Workshop Summary
Great Plains Native Fish Conservation Network
February 7, 2017
Cornhusker Hotel, Lincoln, Nebraska

Participants:

Great Plains Native Fish Conservation Network Vision Statement:
Rivers of the Great Plains are restored and conserved to the level that native fishes thrive as stable components of diverse ecological communities, simultaneously providing clean water, outstanding outdoor recreation, and a stable economic base for present and future citizens. Furthermore, citizens of the region are well-informed of aquatic resource conservation issues, understand and appreciate the environmental, economic and societal benefits provided by aquatic resources, and act as stewards and advocates for conservation of aquatic resources.

Great Plains Native Fish Conservation Network Goals:

1) Identify priority research, monitoring, and restoration actions for preservation of native fishes, their habitats and other aquatic resources in priority river systems of the Great Plains
2) Serve as a catalyst for cooperation, collaboration, and leveraging of technical and financial resources among local, state and federal natural resources management agencies, universities, non-governmental organizations, and other local partners that contribute to the conservation of native fishes and other aquatic resources in priority river systems of the Great Plains
3) Facilitate local implementation of the National Fish Habitat Action Plan within priority river systems of the Great Plains

Planned Agenda:

8:00-8:15 Welcome, Introductions, and Review Agenda (Tim Birdsong, Native Fish Conservation Network / Texas Parks and Wildlife Department)

8:15-9:00 Native Fish Conservation Network: Bridging the "Knowing-Doing" Gap in Native Fish Conservation and Empowering Collaborative Stewardship (Tim Birdsong)

9:00-9:10 Great Plains Landscape Conservation Cooperative Prairie Rivers Initiative: Filling Critical Science Needs to Inform Native Fish Conservation in the Great Plains (Tim Birdsong)

9:10-9:40 Great Plains Fish Habitat Partnership: Coordinating Delivery of the National Fish Habitat Action Plan within the Great Plains (Steven Krentz, Great Plains Fish Habitat Partnership / US Fish and Wildlife Service)

9:40-10:00 Roundtable Programmatic and Organizational Updates – Review Recent, Active and Planned Native Fish Research, Monitoring and Conservation Initiatives (All Workshop Participants)

10:00-10:20 Morning Break

10:20-12:00 Continuation of Roundtable Programmatic and Organizational Updates (All Workshop Participants)

12:00-1:00 Working Lunch

1:00-1:20 Great Plains Native Fish Conservation Areas Prioritization (Ben Labay, Native Fish Conservation Network / Siglo Group)

1:20-1:40	Conservation Planning to Guide Watershed-Scale, Multi-Species Conservation of Native Fishes in the Great Plains (Gary Garrett, Native Fish Conservation Network / University of Texas at Austin)
1:40-3:00	Facilitated Breakout Sessions **Note: Workshop participants will be organized into thematic breakout sessions to examine priority research, monitoring, and restoration actions for preservation of native fishes, their habitats and other aquatic resources in priority river systems of the Great Plains. For each priority project, participants will examine project timelines and milestones, partnership and leveraging opportunities, expected project outcomes and benefits to focal species, need/immediacy, and other criteria (to be considered in development of a multi-year work plan and tiered ranking of projects).*
3:00-3:20	Afternoon Break
3:20-4:30	Continuation of Facilitated Breakout Sessions
4:30-5:00	Summary of Workshop Outcomes, Planned Products and Deliverables
5:00	Adjourn

Great Plains Native Fish Conservation Network
Goals

(1) Protect and maintain intact, healthy habitats, and (2) Restore impacted habitats:

- **Fill knowledge gaps in flow-ecology and flow-recruitment relationships of Great Plains fishes**
- **Conduct environmental flows assessments to ensure science-based consideration of fish and wildlife (and their habitats) in water management decisions; NOTE: Arkansas River is effectively dewatered from Colorado border to central Kansas**
- **Address gaps in flow data for ungauged river reaches**
- **Examine opportunities to cross-walk native fish conservation issues identified in State Wildlife Action Plans with conservation practices supported through Farm Bill conservation delivery programs (NOTE: case studies exist for Kansas and Indiana)**
- **Examine opportunities to influence investments of federal funding programs toward preservation activities in intact, healthy watersheds (as opposed to the majority of investments being centered in highly impaired watersheds, which often provide limited value in preservation of Great Plains fish diversity)**
- **Ensure consideration of the conservation needs of native fishes in existing Farm Bill wildlife-focused conservation funding program (e.g., EQIP special funding initiatives; Working Lands for Wildlife; similar to grouse/prairie chicken/bobwhite quail)**
- **NOTE: TNC/USACE Sustainable Rivers Program maybe "stood up" in KS; opportunities may exist for flow protection strategies to be adopted**
- **Examine the native fish conservation value of cool/coldwater streams (tributaries of the North Platte River) in western Nebraska (Sandhills Ecoregion), particularly considering that these streams involve a limited number of large land holdings; these stream channels effectively serve as a water conveyance system to move groundwater (filled through aquifer infusion diverted from Platte River), offering consistent flows, although stream temperatures have been altered in many cases;**
- **Examine Niobrara River for inclusion in the NFCA prioritization**
- **Examine groundwater-surface water interactions in the Sandhills to identify groundwater targets/thresholds at which springs and surface flows could be diminished/altered**
- **Conduct a cold/coolwater stream vulnerability analysis that examines potential effects of increased groundwater pumping (high capacity irrigation) and altered spring flows**
- **Examine effects of center pivot agriculture in the Sandhills on groundwater depletion and springs/flow alteration**
- **National assessments of flow alteration and cattle density are needed to accurately depict the condition of western rivers**
- **Examine opportunities and assemble recommendations to ensure consideration of fish and wildlife in precision agriculture BMPs/tools**
- **Need to examine opportunities for consideration of variable flow agreements in regulated river reaches of the Kansas River that experience constant-flow situations due to dam operations plans (considered for the TNC/USACE Sustainable Rivers Program)**

(3) Restore stream and habitat connectivity:

- **Examine sociopolitical barriers to large-scale delivery of dam removal and fish passage in the Great Plains (in the absence of charismatic species – e.g., sturgeon, paddlefish);**

consider alternative issues that demonstrate/promote the need for dam removal – e.g., public safety hazards associated with old/failing infrastructure, recreational access/use

- **NOTE: the ball is starting to roll in terms of support for dam removal in Kansas; case studies will be available soon where biologists are supporting county road crossing projects and dam removal projects**
- **Inventory and prioritize fish passage barriers, including low water crossings, for modification/removal**
- **NOTE: fish bypass facility recently implemented at Cedar River (tributary of Platte northwest of Columbus) that opens 26 miles or river; fish movement study underway**
- **Examine opportunities for fish and mussel repatriation in the Big Blue and Nemaha rivers; given geophysical parameters in these watersheds**
- **NOTE: swimming speeds and jumping ability published for many of the Platte River species**
- **NOTE: Fish Passage Program for USFWS R6 – guidelines for fish passage developed for region**
- **Standardization of barrier surveys/inventories are needed to ensure consistent data collection for barrier prioritization efforts; NOTE: examine SEACAP**

(4) Mitigate effects of invasive species:

- **Examine effects of non-native species on native fish communities (e.g., Asian carp)**
- **Examine potential effects of inter-basin transfers of water specific to the risk of introduction of non-native species**
- **Examine "strategic/unfortunately necessary/beneficial" barriers that prevent expansion of non-native species (e.g., 7-9 dams on the Big Blue River prevent upstream expansion of non-native species)**

(5) Organize conservation networks of public and private landowners:

- **Examine potential indicators/measures of restoration potential that relate to willingness/support of local stakeholders**

(6) Develop conservation demonstration areas:

- **NOTE: Coldwater streams program in Nebraska has case studies to showcase**
- **Need exists for conservation demonstration areas that can facilitate the "translation" and operationalization" of applied research and BMPs**

(7) Support research to fill critical information gaps:

- **Need to examine distribution of pelagic-spawning minnows; need to understand where we have river systems with sufficient stream length to support long-term persistence of pelagic spawning minnows, and understand what the environmental flow needs are for these specific fragmented river reaches that hold high conservation value for native fishes; genetic component should also be included**
- **Tributaries of the Nemaha and Blue rivers have been dramatically altered and new channel/bed forms have been established; need exists for systematic surveys of fish communities in these systems and examine value for native fish conservation**
- **Examine conservation value of "groundwater- delivery streams" as refugia for imperiled/at-risk cool/coldwater species**
- **Ensure consideration of genetic population structure in planning/delivery of stream restoration, invasive species removal, and native fish repatriation programs**
- **Develop native fish culture/propagation techniques for Great Plains fishes; NOTE: native fish/mussel facilities under development in Kansas; native fish/mussel facilities being established in Nebraska**
- **Conduct an analysis of "low-hanging fruit" across the spectrum of restoration projects (e.g., invasive species management, flow restoration, riparian restoration, dam removal, and others)**

- **Assemble a synthesis of human dimensions research related to landowner attitudes/preferences/values/willingness to engage in restoration practices that benefit rivers and native fishes**
- **Use of eDNA to examine species distribution**

(8) Conduct adaptive management and reporting:

- **Need for pre- and post-monitoring and evaluation of restoration projects**