2022 Trout Stream Highlights & A Trout Movement Study

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Overview

- Sampling Results from 2022
 - Rush River
 - Kinnickinnic River
 - Willow River
 - Eau Galle River
 - Cady Creek
 - Plum Creek
 - Trimbelle River
- 2023 Trout Movement Study-Eau Galle River and Cady Creek

Rush River 2022 Surveys

- Reduced levels of natural reproduction
- Total trout densities were high
- Adult densities were high
- 90% of fish were 6-11 inches











Rush River-Stonehammer

- Similar trends
- Reduced natural reproduction
- Total and adult densities are high
- Poor size structure
- 92% of fish 6-11 inches





Kinnickinnic River

- Reduced natural reproduction
 - 60th percentile for NR statewide
- Reduced total and adult densities
- However....



Kinnickinnic River-Glen Park













Kinnickinnic River-Aldi/Quarry Road



Kinnickinnic River-Aldi/Quarry Road



Willow River

- Brown Trout densities highest since the drawdown
- Low levels of natural reproduction
- Heavily dependent on stocking
- Adult densities are up
- Rainbow trout-225/mile
 - Yearling and broodstock stocking continues
 - Broodstock overwinter survival



Eau Galle River-Handy Andy Park



Plum Creek

- Trout densities have "stabilized after surge in 2020 and 2021 of high natural reproduction
- Densities were at average levels for all length classes
- Fish larger than 12 inches are also at average levels-80/mile







Trimbelle River

- 4 stations are surveyed annually on the Trimbelle
 - 5 stations in 2022
 - HWY W (habitat evaluation)
 - Guttings (640th st; habitat evaluation)
 - Lovers Lane (870th)-no habitat work (trend site)
 - Buckners cattle pasture (trend site and habitat evaluation)
 - Trimbelle Recreation Area (habitat evaluation and outreach event)

Trimbelle River-Gutting's Easement

- Guttings habitat project-hold the highest densities of trout out of all 5 stations surveyed
- 2940 total trout/mile in 2022
- 2820 total trout/mile in 2018 (pre-habitat work)
- Declines in young of year
- Increases in larger fish (>12 inches)
- Project resulted in excellent adult brown trout habitat despite the increased stream width (compared to other traditional projects)



Trimbelle River-Buckner's







Trimbelle River

Trimbelle River

- Stocking still occurs annually
 - 11,000 large fingerlings
 - Reduced by ½ in 2022 moving forward
 - Some natural reproduction is occurring especially north of HWY 10
 - No stocking will occur in 2024 in order to evaluate the fishery in 2025

Watershed Rotations

- "New" sampling regime
- Rotational monitoring
 - Streams would be randomly chosen each year for sampling
 - Streams were on 8-12 year rotations
 - A lot of travel time between rotation streams
 - Not efficient
 - Less effective way to evaluate trout populations within watersheds
- Watershed Rotations-9 year rotation for all streams
 - Interaction between streams
 - Evaluate stocking
 - Reduce travel time

Trout Movement/Beaver Dam passage Study

- Cady Creek brown trout removal
 - Successful
 - 1st year with higher brook trout abundance than brown trout



However...

- Still an influx of brown trout from the Eau Galle
 - Are these fish coming in as yearlings?
 - Adults successfully spawning?
 - When do adults move into Cady to spawn?
 - Beginning of October-adults are already present staging to spawn
 - Utilize weir to prevent movement upstream
- Movement study can assist in determining timing of seasonal movements and can help with targeted removal

Methods

- Brown trout and brook trout will be tagged with PIT tags in body cavity (~1200) in the Eau Galle River near confluence with Cady Creek
- PIT tag array(s) will be installed in Cady Creek near beaver dam
- Will detect any tagged trout that pass over and record time/date and fish PIT tag number



Trout Movement Study

- Evaluate seasonal movement of brook and brown trout
- Evaluate tributary use
- Evaluate differences in brook and brown trout passage through beaver dams
- Evaluate growth of trout through recapture events
- Evaluate habitat use
- Anglers can help!

PIT Tag Readers

- Eau Galle watershed
 - Cady Creek
- Angler caught fish can be scanned
 - Measure fish
 - Note specific location
 - Date/time



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Brown Trout Genetics Study

- Brown Trout have invaded several brook trout streams
 - Cady Creek
 - Pine Creek
 - Parker Creek
 - Burkhart Creek
 - Knights Creek
- Why and where are they coming from?
- Why are some streams invaded and overtaken and not others?
- Do the stocking strains of brown trout influence ability to colonize new streams and exclude brook trout
 - Ability to naturally reproduce
 - Growth rates
 - Movement and colonization of streams

Trout Genetics Study

- Reference strains: Timber Coulee (feral) and domestic (St. Croix strain) from hatchery
- Collecting genetics from 6 streams in Pierce and Dunn counties
 - Timber Coulee-Trimbelle & Eau Galle rivers
 - Domestic-Wilson, Gilbert and Rush River
 - Kinnickinnic River
- 5 streams in Black River Falls area

Hypotheses

- Brown Trout of feral strain have high tendencies to colonize and migrate into connected streams
 - Exclude brook trout
- Feral strain are more likely to establish naturally reproducing populations
- Domestic strain more likely to result in larger maximum sizes and result in less abundant populations (less NR or inconsistent NR)
- Growth rates?

2023 Sampling

- Pine Creek watershed
- Isabelle Creek watershed
- Plum Creek watershed
- 41 trend sites
- Habitat evaluation sites





