



American Fishery Society, Nebraska Chapter

Rivers and Streams Technical Committee Report

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Activities related to Rivers and Streams in Nebraska for 2022

Coolwater Streams

Bordeaux Creek

Construction continues on Bordeaux Creek Wildlife Management Area (WMA), located near Chadron, Nebraska. The targeted actions aim to enhance the channel dimension, pattern, and profile across 2.5 miles of Bordeaux Creek by reconnecting the stream to the floodplain, balancing sediment transport, and also adding complexity to the bedform features. The in-channel improvements consist of a variety of in-stream features (e.g., toe-wood, constructed rock riffles, log vanes, etc.) that provide desirable habitats for native and sportfish communities, but also includes enhanced spawning areas for the targeted fish communities as well. Additionally, vegetative sod mats are placed along the stream channel to stabilize the disturbed sections of stream, and to aid in recovery of the native plant species.



FIGURE 1. Contractors are beginning to build a new floodplain to help relieve the stream channel from high water, but to also make it more conducive for angler access.



FIGURE 2. Toe-wood habitat installed along the stream banks for fish habitat and bank stabilization.



FIGURE 3. Contractor placing harvested sod mats along stream channel to bolster the riparian communities and improve water quality.

Sowbelly Creek

A habitat improvement project along Sowbelly Creek at Coffee Park was completed in July 2022 to accelerate the restoration of the damaged habitats that were impacted by the catastrophic floods in 2015. Restoration goals for Sowbelly Creek were to 1) Improve the quantity and quality of fish habitat to provide a healthier and more diverse fish populations 2) Increase recreational fishing opportunities for anglers 3) Stabilize streambanks and prevent erosion and sedimentation from diminishing water quality.



Figure 4. NGPC staff installing a lunker structure along Coffee Park to increase over head cover for trout.



Figure 5. View of the constructed cobble riffles which helps maintain desirable pool depths and also aids in balancing sediment transport.

IN-STREAM FLOW

On May 24, 2022, the Nebraska Department of Natural Resources (DNR) approved an in-stream flow appropriation for the lower Loup River for the purpose of fish, wildlife, and recreation. The specified reach is located between the confluence of the North Loup River and Middle Loup Rivers downstream to the Loup Power Canal Diversion near Genoa, Nebraska. The table below highlights the targeted flows throughout the year.

<u>TIME PERIOD</u>	<u>PURPOSE</u>	<u>STREAM REACH</u>	<u>CUBIC FEET PER SECOND (cfs) OF FLOW REQUESTED</u>
			<u>ST. PAUL GAGES</u>
Jan 1- Feb 28 (29)	Maintain overwinter habitat native fish community and aquatic invertebrates. Provide foraging habitat for bald eagles and raptors. Maintain ice scour events which scour vegetation from islands/sand bars and forms and shapes channel.	Confluence of the North and Middle Loup Rivers to the Loup Power Canal Diversion	1,700
Mar 1- May 31	Scour islands/sand bars and form and shape channel. Support spring aquatic insects. Provide spawning habitat for fish and mussels. Support migration of whooping and sandhill cranes. Provide wetland habitat for migrating waterfowl, wading birds, and shorebirds. Least tern and piping plover habitat.		2,400
June 1- August 31	Provide nesting shorebirds and young with a degree of protection from terrestrial predators. Maintain adequate instream habitat for fish and invertebrates and food supply for terns. Protect native fish communities from losses due to high water temperatures. Maintain connectivity between upstream and downstream river segments. Augment flow to lower Platte River and sturgeon habitat. Maintain water quality.		1,700
Sept 1- Dec 31	Maintain and prevent loss of native fish community, and promote survival of fish young-of-year. Provide fall migration habitat for migratory bird species, including whooping and sandhill cranes. Maintain aquatic life (e.g. growth and survival of aquatic insects and young-of-year fish). Provide foraging habitat for bald eagles and raptors.		1,600