Salmonid Technical Committee

2025 State Updates

Iowa Trout Program Update- Provided by Mike Siepker

Culture

- Manchester Fish Hatchery participated in the INAD for AQUIS-20E allowing for immediate release of Brook Trout utilized in streamside spawning operations.
- Continue to work on expanding our Brook Trout restoration capacity by using hatchery-reared native Brook Trout eggs fertilized with milt from wild males to produce wild brook trout fingerlings. This results in 2x-3x more fingerlings compared to using only pure wild eggs collected streamside.

Management

- No hatchery production of Brown Trout occurred in Iowa during 2024 ----likely the first time since at least the 1950's. Trap and transport of Brown Trout from wild populations was used at McLoud Run in Cedar Rapids following fish kills, but no stocking of propagated Brown Trout occurred this year. Iowa is currently focused on native Brook Trout propagation and expansion of wild Brook Trout populations along with continued support of stocked Rainbow and wild Brown Trout fisheries.
- The “Iowa Trout Fishing Guide” map was updated and printed during 2024
- Stream restoration work
    - Mill Creek system of Jackson County. Floodplain restoration and stream stability funded by DOT mitigation was completed during September-November 2024 on 1100' of South Fork Mill Creek and adjoins projects previously completed on 2300' of Mill Creek that moved 40,000 cubic yards out of the floodplain of the incised stream.
    - Catfish Creek at Swiss Valley Nature Preserve. Floodplain benching, bank shaping, toe stone, and prairie seeding were used along with boulder clusters and trout bankhides to improve site stability, angler access, and trout cover along 500’ of public access during November 2024.
    - Iowa DNR staff partnered with USDA-NRCS and Trout Unlimited to provide training for NRCS field staff in the use and placement of instream habitat for fish as part of USDA programs. Training included virtual class instruction and in-field site visits.
    - Phase 2 of the Casey Spring project was completed in 2024. The stream flows through a parcel of land owned by Winneshiek County Conservation Commission Board. The project was fund by State Fish Habitat Grant, National Fish Habitat Partnership DARE grant and other partners. The project did 1840 feet of stream bank

shaping, removed 5,752 cubic yards of sediment from the flood plain, installed 40 root balls and two deflectors.

- Two projects were completed on North Bear Creek and another on Patterson Creek, working with TUDARE and NRCS. North Bear Creek had a total of 5,867 feet bank shaping and toe protection. That removed 13,813 cubic yards of sediment out of the flood plain. Patterson Creek had 738 feet bank shaping and toe protection and removed 1,748 cubic yards of sediment out of the flood plain. All three project sites are protected with permeant conservation and angler access easements.
- Paint Creek Phase 2 was completed in 2024 and project planning for Phase 3 was started. Projects are funded via the Iowa State Lands Water Quality Grant program and support from project partners. Phase 2 project stabilized 1,502 feet of bank and installed six rock barbs.
- Waterloo Creek project was fund by the State of Iowa and National Fish Habitat Partnership. The project repaired and shaped 1,207 feet bank. It also removed 4,031 cubic yards sediment from the floodplain.
- Coldwater Research
    - Manchester Management has been using electrofishing and portable weirs to remove Brown Trout from a 0.5-mile long coldwater stream and 12-acre impoundment in Clayton County since 2020 in an effort to develop a Brook Trout fishery and brood fish source at the location. During this time 11,329 Brown Trout weighing 807 pounds have been removed and relocated to other fisheries. Brook Trout numbers have trended upward during the removal, but a self-sustaining population of Brook Trout has not been developed as of 2024.

Research

Assessment of cold-water fisheries resources in northeast Iowa

Contact: Greg Gelwicks, (563) 927-3276, gregory.gelwicks@dnr.iowa.gov

Wild trout have played an increasingly important role in trout management in Iowa over the last 20 years. Recent increases in self-sustaining trout populations have expanded and diversified opportunities for Iowa anglers to pursue trout. One of the major factors in this increase is the use of fingerling stocks derived from wild and local parents to establish wild trout populations in other streams. Fisheries managers have had great success in establishing self-sustaining populations of non-native Brown Trout by stocking fingerlings of French Creek origin. This has diminished the need for hatchery production and stocking of this popular species, and provided new recreational fishing opportunities for Iowa trout anglers. Self-sustaining populations of Brown Trout have expanded so rapidly in Iowa that their full extent is currently unknown. Wild populations of native Brook Trout have also been successfully restored to several northeast Iowa streams by stocking fingerling Brook Trout of South Pine Creek origin.

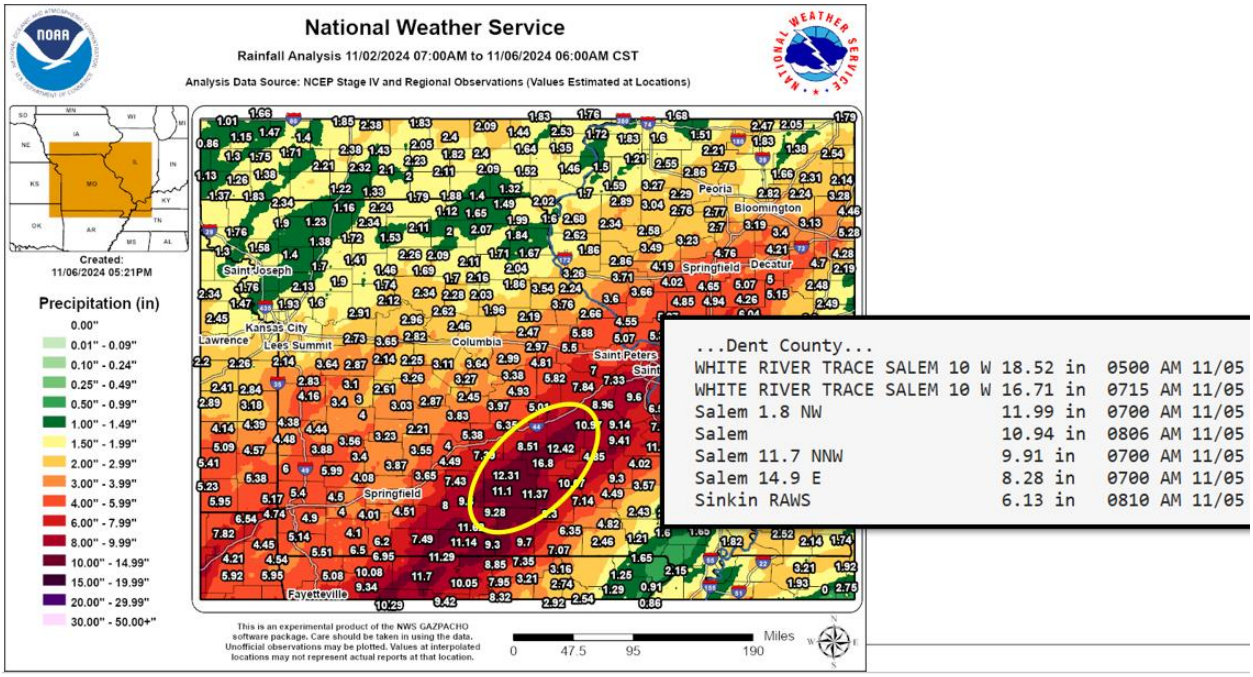
Fisheries managers are working to protect existing wild populations of Brook Trout, and expand efforts to restore self-sustaining populations of this native species in other streams with suitable conditions. There are many small headwater streams and spring branches in northeast Iowa that

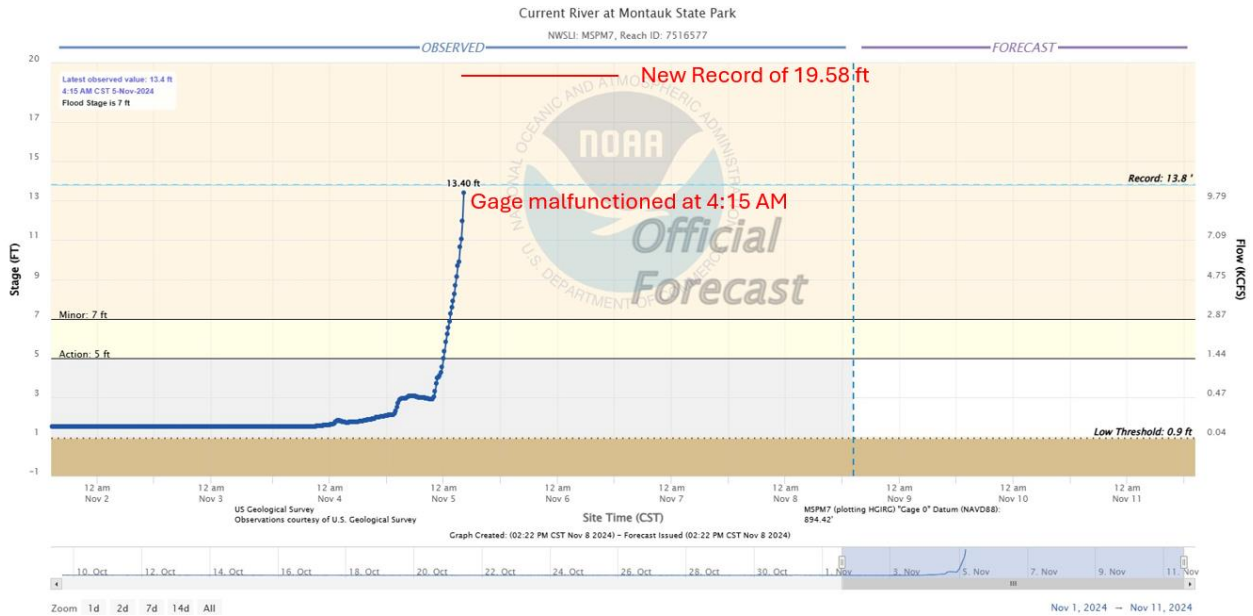
have not been sampled recently, if ever, and have the potential to support wild Brook Trout populations that are in need of protection. There may also be streams that have the conditions necessary for successful wild Brook Trout restoration that are currently unknown to fisheries managers. The South Pine Creek Brook Trout population provides a limited resource for propagation of fish for stocking, so it is important that restorations stocking are done on streams where there is the greatest probability that Brook Trout populations will be successfully established. The recent expansion of wild Brown Trout populations in northeast Iowa has also raised concerns for fisheries managers, due to potential negative impacts of the species on Brook Trout restoration efforts. Therefore, it is important to know the distribution of wild Brown Trout populations for both the management of Brown Trout populations and the planning of wild Brook Trout restoration work.

The goal of this project is to assess the status and distribution of Brook Trout and Brown Trout in northeast Iowa, and identify cold water streams where wild Brook Trout restoration has a high probability of success. Our general approach is to identify likely cold water streams using winter satellite images taken during very cold periods to find stream reaches that do not freeze over, and therefore are likely to have good cold water spring flow. We then select sites from these likely cold water reaches where we can sample fish and habitat conditions. To date, we have sampled 66 sites in the Upper Iowa River watershed. Brown Trout were sampled at 37 of these sites. Brook Trout were sampled at seven sites, and a Brook Trout X Brown Trout hybrid was sampled at one site where Brown Trout were also collected. Brook Trout were also collected at two additional sites where Brown Trout were not collected. Several sites identified from winter satellite imagery were either completely dry, or had very limited spring flow which was not sufficient to support fish during late summer. Conditions at 53 of these sites were documented with georeferenced photographs of dry reaches, beginning and end points of reaches with water, barriers to fish movement, and spring sources. This information will be used to help further refine site selection using remote imagery. This work will continue in other watersheds in Iowa's portion of the Driftless Area over the coming years.

Missouri State Update Report- provided by Blake Stephens

1. ***Missouri flooding impacts to coldwater hatcheries*** – Two of the 5 Missouri coldwater hatcheries, Montauk and Maramec Spring hatchery, experienced historic flooding in early November. Flooding at Montauk toppled the previous record of 13.84' in 2017 by reaching 19.58' this November. Damage to our two hatcheries are still being assessed and will likely cause impacts to 2025 stockings and overall production.





2. ***The Missouri Trout Plan is currently in the process of being updated*.** The original plan was completed in 2003 and has undergone updates leading up to this 2025 revision. The 2025 update will include history since the writing of the previous plan, alignment with the new reorganization, changes in the designations and structure of the trout program, and an update to the future challenges that we see the program facing.

3. ***Midsized River Habitat Assessment*** – Tyler Hessler (phD student) of the University of Missouri is working on a research project entitled "Development of a flexible mid-sized river habitat sampling protocol to complement fish protocols". The project has 3 main goals:

a. Determine the most efficient and cost-effective equipment to assess habitats on mid-sized rivers. Four main gears are being assessed.

i. Drone

ii. Side scan sonar

iii. Acoustic Doppler Current Profiler

iv. 360 degree camera

b. Automate delineation of habitat by using "deep learning" artificial intelligence

c. Recommend a river habitat sampling protocol

This work may benefit the Missouri trout working group in developing a standardized way to assess habitat across all Missouri trout ribbon areas (management areas).

Conference presentation: Tuesday at 2:00 in the General Fisheries session

4. ***Coldwater Research Project***

Project Title: Characterizing Aquatic Biota and Habitat Across Thermal Gradients in Missouri Stream Systems

Collaborators: University of Missouri and MDC-Columbia Office

Objectives:

Objective 1: Identify and map the distribution and extent of current and potential cold water stream segments in Missouri

Objective 2: Determine abiotic variables and biotic communities that delineate between cold, cool, and warm water streams

Objective 3: Classify and identify new cold and cool water stream systems across Missouri using collected data

Highlights:

- Statewide 3 year Project
- First sampling season this summer
- Sampling 12 different coldwater stream systems in 2025:
    - Sampling includes fish, macroinverts, aquatic plants, and abiotic variables
    - 5 systems will get 5-7 sampling sites to document possible changes in temperature and biotic communities as we get farther away from a spring source.
    - 7 systems will use standard MDC (RAM) fish sampling protocol and sample at one designated site
- Project includes continuous seasonal temperature monitoring between April and October for all sampling sites
- implemented continuous seasonal temperature monitoring in "exploratory" coldwater streams in order to merit 2026 biotic sampling if they meet the designated temperature threshold.
- full fish community sampling hasn't been conducted previously for MO coldwater streams besides 2% of MDC RAM efforts.

Conference presentation: Tuesday at 1:20 in the salmonid symposium

Nebraska- Report provided by Matthew Perrion

The following report is being submitted to the Salmonid Tech Committee in January 2025 at the Midwest Fish and Wildlife Conference in St. Louis, MO

Rivers and Streams Update-

Lake Ogallala-Rock Weir Monitoring-(ongoing)

Objectives:

Assess Rainbow Trout populations below Lake Ogallala Dam, Nebraska across three rock weir pools. Also document Dissolved oxygen in water from November to April period, when water releases are minimal. In 2022 only pool 1 was sampled due to ice.

Key Findings:

Results are still pending with only a few survey events. Some Trout do appear to remain in the rock weirs through winter. Trout densities do reduce as you move downstream from pool to pool.

Summary of All Trout

Site	Date	Species	Catch	Range TL(mm)	Mean TL(mm)	Mean Weight(g)	Effort(hrs)	CPUE(fish/hr)
Ogallala Rock Weir Pool 1	2/7/2022	Rainbow Trout	18	218-305	254	152	0.4	42.3
Ogallala Rock Weir Pool 1	11/20/2023	Rainbow Trout	6	220-468	338	586	1.0	6.0
Ogallala Rock Weir Pool 1	2/21/2024	Rainbow Trout	73	180-283	247	152	0.8	93.6
Ogallala Rock Weir Pool 1	2/21/2024	Tiger Trout	11	160-235	207	84	0.8	14.1
Ogallala Rock Weir Pool 1	11/14/2024	Rainbow Trout	120	202-461	314	374	0.9	140.3
Ogallala Rock Weir Pool 1	11/14/2024	Cutbow Trout	41	223-302	261	191	0.9	47.9
Ogallala Rock Weir Pool 2	11/20/2023	Rainbow Trout	4	233-434	369	654	0.4	10.7
Ogallala Rock Weir Pool 2	2/21/2024	Rainbow Trout	17	222-292	253	163	0.4	38.5
Ogallala Rock Weir Pool 2	2/21/2024	Tiger Trout	1	216-216	216	75	0.4	2.3
Ogallala Rock Weir Pool 2	11/14/2024	Rainbow Trout	100	209-468	360	592	0.6	179.5
Ogallala Rock Weir Pool 2	11/14/2024	Cutbow Trout	26	232-414	277	244	0.6	46.7
Ogallala Rock Weir Pool 3	11/20/2023	Rainbow Trout	8	210-465	274	326	0.4	18.4
Ogallala Rock Weir Pool 3	2/21/2024	Rainbow Trout	4	240-311	272	220	0.4	11.2
Ogallala Rock Weir Pool 3	2/21/2024	Tiger Trout	1	197-197	197	64	0.4	2.8
Ogallala Rock Weir Pool 3	11/14/2024	Rainbow Trout	28	217-460	326	481	0.5	53.1
Below Ogallala Rock Weir Pool 3	2/21/2024	Rainbow Trout	7	233-335	282	NaN	0.4	16.5
Below Ogallala Rock Weir Pool 3	11/13/2024	Rainbow Trout	8	226-464	307	458	0.4	18.3
Below Ogallala Rock Weir Pool 3	11/13/2024	Cutbow Trout	4	254-282	268	239	0.4	9.2

Table 1-Summary of all trout species captured from 2022 to 2024 below Lake Ogallala, NE. Information includes number caught (Catch), total length size range, mean total length, mean weight, effort and catch per unit effort (CPUE).

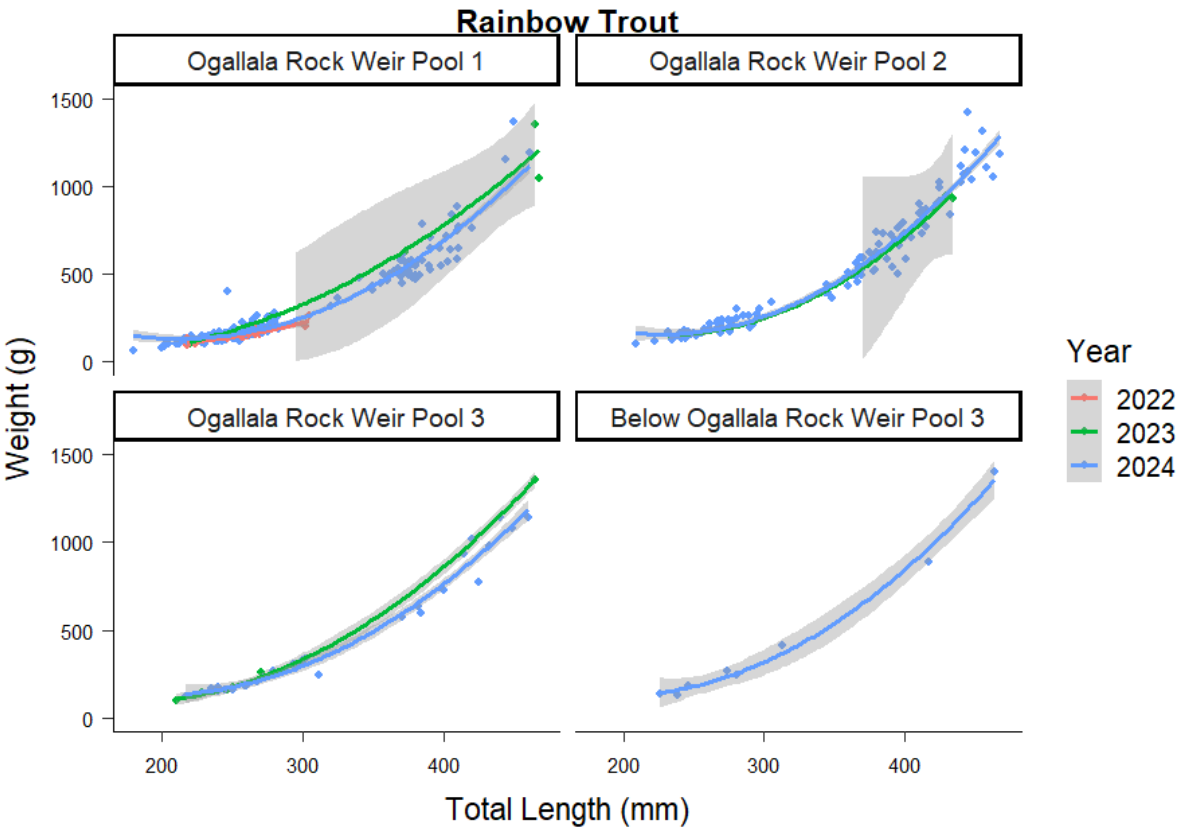


Figure 1-Length-weight relationship in rainbow trout for each sampled pool from 2022-2024

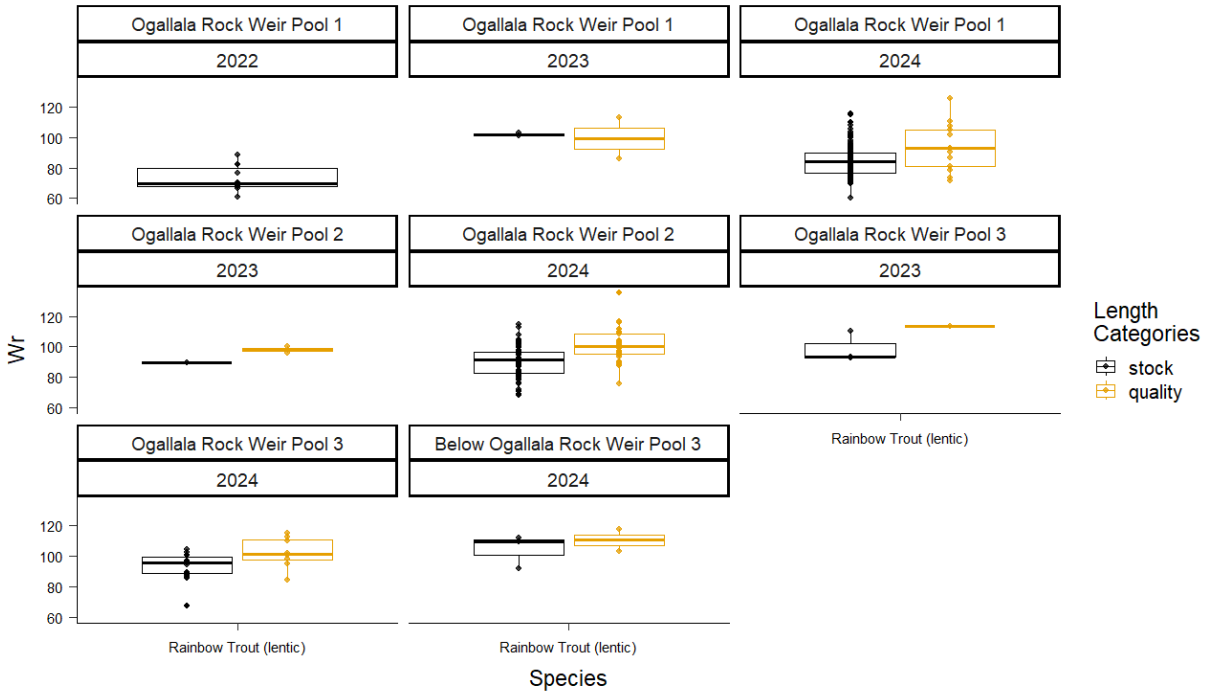


Figure 2-Relative weights of stock and quality rainbow trout for each pool from 2022-2024

Bordeaux Creek-Habitat Restoration Project Monitoring-(ongoing)

The stream restoration project on Bordeaux Creek WMA near Chadron Nebraska was completed in 2023. Monitoring included a control site a few miles upstream of the project area, the upper WMA site (restored), and the lower WMA site (directly below restored area). Brown Trout were marked with Visible Implant Elastomer and 12 mm Passive Integrated Transponder tags from 2021-2024.

Objectives

1. Enhance stream channel to natural function to improve both floodplain connectivity and in-stream habitats for aquatic species.
2. Improve access for terrestrial animals and food sources within woody debris structures.
3. Provide stream crossings for wildlife managers for burning activities.

Key Findings

- Roughly 2.3 stream miles were improved with floodplain access, bank stabilization, instream structures.

- Showcased what is takes to improve stream channel and flood resiliency to local landowners and area natural resource practitioners.

Figure 3-Preconstruction view of Bordeaux Creek WMA. Banks are full of woody debris and highly incised.

Figure 4-Post-restoration view of Bordeaux Creek WMA with increased floodplain connectivity.

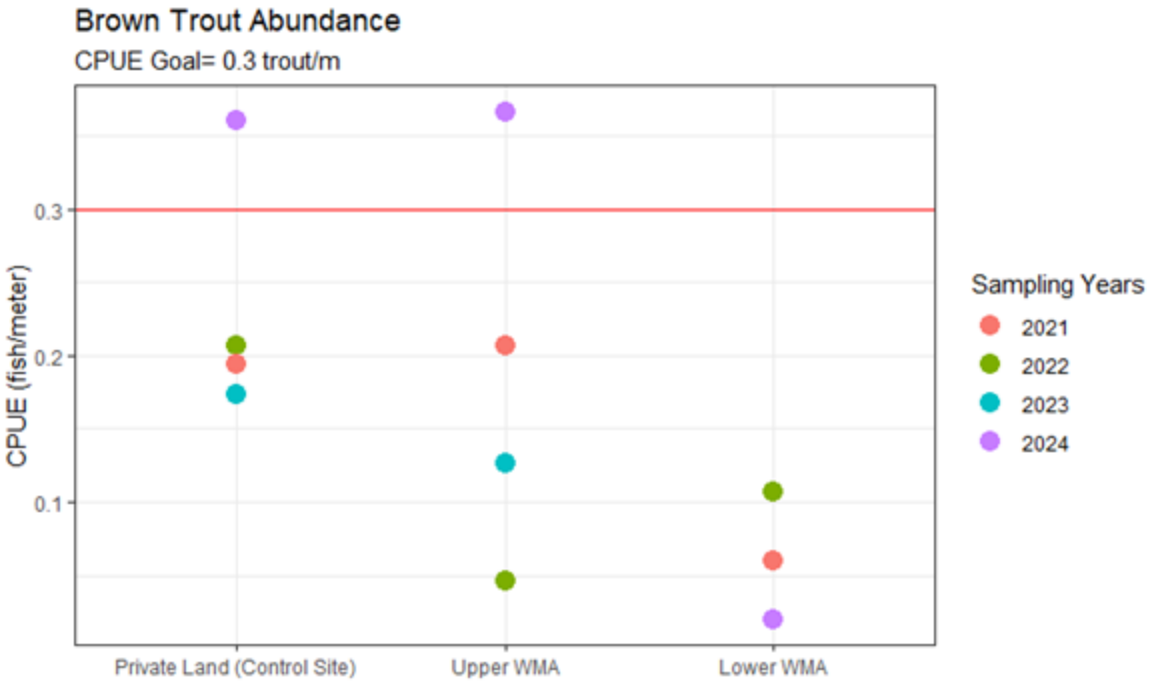


Figure 5-Brown Trout abundance (CPUE) in each site from 2021-2024. 2023 and 2024 are post-restoration.

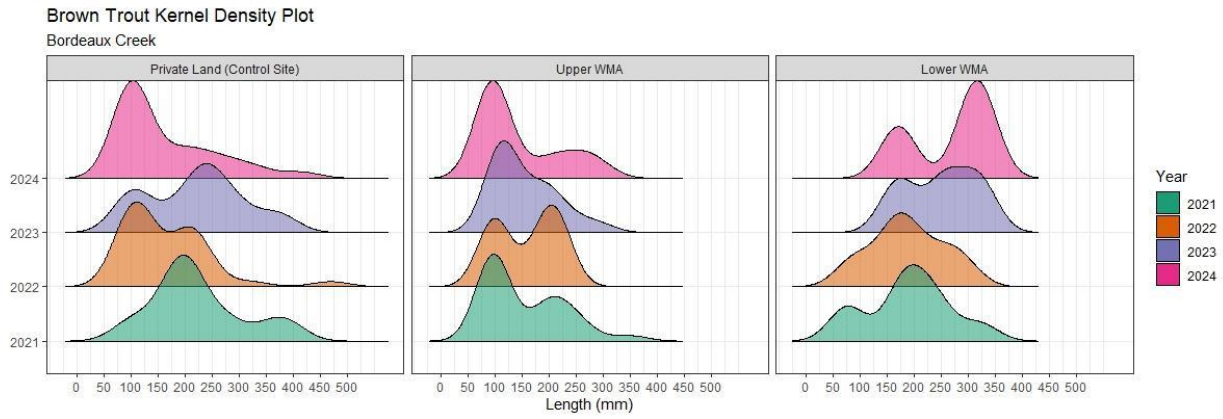


Figure 6-Brown Trout kernel density plots in each site from 2021-2024. 2023 and 2024 are post-restoration.

North Platte Valley Surveys-(ongoing)

Purpose:

1. Determine current Trout densities (Rainbow and Brown) in five North Platte Valley cool water streams.

Objectives:

1. Identify and describe stream characteristics at each site and determine if habitat needs are met for Trout species.
2. Determine what is the appropriate Trout densities within each cool water stream. Develop quality-level populations, criteria: 1 fish/meter or 5 percent master angler size within each stream. *(Suggested: 20% of population at Quality size (16"RBT and 12"BRT). Difficult to reach 23" RBT or 22" BRT in small streams.*

Key Findings:

- Trout densities vary across streams, individual stream characteristics are dependent on available habitats and flow patterns. Trout size may be limited to densities.

Trout Summary North Platte Valley

Waterbody	Date	Species	Catch	Range TL(mm)	Mean TL(mm)	Mean Weight(g)	CPUE(fish/m)
Dry Spottedtail Creek	3/12/2024	Rainbow Trout	5	194-426	290	312	0.03
Dry Spottedtail Creek	3/12/2024	Brown Trout	3	390-480	438	966	0.01
Dry Spottedtail Creek	3/13/2024	Rainbow Trout	27	151-399	272	234	0.19
Dry Spottedtail Creek	3/13/2024	Brown Trout	2	261-266	264	178	0.01
Nine Mile Creek	3/13/2024	Rainbow Trout	189	127-328	212	107	1.26
Nine Mile Creek	3/13/2024	Rainbow Trout	143	130-321	214	109	0.79
Nine Mile Creek	3/13/2024	Brown Trout	80	113-404	213	101	0.53
Nine Mile Creek	3/13/2024	Brown Trout	48	124-551	238	157	0.27
Red Willow	3/14/2024	Rainbow Trout	88	112-261	164	49	0.59
Red Willow	3/14/2024	Brown Trout	38	120-330	178	67	0.25
Tub Springs	3/13/2024	Rainbow Trout	14	132-359	190	76	0.09
Tub Springs	3/13/2024	Brown Trout	34	121-298	176	62	0.23
Winters Creek	3/14/2024	Rainbow Trout	149	99-351	168	58	0.87
Winters Creek	3/14/2024	Brown Trout	11	155-292	201	95	0.06
Winters Creek	3/14/2024	Brook Trout	1	71-71	71	NaN	0.01

Table 2- Summary of all trout species captured in 2024 across multiple North Platte Valley streams. Information includes number caught (Catch), total length size range, mean total length, mean weight, and catch per unit effort (CPUE).

Northwest District-

The biggest trout project we have going on in the NW is our partnership with the Western Nebraska Trout Fisheries Association in Scottsbluff area. The group is raising McConaughy strain rainbow trout in hatch houses and stocking them into designated streams in the North Platte River Valley. In 2024, the group had some struggles with silt in the streams that they felt reduced survival. Survival of their eggs were 45-50% into Nine mile and 90 to 95% into Tub Springs. Around 100,000 trout were stocked total. Of the 100,00 trout, some were moved to Red Willow and Dry Spotted tail creek in 2024. The McConaughy rainbows historically spawned in the valley streams and ran downstream to grow in Lake McConaughy. They would return as age 3 plus and average around 18inches producing exceptional quality in the small streams. This migration ended in the late 1970's as Lake McConaughy when through changes in water levels, and fish population structure. Alewife were stocked in the lake and the predator population of walleye, striped bass, and recently wipers all contribute to a changing environment. Since the Western Nebraska Trout Fisheries Association

has been stocking McConaughy rainbows, no adults have been documented returning. The group continues to try and stock some trout in 2025 and will be restricted to only Tub Springs and Red Willow.

Trout Sampling

Stream sampling in the valley was conducted again in 2024 to evaluate the abundance and size structure of trout in Dry Spotted tail, Red Willow, Tub Springs, Winters Creek, and 9 mile.

Stream Enhancement

Another project in the NW is the evaluation of the Bordeaux Creek stream enhancement project.

Trout Stockings

We continue to stock trout in several ponds and pits in the area to provide put and take opportunities in the district. We are pushing to increase the size of rainbow trout stocked from 10 inches to 12 inches in most of these systems and add some "lunker" trout to the mix. Lunker trout in 2024 went into the Grable Ponds, Gilbert Baker, and Bridgeport NW. These fish averaged around 17 inches.

Northeast District-

In summer of 2024, we sampled Long Pine Creek and added the dataset to my long-term compilation of data through the decades for Long Pine Creek. Similar findings, so not much *to add other than it was* completed. I will be presenting the newest data at the Great Plains meeting in a few weeks and hoping to get some feedback from other attendees on doing trout removals in streams to improve their size structure. There is not much happening in our district with Salmonids at this time.

Research Update-

Research on Lake Ogallala stocked trout started in early 2024 and will continue at least through 2025. As of January 2025, we have tagged cumulatively 99 stocked Rainbow and Cutbow Trout into Lake Ogallala to track their persistence and seasonal movements. Passively deployed receivers have been used to track the trout thus far and may include active tracking efforts in 2025. Finally, creel data analysis investigating differences in catch and harvest rates between Rainbow and Cutbow Trout will be conducted for 2024 and 2025 using guidelines similar to NGPC surveys.

Report provided by:

Matthew Perrion

matthew.perrion@nebraska.gov