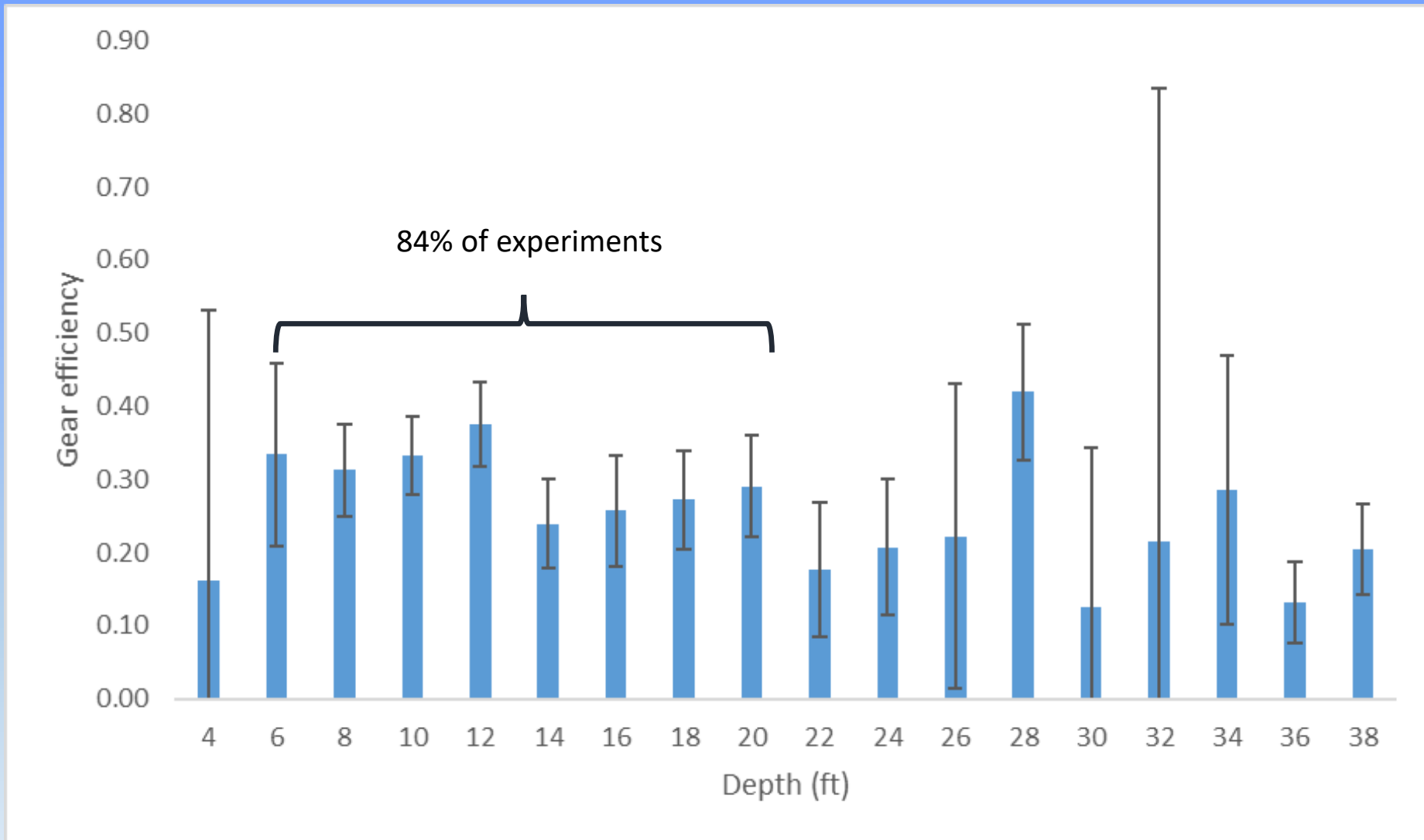
Mean gear efficiency estimates from most frequently visited locations, 1992-2012, all vessels combined.



Depth distribution of dredge efficiency experiments (1992-2012), all vessels combined.

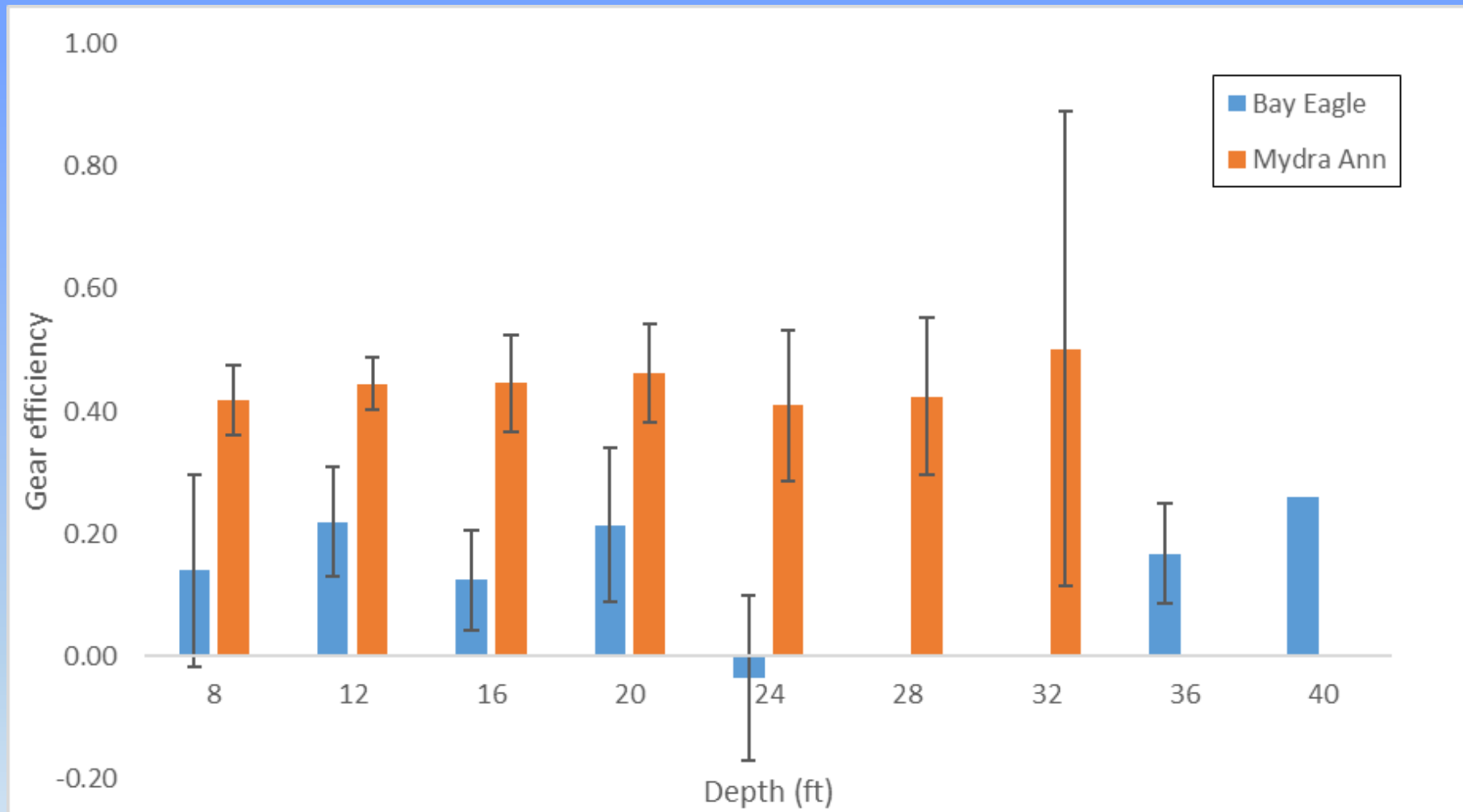


Depth distribution of dredge efficiency experiments (1992-2012) and randomly selected dredge sites, weighted by the number of crabs found at those sites (1992-2017), all vessels combined.



Mean gear efficiency by depth (2 ft intervals), 1992-2012, all vessels combined.





Estimated gear efficiency by depth for the two vessels currently used in the winter dredge survey.

## For 2021: Jointly sampling an area around the state line.

MDNR and VIMS will jointly sample an area on both sides of the state line in the Bay mainstem and Tangier Sound.

~ 60 sites in the mainstem

20 sites in Tangier Sound

All sites will be sampled in Tangier Sound by both vessels

Sites in the mainstem will be split between the two vessels, with a subset (~20 sites) sampled by both vessels.

