

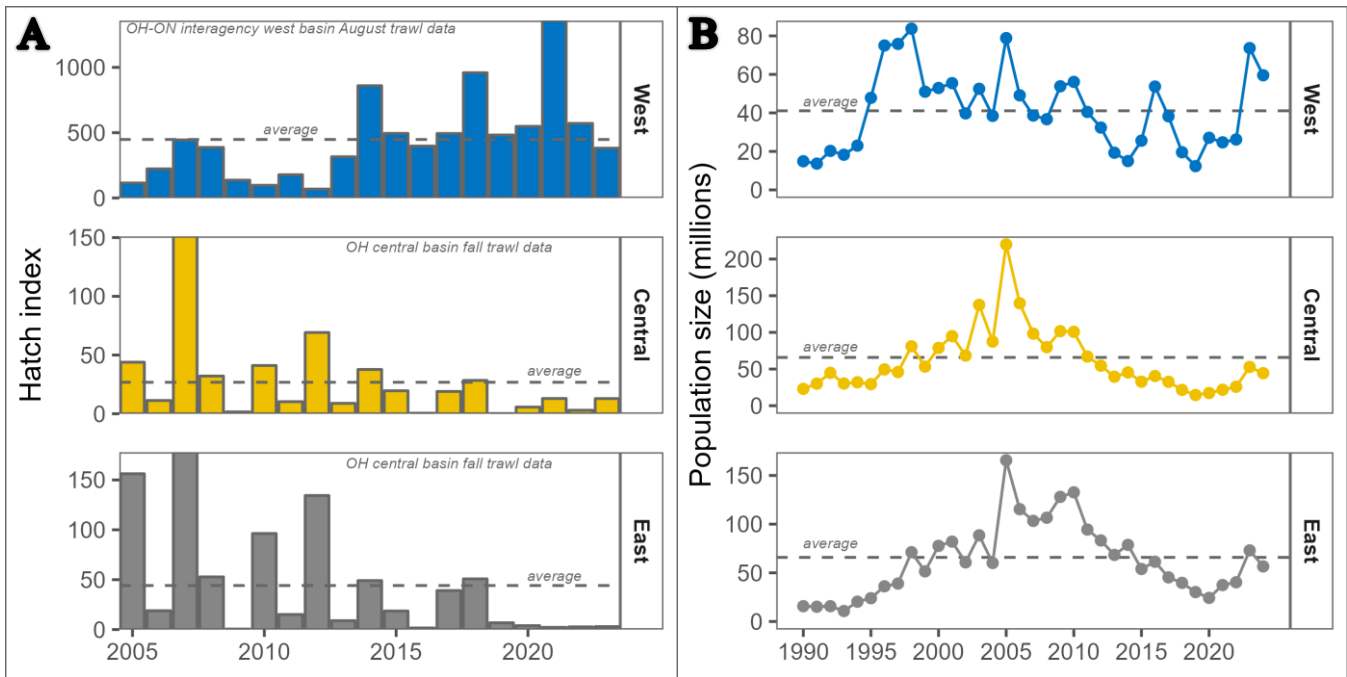


Status of the Lake Erie Yellow Perch Fishery 2024



Yellow Perch management

Lake Erie Yellow Perch (perch) are managed as four separate regional populations. In Ohio waters, perch are managed in three zones: the West Zone is the western basin and the Central and East zones are in the central basin.



Hatches

- **West Zone hatch** has been **average to very strong since 2014** (Fig. A). These hatches have maintained a healthy adult population and contributed to the recent abundance increase.
- **Central and East zone hatches** have been **poor since 2013** (Fig. A). The adult population has declined compared to highs 15 years ago and will remain low until hatches improve.

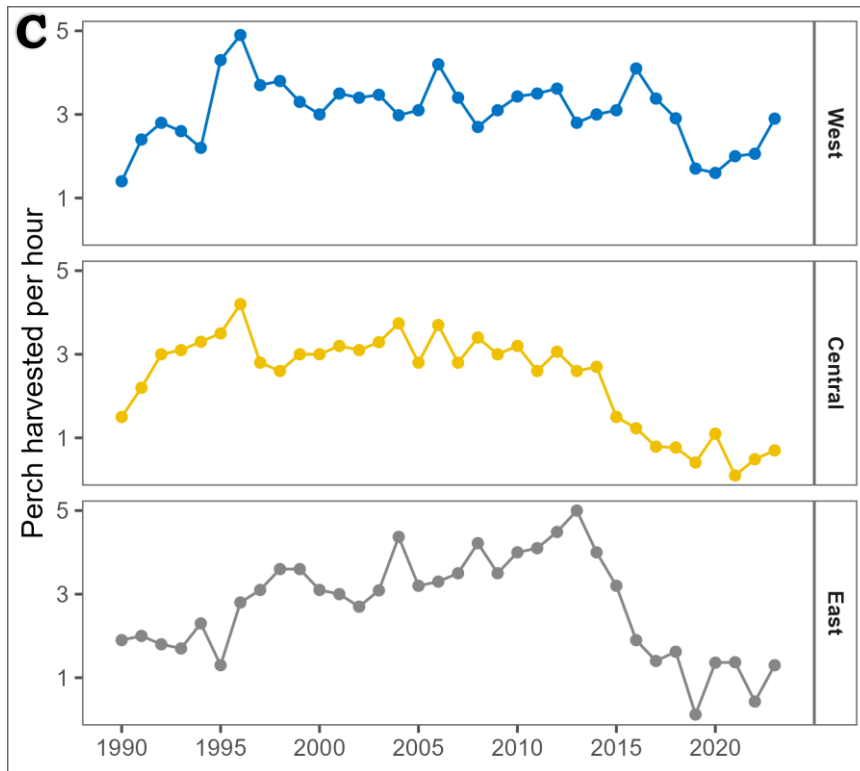
Population trends

- **West Zone population abundance projects to be above average in 2023**, bolstered by an influx of age-2 fish (Fig. B).
- **Central Zone population abundance has declined since the mid-2000s** and remains below average (Fig. B).
- **East Zone population is currently near average** but has also fallen since the mid-2000s.

Sport fishing daily limits will remain at 30 fish (West Zone), 10 fish (Central Zone), and 30 fish (East Zone) during May 1, 2024 through April 30, 2025.

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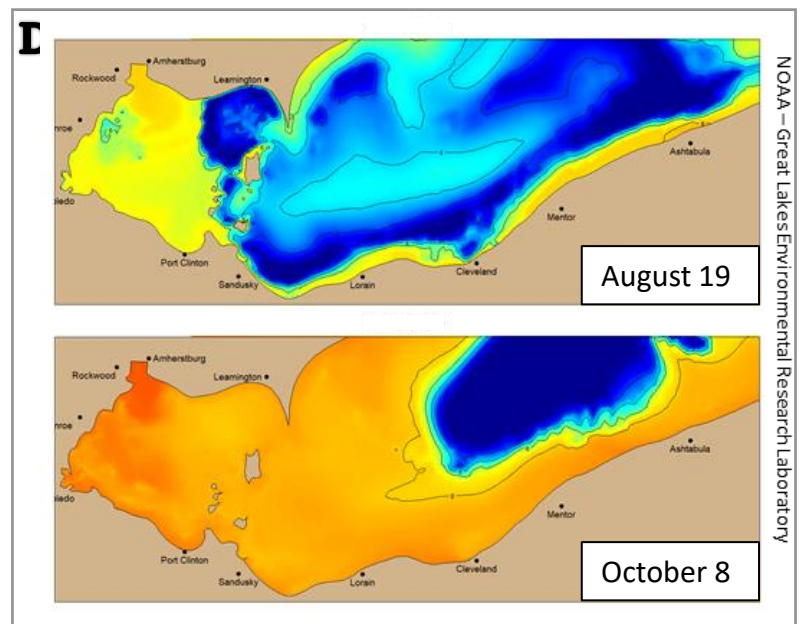


Sport fishery harvest

- In the West Zone, **angler harvest rate** (number of perch harvested per hour) **was higher in 2023**, near historic harvest rates (Fig. C, West).
- In recent years, **angler harvest rates have declined in the Central and East zones**. The Central Zone harvest rate was low in 2023, while the East Zone rate remains below expectations (Fig. C, Central and East).
- Differences in harvest rates among zones reflect differences in perch abundance, habitat, and perch use of prey resources.

Environmental conditions may affect where perch are found

- Seasonal **hypoxia** (i.e., areas of low oxygen; dark blue areas in Fig. D) occurs every summer through early fall near the bottom, especially in the central basin from Lorain to Conneaut (Fig. D).
- Also known as “dead zones”, fish locations may change based on the daily/hourly movement of hypoxic zones, **aggregating near the edges of water lacking oxygen** as they avoid the hypoxic water.



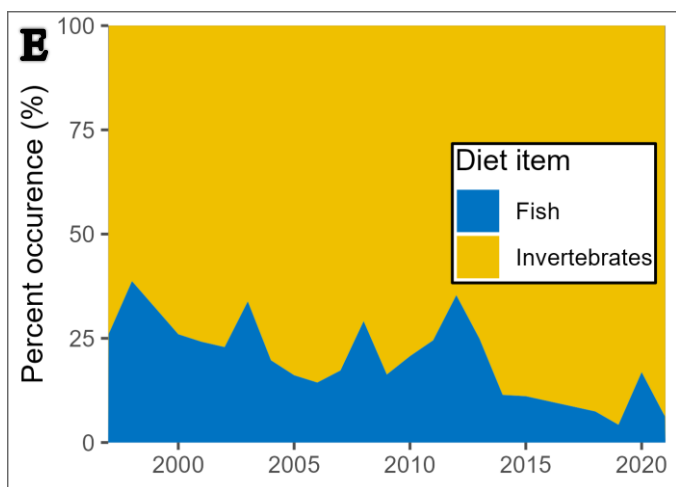
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Perch diets have shifted in the last 20 years

- Perch **diets have changed**. Perch continue to eat fewer fish and more invertebrates (Fig. E). Invertebrates now occur in nearly 100% of perch stomachs, while fish have generally appeared in fewer than 10% of diets since 2016.
- Invertebrate prey includes insects such as native midge larvae (AKA “muffleheads”) and zooplankton like the **invasive spiny water flea** (Fig. F).
- Perch may have shifted away from fish prey because **soft-rayed prey fish populations, such as Emerald Shiner, have declined** across Lake Erie. Invertebrates may also be more abundant.
- These diet shifts may cause fish to **respond differently to lures**, or may cause perch to feed less during high invertebrate abundances. Perch may be less responsive to traditional perch fishing rigs and baits.



How might I catch more Yellow Perch?

- **Try fishing high abundance areas** in the West Zone between Toledo and Huron.
- **Watch the water temperature.** Spiny water flea production is reduced when water is warmer than 76°F, forcing perch to look for other food. The best bite often comes in mid-summer during July and early August.
- **Try fishing different depths or times of day** as fish may suspend off-bottom when eating invertebrates.
- **Be aware of hypoxic zones.** Use NOAA’s hypoxia predictor to avoid low oxygen zones, available online at: www.glerl.noaa.gov/res/HABs_and_Hypoxia/hypoxiaWarningSystem.html



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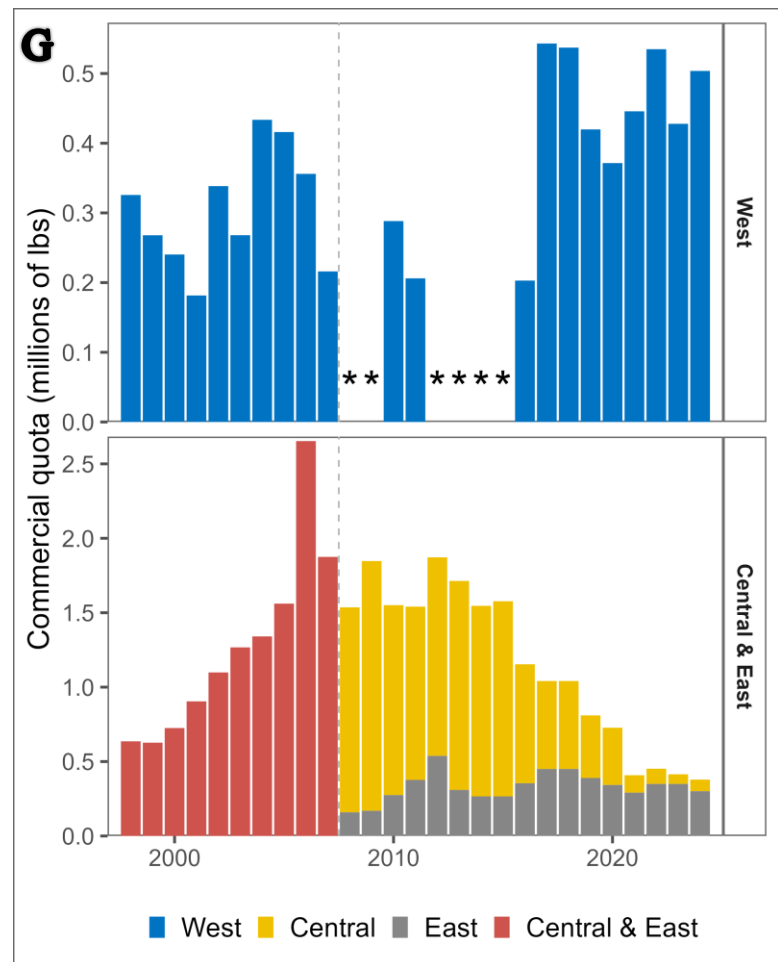


How are perch quotas and limits determined in Ohio?

- U.S. and Canadian biologists across Lake Erie annually **pool data, estimate adult perch abundance, and determine sustainable harvest levels** for each zone.
- Total allowable catches (TACs) within zones are informed by Harvest Control Rules which **balance fishery performance with population status**. When population status declines, TACs are reduced to allow the population to rebound.
- Managers in each state and province must adjust fishery harvest quotas and limits to compensate for reduced TAC, **ensuring future sustainable harvest levels**.

What about the commercial fishery?

- Ohio receives a portion of the TAC in each zone and adjusts recreational limits and commercial quotas according to Ohio law to ensure overharvest does not occur.
- In years with high TAC, **anglers receive 65% of Ohio's quota and the trap net fishery receives the remaining 35%**. Commercial quotas can be as low as 25% in low TAC years
- Sport fishery daily limits and **commercial quotas are reduced** in low TAC years.
- **Since 2021, the Central Zone population has been low**. Paired with several years of poor hatches, this caused a reduction in TAC (Fig. G).
- In some years, anglers were projected to harvest all the West Zone quota, necessitating exclusion of this zone from commercial perch quota (* Fig. G). Prior to 2008, Central and East zones were assigned a combined quota (shown in red).



**years when this zone was excluded from commercial Yellow Perch quota due to low population levels*