

Upper Fox River Walleye Movement project

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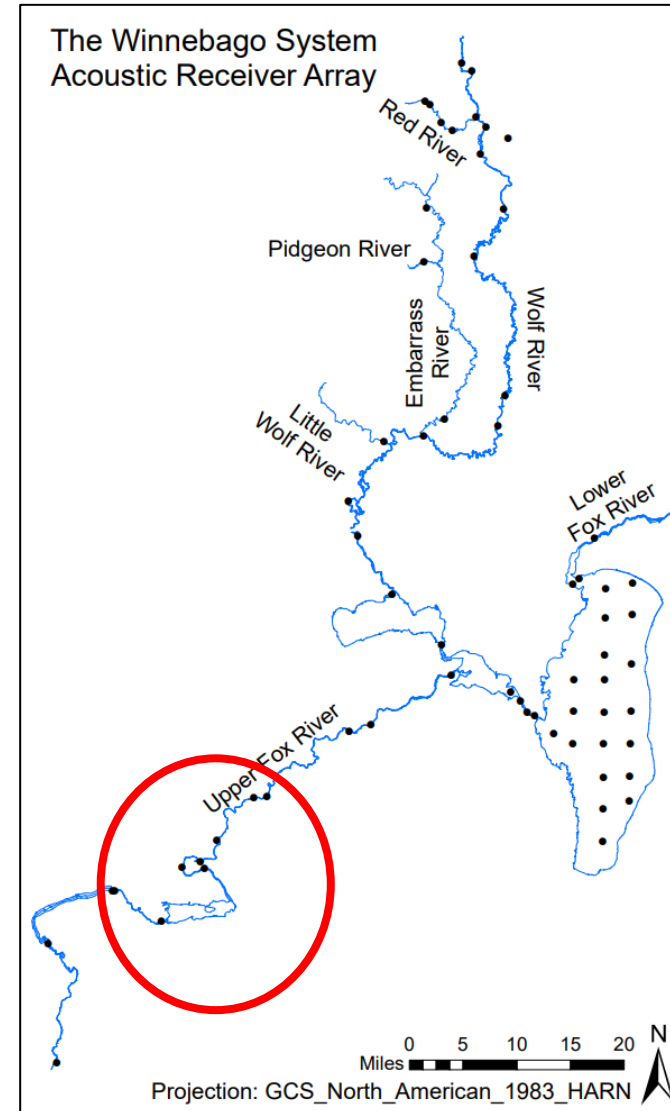
WDNR Fisheries Biologist



Walleye Movement Project

Upper Fox River Tagging:

- Fall of 2022:
 - L. Puckaway Inlet: 16 fish
- Spring of 2023:
 - Eureka: 13 fish
 - Hopps: 15 fish
 - L. Puckaway Inlet: 15 fish
 - L. Puckaway Outlet: 14 fish
 - L. Puckaway South Shore: 12 fish



Walleye Movement Project

Fall of 2022: L. Puckaway Inlet: 16 fish

- All fish detected above L. Puckaway
- 4 fish (25%) only detected above Puckaway
 - 1 was harvested shortly after tagging
 - 3 other fish either Remained in L. Puckaway or in-between L. Puckaway and Montello.
- 6 fish (37.5%) detected at Buffalo Spillway
 - 3 fish also hit below fishway
- 4 fish (25%) detected below Montello Fishway
 - 3 fish also hit Buffalo Spillway
- 1 fish detected at Mecan River



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Fall of 2022: L. Puckaway Inlet: 16 fish

Summary:

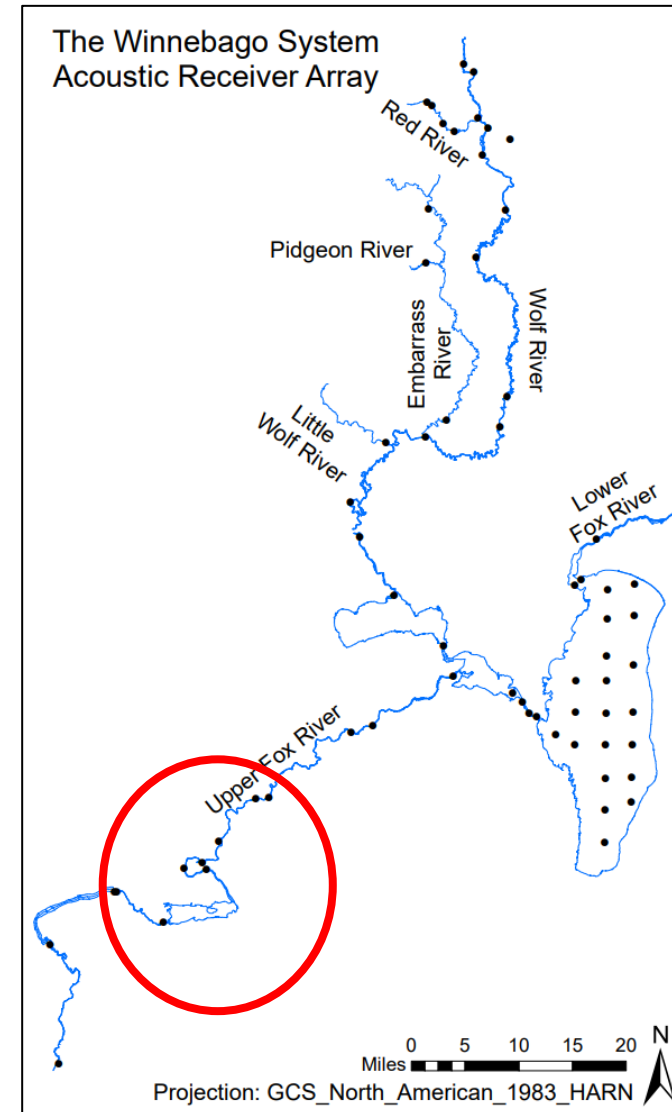
- Fall tagged L. Puckaway fish did not travel far from L. Puckaway.
- None of the fall tagged fish were observed to enter Buffalo Lake via the fish way in Montello.
- Fish showed spring movement out of L. Puckaway both upstream (10 fish, 71.4%) and downstream (1 fish, 7.2%). 3 fish had insufficient data to determine spawning location (21.4%). Percentages account for pre-spawn harvest (2 fish).
- 4 fish harvested (25.0%)
 - Only two harvested prior to April
- 2 caught and released



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Walleye Movement Project

2023 Spring L. Puckaway inlet & outlet tagging:
29 fish

- 25 fish detected (86.2% detection rate).
- 18 fish moved upstream during spawn (72%).
 - 16 fish remained in Puckaway or above after spawn.
 - 2 fish traveled to Lake Winnebago after spawn.
- 2 fish went up to Montello and then down to Mekan river within spawning period (8%)
- 4 fish detected in Mekan river during spawn (16%)
- 1 fish passed fish way in Montello and then traveled above Buffalo Lake to Endeavor



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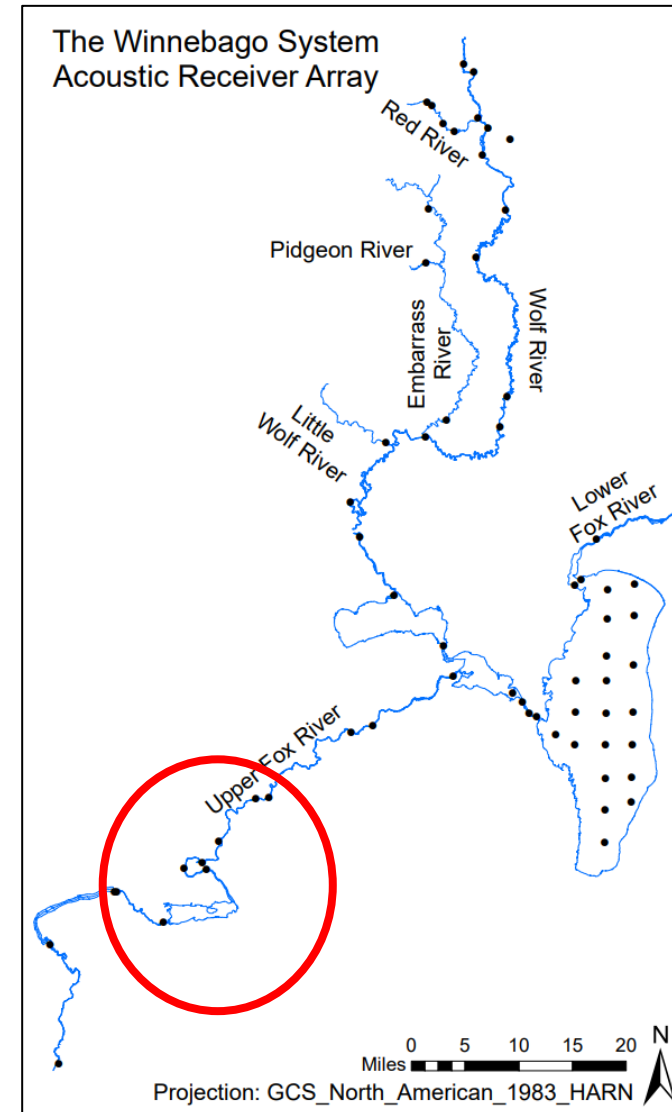
Fish 24007:

Tagged 3/27 at puck outlet -> Mecan River 4/4 -> Above Puckaway 4/13 -> Montello
4/14 - 4/17 -> Above Puckaway 4/17 -> Above puck 5/8 ->
Below Montello fishway + above Montello fishway + Endeavour 5/9

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2023 Spring L. Puckaway south shore: 12 fish

- Only 3 fish detected (25%)
 - Fish remained in L. Puckaway
 - Potential mortality
- 3 fish detected above Puckaway during spawn but didn't reach Montello.



Walleye Movement Project

2023 Spring L. Puckaway tagged fish (41 fish)
(Inlet, Outlet, and South shore of L. Puckaway)

Summary:

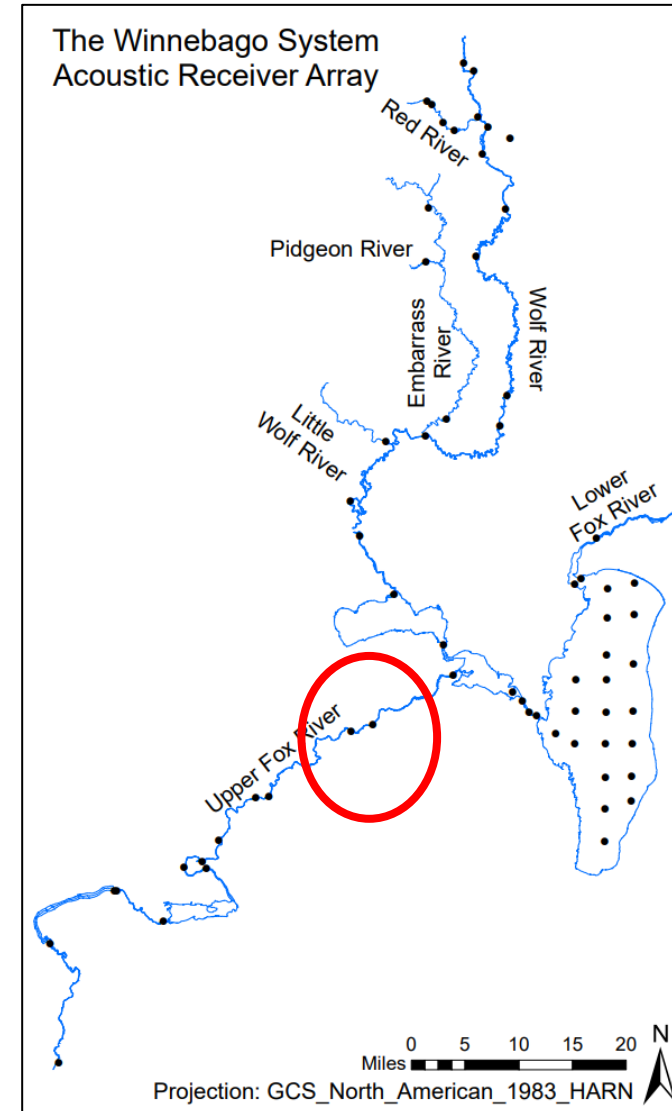
- The Majority of L. Puckaway tagged fish show spring movement upstream, though downstream movement also observed.
- Majority of fish tagged in Puckaway appear to be L. Puckaway residents.
- Movement from L. Puckaway to Winnebago was observed but rare (2 fish).



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Upper Fox River Tagging:

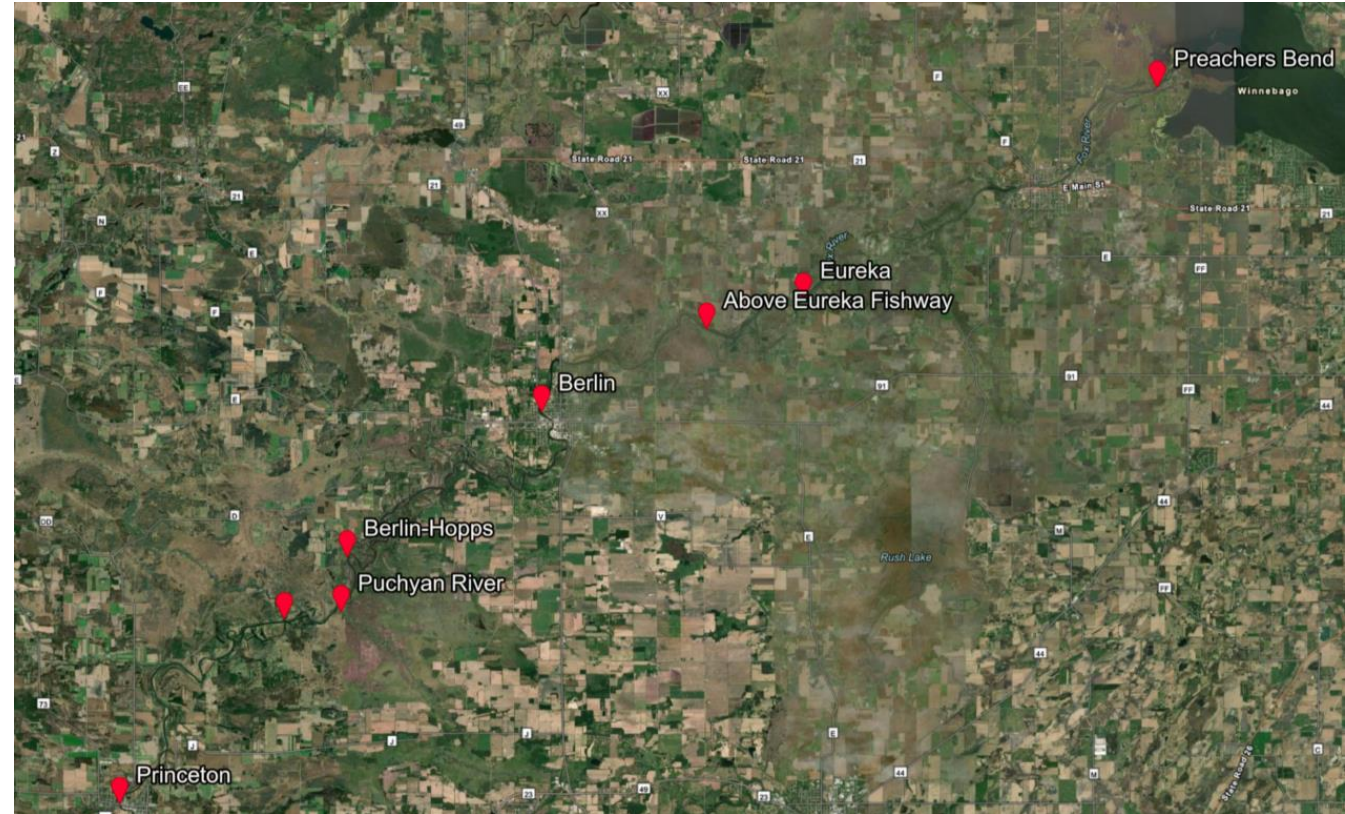
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2023 Spring Eureka: 13 fish

- All fish detected.
- 2 fish (15.4%) harvested
 - Both fish harvested traveling downstream.
- 8 fish (61.5%) travelled to L. Winnebago following spawn.
- 1 fish (7.7%) travelled to Winneconne/Poygan after spawn.
- 2 fish (15.4%) last detected in upper Fox or tributary (potential river residents).
 - 1 last detected in Berlin
 - 1 last detected in Mecan River

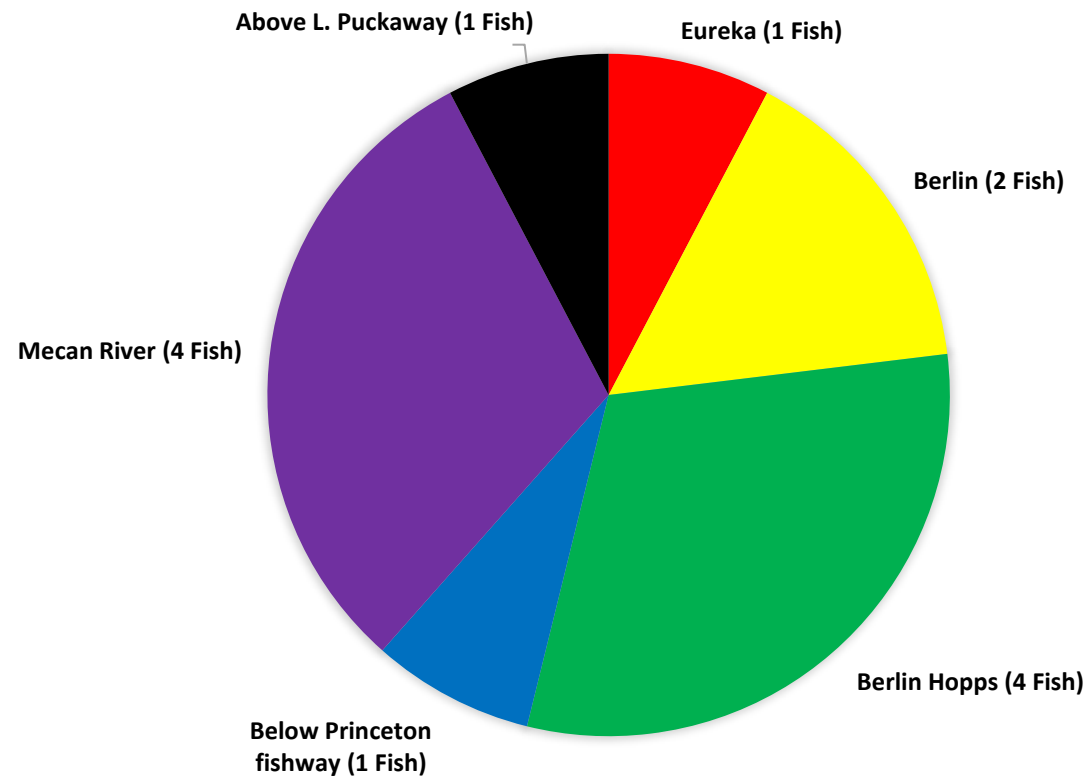


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2023 Spring Eureka: 13 fish

- 9 fish (69.2%) travelled downstream after spawning period.
 - Furthest upstream detections:
 - 1 fish-Eureka (went downstream after tagging)
 - 4 fish- Berlin Hopps
 - 1 fish- Below Princeton fishway
 - 2 fish- Mekan River
 - 1 fish- Above L. Puckaway
- 2 fish (15.4%) travelled and remained upstream in the Upper Fox River.
 - Furthest upstream detections:
 - 1 fish- Berlin
 - 1 fish Mekan River
- 2 fish (15.4%) harvested on downstream return
 - Furthest upstream detections:
 - 1 fish- Berlin
 - 1 fish- Mekan River

FURTHEST UPSTREAM DETECTION (EUREKA TAGGED FISH)

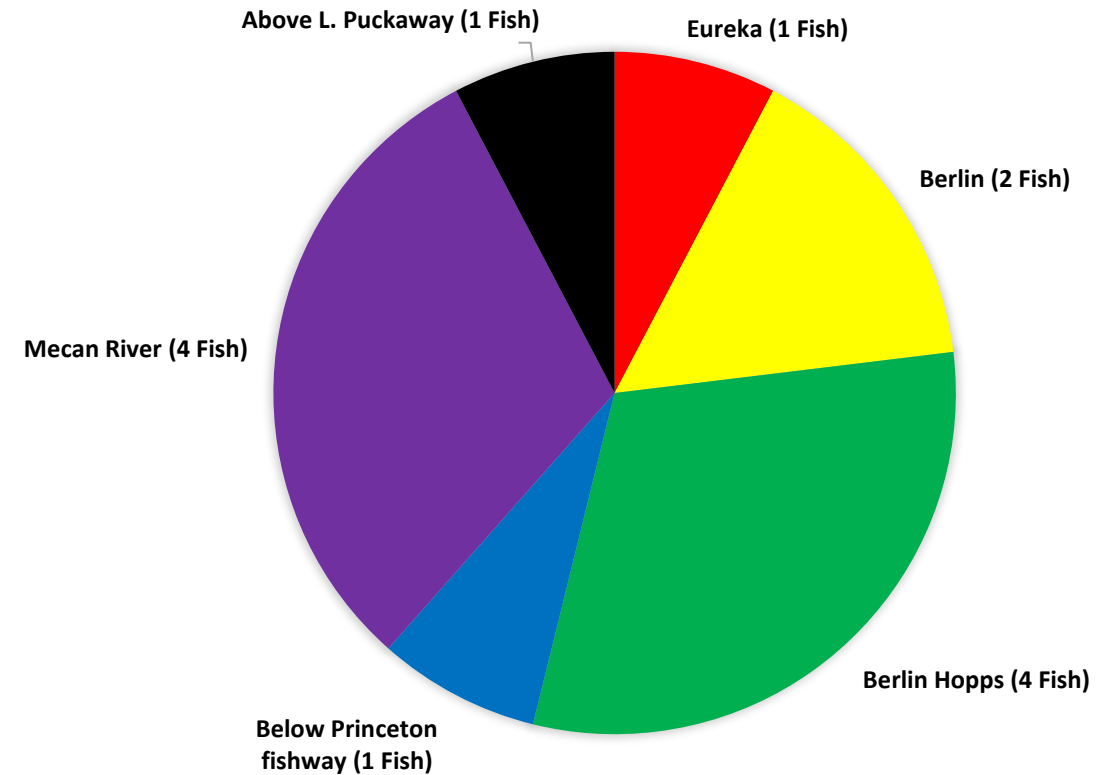


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Eureka Tagged Fish Summary:

- 12 out of 13 fish traveled upstream after tagging.
- 11 out 13 fish headed downstream after spawn.
- 2 fish headed upstream after spawn and remained in the Upper Fox River.
 - Potential river residents
- Berlin Hopps and the Mekan River both indicted as important areas during the spawning period.
- 1 eureka tagged fish traveled above L. Puckaway and then returned to Winnebago.

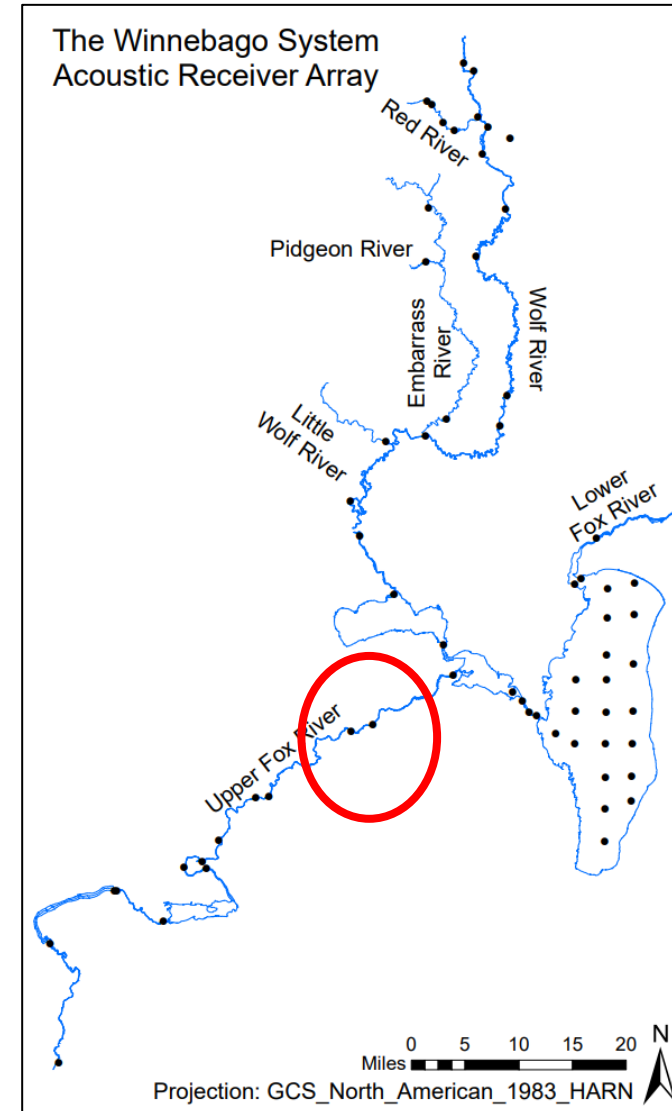
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Upper Fox River Tagging:

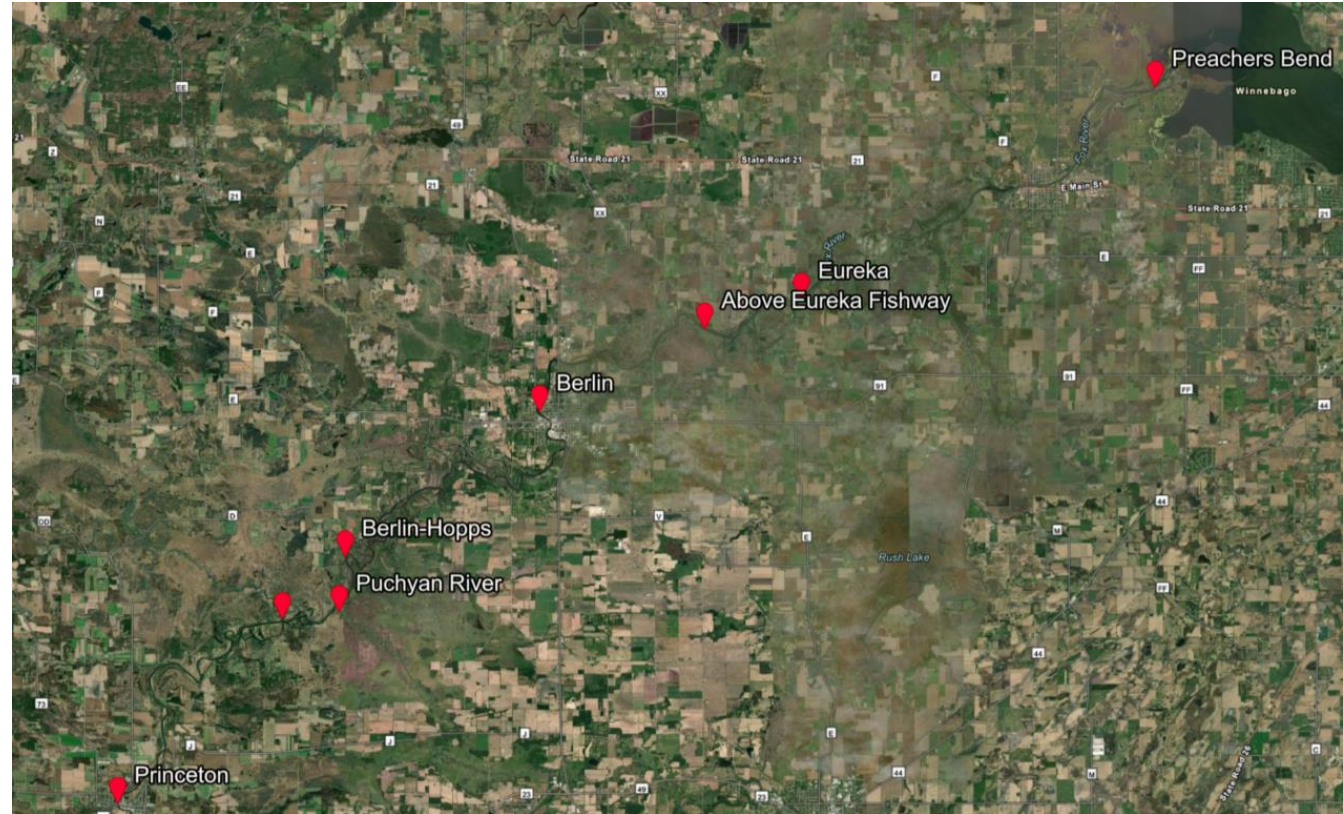
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2023 Spring Hopps: 15 fish

- All fish detected
- 6 fish (40%) travelled downstream toward Winnebago after spawn
 - 1 fish harvested on LBDM
- 5 fish (33.3%) travelled to L. Puckaway.
 - 1 fish detected above L. Puckaway
- 4 (26.7%) fish only detected at Berlin Hopps and/or Berlin
 - Fox River residents between Princeton and Berlin
 - Potential mortality

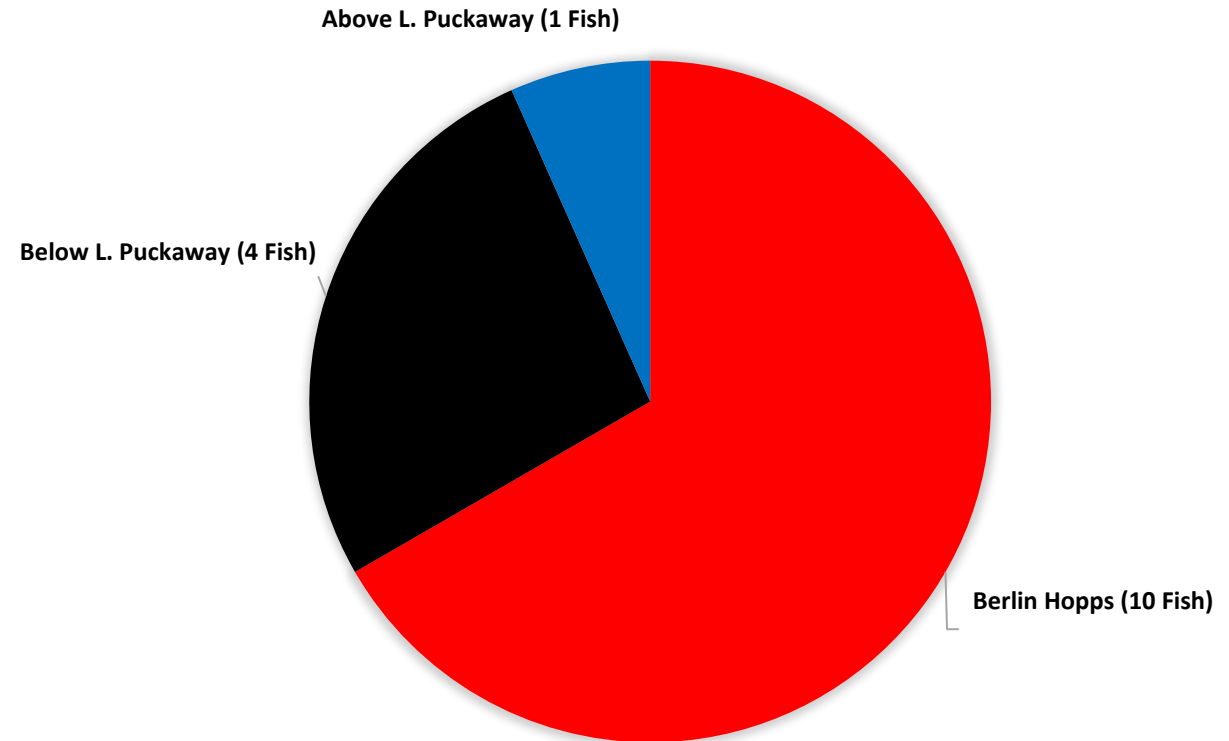


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2023 Spring Hopps: 15 fish

- 6 fish (40%) travelled downstream after spawning period.
 - Furthest detections:
 - 6 fish- Berlin Hopps
- 5 fish (33.3%) travelled upstream after spawning period.
 - Furthest detections:
 - 4 fish- Below L. Puckaway
 - 1 fish- Above L. Puckaway
- 4 (26.7%) fish remained in upper Fox River after spawning period.
 - Furthest detections:
 - 4 fish- Berlin Hopps

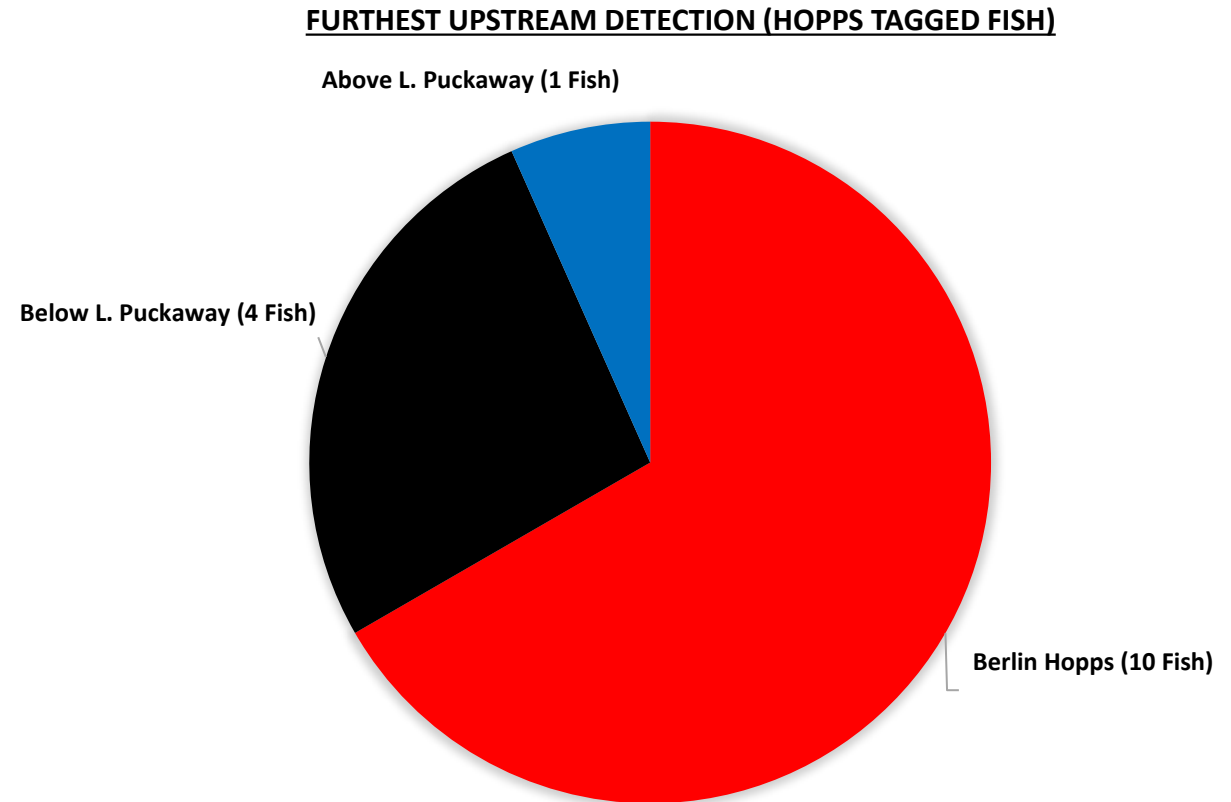
FURTHEST UPSTREAM DETECTION (HOPPS TAGGED FISH)



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Hopps Tagged Fish Summary:

- Following the spawning period, the proportions of fish that travelled downstream (40%), travelled upstream (33.3%), and remained in the Upper Fox River (26.7%) were relatively similar.
- Berlin Hopps indicated as an important areas during the spawn.



Walleye Movement Project

Upper Fox River Tagging summary:

- Fall tagged Puckaway fish all observed to be Puckaway/Upper Fox River residents, majority had upstream spring movement though downstream movement was observed.
- Spring tagged Puckaway fish are largely Puckaway/Fox River residents with spring river movement both up and downstream. Movement to Winnebago was observed but rare.
- Majority of spring tagged fish in Eureka travelled downstream following the spawn though 2 fish remained upstream.
- Spring tagged fish in Hopps had similar proportions of fish head to Puckaway, reside in the Fox River, and travel to Winnebago following spawn.
- Detection data during the spawning period indicated that Berlin Hopps, Mecan River, and the stretch of the Upper Fox River between L. Puckaway and Montello were of importance to spawning walleye.
 - Future deployment of receiver at the Grand River dam.
- The fish way in Montello is passable though it showed limited use.
 - Further analysis with water levels to be done.

