

Jordanelle Reservoir Fishery Management Plan



Jordanelle Reservoir Working Group

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Jordanelle Working Group

By design, the Jordanelle Reservoir Working Group consisted of individuals representing different interest, constituents and angler types. In order to meet the diverse desires of various anglers, specifically along the Wasatch, representatives were selected from individuals who responded to an online Jordanelle survey and others associated with Jordanelle Reservoir. Specifically the working group consisted of representatives from Utah State Parks, Sportsman for Fish and Wildlife, Retail interests, B.A.S.S., Rocky Mountain Anglers, Trout Unlimited, Utah Anglers Coalition, Blue Ribbon Fisheries Advisory Council, Utah Division of Wildlife Resources, trophy anglers and general anglers.

Working Group Members

Laurie Backus – Jordanelle State Park

Paul Birdsey – DWR Cold Water Sportfish Coordinator

Matt Carollo – Trophy anglers (Brown Trout)

John Fairchild – DWR Central Region Supervisor (Facilitator)

Mike Fisher – Retail Industry (Sportsman’s Warehouse Fisheries Manager)

Nick Granato – Trophy anglers (tiger muskie)

Ashley Green – DWR Habitat Section Chief (Recorder)

Brent McNee – B.A.S.S. and Blue Ribbon Fisheries Advisory Council

Mike Ptaschinski – Salt City Bass, panfish anglers

Jerry Schlieff – Rocky Mountain Anglers, Walleye anglers

John Schultz – Trout Unlimited, Utah Anglers Coalition, Blue Ribbon Fisheries Advisory Council

Mike Slater – DWR Central Region Aquatics Program Manager (Chair)

Ken Strong – Sportsman for Fish and Wildlife, general anglers, Blue Ribbon Fish Advisory Council

Jackie Watson – DWR Blue Ribbon Fishery Biologist CRO

Jordanelle Working Group Purpose and Mission Statement

The purpose of the Jordanelle Reservoir Fishery Management Plan Working Group was to assist the Utah Division of Wildlife Resources (UDWR) in updating and developing a Jordanelle Reservoir Fishery Management Plan that provides a quality fishing experience.

Vision Statement

The fishery at Jordanelle Reservoir attracts anglers from the Wasatch Front (and Back) who: 1) Enjoy the family fishing and overall recreational experience provided by Jordanelle State Park, 2) Value the trophy fishing opportunities available at the reservoir, and 3) Pursue a diverse array of species using a variety of fishing techniques.

Current Condition of Jordanelle Reservoir

Jordanelle Reservoir is an impoundment of the Provo River and has been managed as a state park since its opening in 1995. The reservoir is located in Wasatch County, approximately 11 miles upstream of Deer Creek Reservoir and 10 miles north of Heber City, Utah on HWY 40. The reservoir stores 360,500 acre feet of water and covers 3,300 surface acres.

Jordanelle Reservoir has been managed as a two-tier, Rainbow Trout *Oncorhynchus mykiss* and Smallmouth Bass *Micropterus dolomieu*, basic yield fishery since initial management plan development in 1993. Rainbow Trout have been stocked annually since 1993. Other fish species collected from Jordanelle Reservoir include Brown Trout *Salmo trutta*, Bonneville Cutthroat Trout *Oncorhynchus clarkii utah*, Utah Chub *Gila atraria*, Utah Sucker *Catostomus ardens*, and illegally introduced Yellow Perch *Perca flavescens*.

Currently several issues with the Jordanelle fishery have prompted the need for a revised management plan, hence the establishment of a working group. Return of stocked Rainbow Trout to the creel and monitoring gillnets has been low, with catch rates decreasing since about 2004. In the 2013 creel Rainbow Trout catch rates were 0.12 fish/hour and in gillnets 0.75 fish/hour, both below statewide targets. Catch rates of Smallmouth Bass have increased in the creel and are stable in monitoring activities. However, Smallmouth Bass growth rates after age 2 fall below the 25th percentile for North American lentic waters (Wiley and Watson 2014) and anglers are dissatisfied with the lack of large individuals. Finally, angler use has decreased dramatically from 65 hours/acre in 2003 to 12 hours/acre in 2013 (Hepworth et al. 2004, Wiley 2014).

Goals for Management of Jordanelle Reservoir

1. Enrich trophy angling opportunities
2. Promote a family fishery
3. Ensure a quality recreational experience for boaters and anglers
4. Manage Jordanelle fishery for compatibility with native species management
5. Manage Jordanelle as a destination fishery
6. Ensure no new species are illegally moved in or out of Jordanelle

Objectives and Strategies Associated with Management Goals

Goal 1: Enrich trophy angling opportunities

Objective 1: Increase forage base

Targets Develop monitoring protocol for forage species with target catch rates; manage for 8:1 forage to predator ratio

Strategies

- Ensure forage species are established and available prior to predator introductions
- Introduce Kokanee Salmon
 - Determine annual stocking densities
- Consider introduction of native species and other cyprinid species
 - Mountain Whitefish
 - Redside Shiner
 - Fathead Minnow
- Determine reproductive status of Utah Chub in Jordanelle Reservoir
 - Design sampling protocol focused on young of year and juvenile Utah Chub to determine if successful reproduction is occurring
 - If there is a lack of successful reproduction, determine why. If successful reproduction does occur, determine what is happening to juvenile Utah Chub
- Explore options for increasing success of forage species
 - Reservoir habitat enhancements

Objective 2: Increase size structure of Smallmouth Bass

Targets From electrofishing surveys: mean annual proportional size distribution (PSD) 20-60 ((# of individuals ≥ 11 " / # of individuals ≥ 7 ")*100); mean annual PSD-Preferred 10-20 ((# of individuals ≥ 14 " / # of individuals ≥ 7 ")*100); mean length 9 inches at Age 3; relative weight (W_r) 90-100 (values that indicate healthy condition and acceptable predator/prey ratio)

Strategies

- Increase harvest of Smallmouth Bass
 - Encourage harvest of individuals under 12 inches
 - Implement appropriate regulations for increased harvest
 - Educate public on fish consumption advisories for mercury
- Introduce predator to reduce number of small individuals
 - Determine appropriate timing and density for stocking wipers
 - Conduct wiper diet study
- Establish stable and appropriate forage for Smallmouth Bass >Age 2

Objective 3: Maintain and/or increase size structure of Brown Trout

Targets From gillnet surveys: Establish target annual mean values of PSD using previously collected data and available literature; relative weight (W_r) 90-100

Strategies

- Establish stable forage
 - Introduce Kokanee Salmon
 - Protect spawning Kokanee population via statewide regulation of catch and release September 10-November 30
- Ensure new species introductions do not negatively impact Brown Trout population
 - Research stocking densities and timing of all new species for compatibility with Brown Trout
 - Research potential competition between Brown Trout and new species, mitigate if necessary

Objective 4: Expand fishery to include trophy apex predator

Strategies

- Develop stable forage (see Goal 1 Objective 1)
- Introduce tiger muskie as a trophy apex predator
 - Determine appropriate timeline and density for introduction
 - Implement appropriate regulations for tiger muskie
- Monitor diet of introduced tiger muskie and populations of prey species
 - Stable isotope analysis of tiger muskie
 - Catch rates and condition of prey species
- Consider potential reservoir habitat needs and improvements specific to tiger muskie

Goal 2: Promote a family fishery

Objective 1: Increase opportunities for shoreline angling

Strategies

- Explore viability of fishing platforms and docks
- Support and facilitate shoreline access via trails in the Ross Creek area
- Support and facilitate shoreline access via trails in the Crandall Point area
- Educate public on where shoreline angling is available within park boundaries
- Support and facilitate non-motorized boat access on north shore, include shoreline angling opportunities with this project
- Create brochure “Techniques for Successful Shoreline Angling at Jordanelle Reservoir”
 - Enter proposal for Blue Ribbon Fisheries Advisory Council funding in WRI database

Objective 2: Increase Rainbow Trout catch rates

Targets From 2019 angler survey: Catch rate 0.25 fish/hour (doubles current catch rate); average total length 15 inches; achieve statewide catch rate goal of 0.30-0.50 fish/hour by 2026

Strategies

- Adjust Rainbow Trout size at stocking and timing of stocking to improve survival and growth
 - Differentially spray mark stocked Rainbow Trout for three consecutive years to evaluate stocking strategy

Objective 3: Expand species for additional opportunities, i.e., shoulder seasons

Strategies

- Highlight shoulder season fishing opportunities for Brown Trout
 - Determine densities of potential supplemental stocking
- Introduce splake
 - Determine timing and stocking densities
- Host ice fishing events to highlight splake fishery once established
- Educate anglers on splake fishing times and techniques
 - Clinics, seminars, and social media posts

Objective 4: Increase awareness of angling opportunities

Strategies

- Provide updated information regarding new management plan to the Central Region RAC
- Provide information of angling opportunities at Jordanelle
 - Media coverage (TV, radio, and newspaper)
 - Changes to Rainbow Trout stocking strategy
 - Update State Park signage
 - Utilize social media and stakeholder websites
- Media coverage of all new species stocking
 - Kokanee, wiper, splake, tiger muskie
- Highlight ice fishing opportunities at Jordanelle
 - When appropriate focus media coverage on splake fishery

Goal 3: Ensure a quality recreational experience for boaters and anglers

Objective 1: Reduce spatial competition between recreational boaters and anglers

Strategies

- Increase wakeless area at Upper Provo River mouth near Rock Cliff
- Determine viability of potential wakeless area at the north end of the reservoir
- Create hands-on or computer based educational clinics on boating etiquette and safe boating practices

- Include DWR conservation officers in enforcing boating and wakeless regulations
 - Explain the purpose of wakeless areas and safe boating distance during contact
 - Promote tolerance
- Educate anglers on opportunities for various shoulder season species
 - Fall - Brown Trout
 - Spring, fall, and winter - splake
- Encourage anglers to fish shoulder seasons
 - Outreach efforts through social media, park signage, and brochure
 - Media coverage to highlight shoulder seasons and reduced crowds

Objective 2: Increase watchable wildlife opportunities

Strategies

- Partner with State Parks staff and Strawberry project biologists to document Kokanee Salmon spawning activity beginning September 2018
- After spawning is documented begin advertising Kokanee viewing opportunities near Rock Cliff the following year
 - Distribute flyers at Strawberry Reservoir Kokanee days
 - Media (TV, radio, newspapers)
 - Social media and websites
- Partner with State Parks to host viewing events with media coverage
- Update and reprint “Discover Utah Wildlife, Spawning Run-Kokanee Salmon” Kokanee lifecycle posters for distribution at Jordanelle State Park

Goal 4: Manage Jordanelle fishery for compatibility with native species management

Objective 1: Reduce risk of negative impacts on native species

Strategies

- Collaborate with native aquatics staff, conservation teams, and June Sucker Recovery and Implementation Program to gain approval of Jordanelle Management Plan
- Generate a stakeholder contact list
 - Notify stakeholders in advance of new species introductions
- Annually present progress to appropriate groups until Jordanelle fishery is established
 - Changes, if any, to management plan
 - Status of Jordanelle fishery

Objective 2: Increase awareness of native species in the drainage

Strategies

- Develop outreach with native species emphasis
 - Columbia Spotted Frog, Bonneville Cutthroat, Southern Leatherside Chub, June Sucker

Goal 5: Manage Jordanelle as a destination fishery

Targets From 2019 angler survey: Angler hours increased from 12 hours/acre to 18 hours/acre, with a goal of 35 hours/acre by 2026.

Objective 1: Increase diversity of species that anglers can target

- Improve size, condition, and return of current sport fish species
 - Rainbow Trout, Smallmouth Bass, Brown Trout
- Introduce new sport fish species to increase diversity
 - Kokanee Salmon, wipers, splake, tiger muskie

Objective 2: Reestablish Blue Ribbon designation

- Obtain most recent Blue Ribbon Fisheries Advisory Council ranking of Jordanelle Reservoir
 - Review scores to determine if issues outside of this management plan need to be addressed
- Recommend Jordanelle for Blue Ribbon consideration by 2019

Goal 6: Ensure no new species are illegally moved in or out of Jordanelle

Objective 1: Promote responsible angling and recreational practices

Strategies

- Utilize DWR Outreach Section to educate the public about changes to the Jordanelle fishery and the importance of not moving fish
 - Potential statewide illegal transport campaign
- Increase DWR Law Enforcement efforts at Jordanelle in regards to illegal introductions both AIS and fish
- Implement appropriate regulations on future illegally introduced fish species

Objective 2: Achieve compliance with AIS rules

Strategies

- Continued outreach activities
- Provide consistent experiences for boaters on a statewide scale
- Operation and maintenance of permanent decontamination station
- Ongoing coordination between DWR and State Parks to implement the AIS plan
- Explore options to increase funding for AIS management
- Consider increase in Jordanelle State Park staff

Discussion

This Jordanelle Management Plan is a guideline for future management of Jordanelle to achieve the developed vision statement. Biotic and abiotic conditions (e.g., unsuccessful introductions or fluctuating water levels) may alter how management proceeds. For this reason the management plan and any associated timelines will need to be adaptable to observed conditions. DWR will continue to work closely with the established working group as needed throughout the development of this fishery. The Jordanelle Work Group will be reconvened annually for progress updates. Additionally, we propose formal review of this management plan five years after implementation, likely 2021.

This plan will be presented to all appropriate stakeholders including Central Utah Water Conservancy District, Bureau of Reclamation, Utah Reclamation Mitigation Conservation Commission, Central Regional Advisory Council and irrigation companies.

References

- Hepworth, R. D., D. J. Janetski, and D. E. Wiley. 2004. Jordanelle Reservoir angler survey and fish population sampling 2003. Utah Division of Wildlife Resources, Springville, UT.
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- Wiley, D. E. and J. M. Watson. 2014. Age and growth of Smallmouth Bass in Jordanelle Reservoir, 2013. Utah Division of Wildlife Resources, Springville, UT.