The Nature Conservancy

Protecting nature. Preserving life.™


Helping to restore native
prey fish populations
in the Great Lakes - focus
on Lake Ontario Cisco

- Open water fish community has undergone massive changes over the last 150 years

- Originally, Atlantic salmon and lake trout fed on chubs, whitefish, and herring, which fed on mysis, amphipods, and large zooplankton

- Period of eutrophication and instability brought on habitat alteration, pollution and over-harvest

- Recovery of certain elements of lake ecosystem but challenges remain from entrenched non-natives (alewife) and new invasives (zebra mussel, round goby).

Chinook salmon and happy guy
courtesy of Tony Gugino

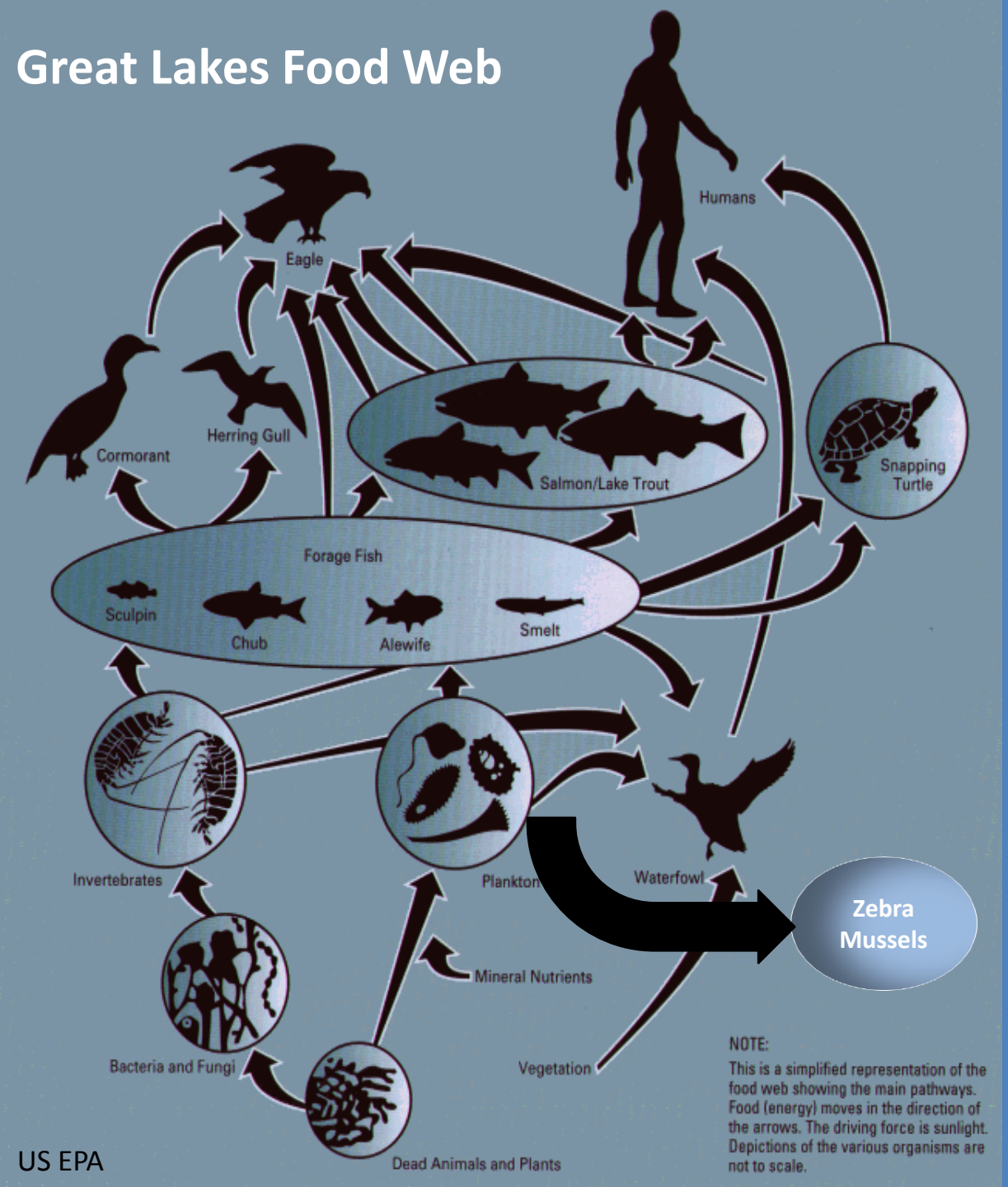
Dominant prey fish in Lake Ontario – Alewife

Reliance of top predators on alewife as chief prey has two major problems:

1) Alewife susceptible to drastic population fluctuations, and

2) Alewife contain high levels of vitamin B destroying enzyme

Great Lakes Food Web



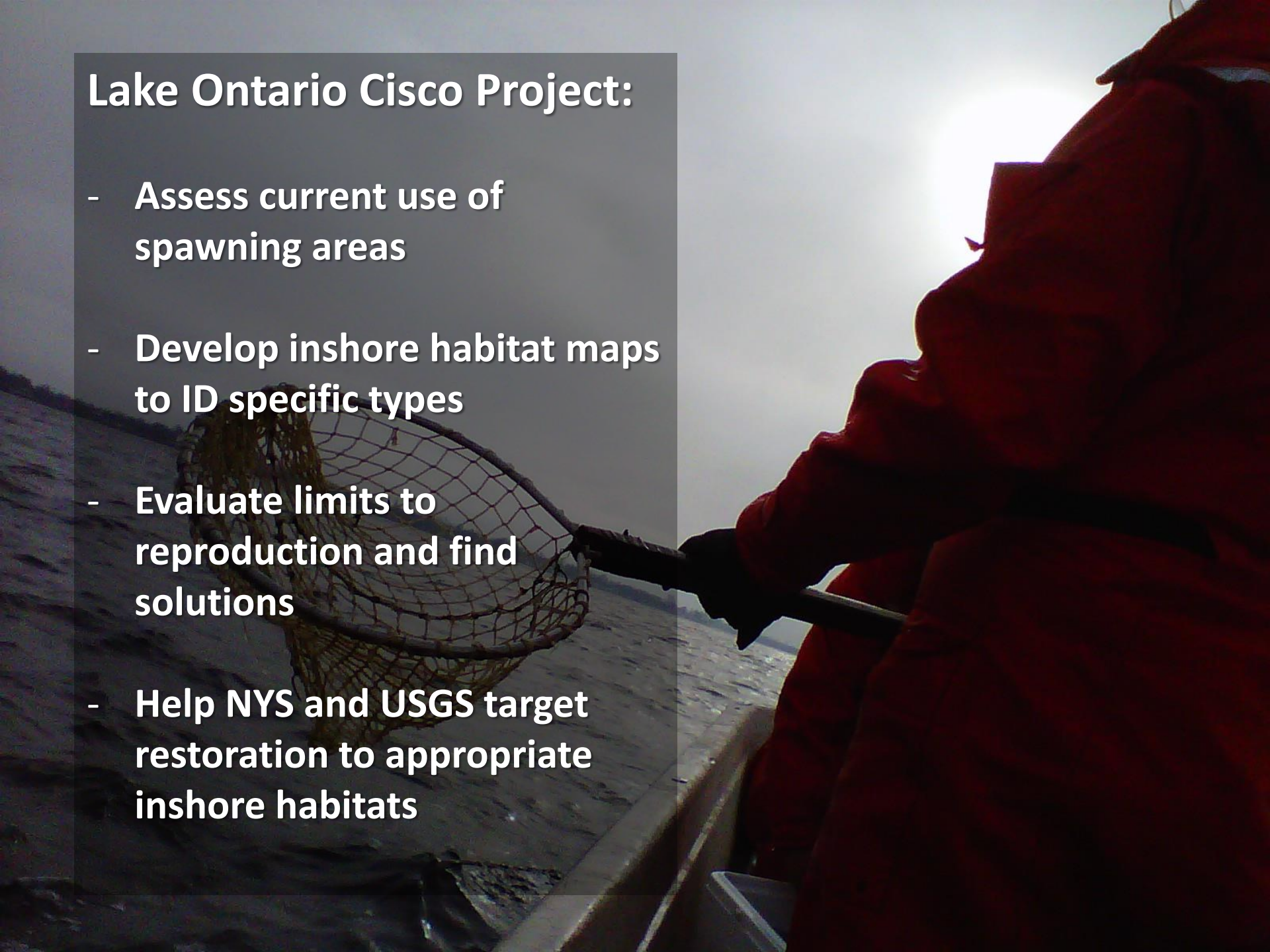
US EPA

Building a more diverse and resilient system

Previous efforts focused on salmon and trout

Current work targets forage fishes

Opportunities to work with NYS DEC and USGS



Lake Ontario Cisco Project:

- Assess current use of spawning areas
- Develop inshore habitat maps to ID specific types
- Evaluate limits to reproduction and find solutions
- Help NYS and USGS target restoration to appropriate inshore habitats


Ontario
Oswego
Rochester
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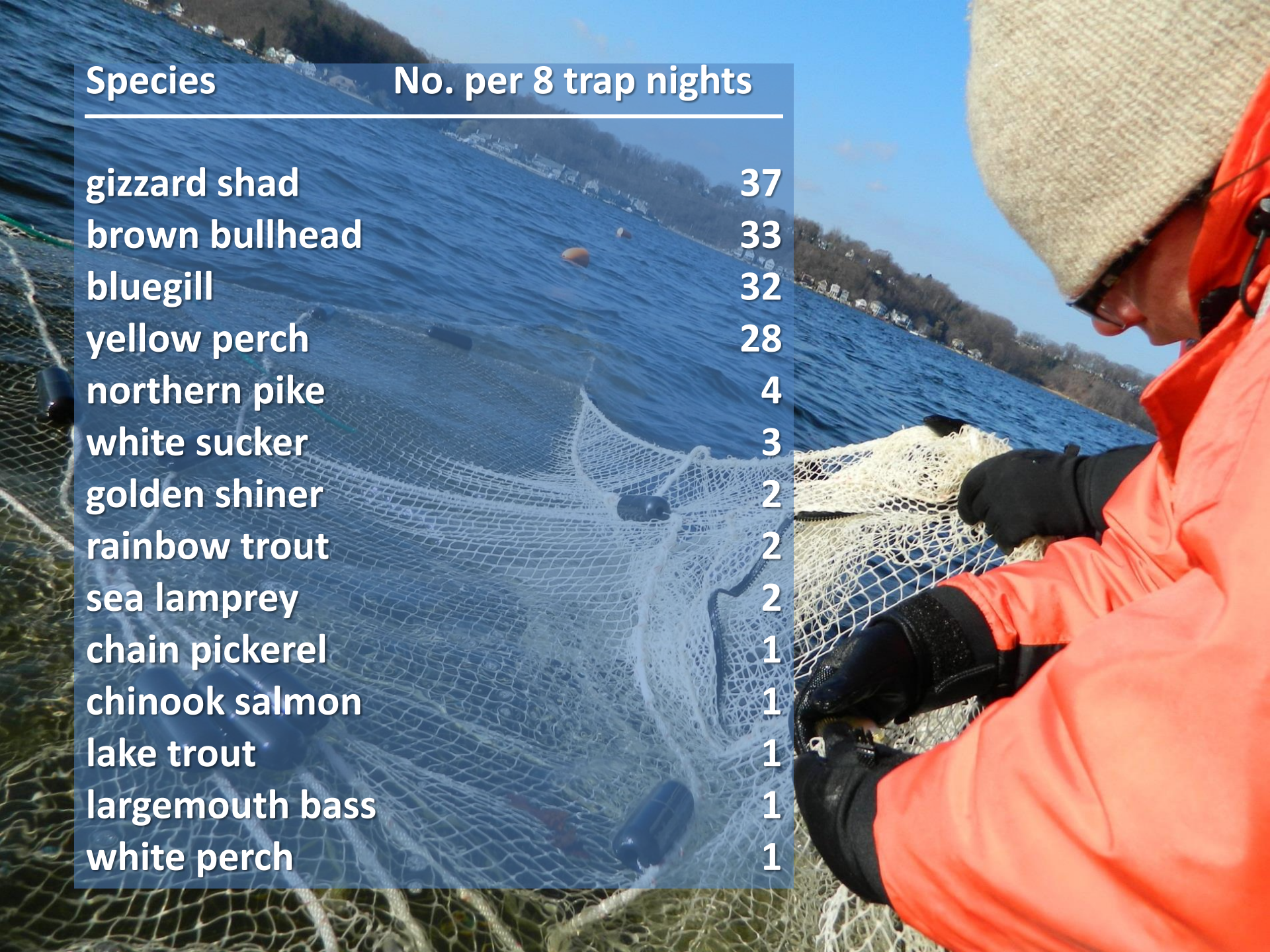
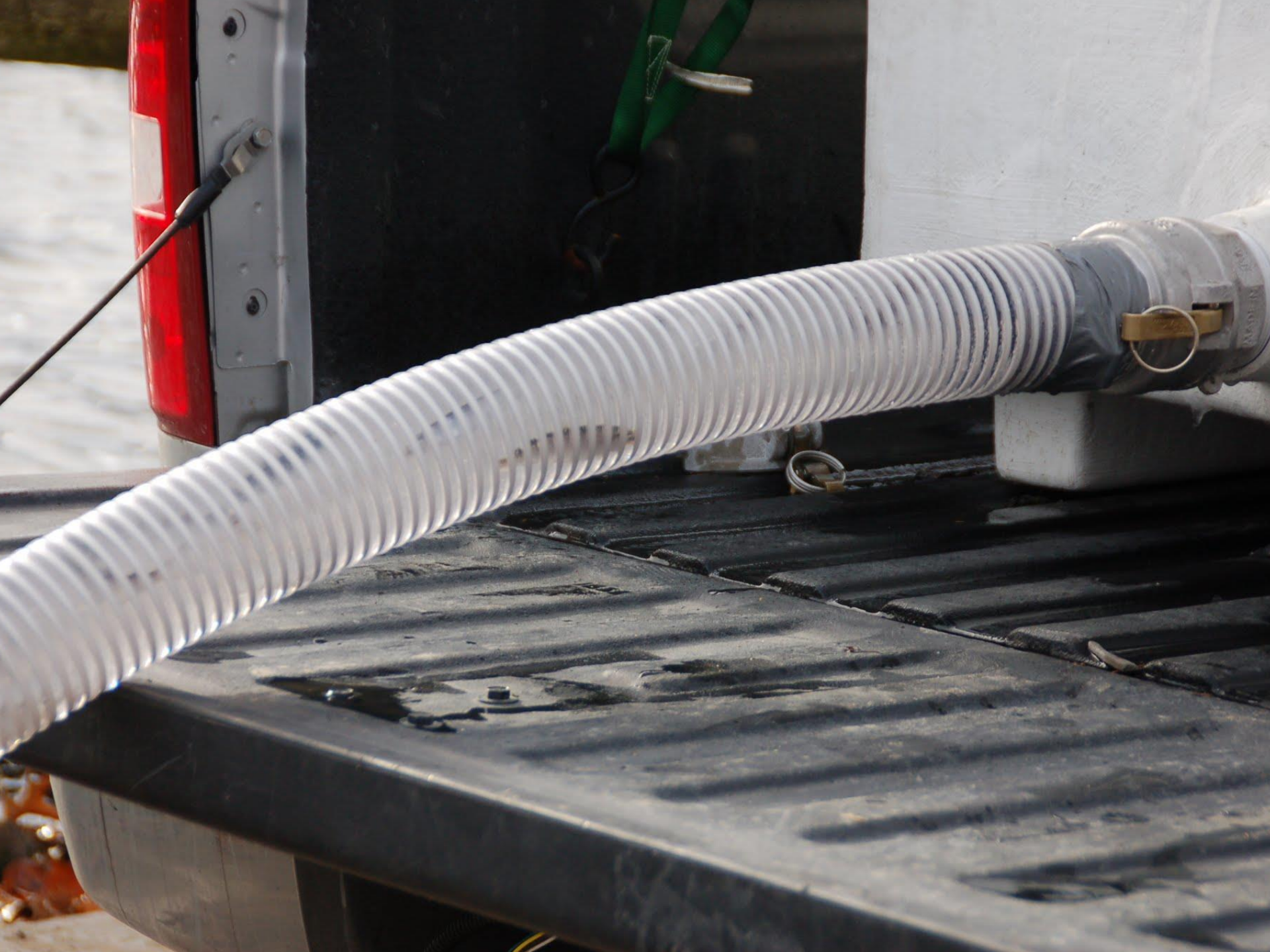
New York



Species	No. per 8 trap nights
gizzard shad	37
brown bullhead	33
bluegill	32
yellow perch	28
northern pike	4
white sucker	3
golden shiner	2
rainbow trout	2
sea lamprey	2
chain pickerel	1
chinook salmon	1
lake trout	1
largemouth bass	1
white perch	1


USGS

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