

LAKE MANAGEMENT PLAN

NA-01570-01

DEC 01 95

DNR - WATERVILLE

Region	Area	D.O.W. Number	County	D.O.W. Lake Name Cannon River chain	Acreage S.A. L.A.
4	440				
<p>Long Range Goal: (Gorman, Sabre, Tetonka, Upper Sakatah, Lower Sakatah, Cannon, Wells)</p> <p>Provide a walleye fishery with an index of abundance for this species of 10/gill net with 30% > 18 inches.</p>					
<p>Operational Plan:</p> <p>Stock walleye fry in Gorman, Sabre, Upper and Lower Sakatah, and Cannon lakes at 1500/littoral acre in three of four years, including 1996, 1997, and 1998.</p> <p>Stock channel catfish fingerlings in Lake Tetonka at 25/littoral acre annually, beginning in 1995.</p> <p>Estimate abundance of fingerling walleye by fall electrofishing in the five lakes listed above.</p> <p>Resurvey all six lakes in 1999.</p> <p>Replan in 2000.</p>					
<p>Midrange Objective:</p> <p>Further determine the relationships between walleye fry stocking density, subsequent fingerling electrofishing capture rate, and the number of these fish that recruit to the gill net.</p>					
<p>Potential Plans:</p> <p>Rice Lake, the other main stem lake in this chain, could be stabilized by means of winter aeration, and managed with these six lakes: 20,000</p> <p>Adjacent unstable habitats could be reclaimed and aerated. The prime example is Dora: 60,000</p> <p>Assess the suitability of smallmouth bass management in the downstream lakes</p> <p style="text-align: right;">TOTAL \$ 80,000</p>					
<p>NARRATIVE: (Historical perspectives - various surveys; past management; social considerations; present limiting factors; survey needs; land acquisition; habitat development and protection; commercial fishery; stocking plans; other management tools; and evaluation plans)</p> <p style="text-align: center;">(see reverse side)</p>				<p>FOR CENTRAL OFFICE USE ONLY</p>	
				Entry Date:	Year Resurvey:
				Stock Species - Show Number per Acre	
				Schedule:	Year Beginning
				Population Manipulation YES NO Year	
				Development YES NO Year	
				Cred or Use Survey YES NO Year	
				Other: Year	
<p>Area Supervisor's Signature: <i>Hugh Valerius</i></p>		<p>Date: <i>9 May 95</i></p>			
<p>Regional Manager's Signature: <i>[Signature]</i></p>		<p>Date: <i>27 May 95</i></p>			

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MAY 10 1995

DNR Fisheries
Primary Species Management:
New
WAE

Secondary Species Management:

NA-01579-01

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Region	Area	D.O.W. Number	County	D.O.W. Lake Name	Acreage	Date
4	440			Cannon R. Chain		5-3-1995

NARRATIVE:**VARIOUS SURVEYS**

Refer to the individual lake management plans.

PAST MANAGEMENT

All of the lakes located in the Cannon River watershed are connected to one another via the Cannon River and its tributaries. Consequently, a management activity carried out in one basin may have an effect on the fish communities in other lakes in the chain.

This is particularly true of six of the lakes located along the main channel of the Cannon River, these being Gorman, Sabre, Tetonka, Upper and Lower Sakatah, Cannon, and Wells. For this reason, and because these lakes seem suited for similar management (all are class 40s except Tetonka), and as a means of clarifying assessment results, they have been managed as a unit since the late 1980s. More precisely, this means that walleye fry stocking has occurred at the same time since 1987, surveys have been done concurrently since 1989, and walleye fingerling electrofishing has been done in four of the lakes since 1987, and in Cannon since 1990. Wells has not been stocked or electrofished. Other management activities, northern pike and channel catfish stocking, for example, have occurred independently.

A seventh main-channel lake, Rice, has not been included in this management regime because of its history of instability. There are several other lakes in this part of the Cannon River watershed and none of them were included in this plan, either because of instability (Dora) or because lake type, stability of habitat, and some degree of isolation have combined to allow other management to occur. Fish and Sunfish Lakes are examples. Some of these lakes have been further isolated over the years by dams and fish barriers.

SOCIAL CONSIDERATIONS

Refer to the individual lake plans.

PRESENT LIMITING FACTORS

A series of low-head dams limits movement of fish between some of these lakes and completely eliminates any prospect, desirable or otherwise, of colonization from below. Prior to the existence of these structures, it is probable that the fish fauna in these lakes was more diverse as a result of occasional immigration by species such as lake sturgeon and flathead catfish.

Phosphorus loading has had a significant effect on these fish communities over the years. First, it has contributed to the frequency and severity of winter kill events in some of the basins and these events have occurred with sufficient regularity to have maintained high abundance of species tolerant of such conditions. Second, in combination with stable water levels resulting from the various weirs, it has tended to create an environment more favorable for phytoplankton than macrophytes.

Agricultural drainage of peripheral wetlands has significantly reduced the amount of spawning habitat available to species such as northern pike.

HABITAT DEVELOPMENT AND PROTECTION

There can be little doubt that these habitats have changed enormously as a result of human settlement and the conversion of the landscape from deciduous cover to production of agricultural crops. Of the changes that have occurred, increased phosphorus loading has perhaps had the greatest impact on the composition and, hence, the recreational value of the resident fish communities. A plethora of other changes, drainage of peripheral spawning habitats, for example, has no doubt taken a considerable toll as well.

There is some evidence that phosphorus loading may not be as severe in the 1990s as in decades previous, due to elimination of the worst of the point sources. Nonetheless, any further reduction which can be achieved would be beneficial.

Although not identified explicitly in the operational plans for these lakes, the fisheries management program should include a habitat restoration component

Add additional pages if needed

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NARRATIVE:**HABITAT DEVELOPMENT AND PROTECTION (cont.)**

aimed at reducing phosphorus loading and restoring the habitat value of tributary streams and peripheral wetlands. Our 1994 establishment of a 1.5-mile riparian buffer along the Cannon River and the Shields Lake shoreline is an example of such an activity.

COMMERCIAL FISHERY

Refer to the individual lake management plans.

STOCKING PLANS

Stock walleye fry in Gorman, Sabre, Upper and Lower Sakatah, and Cannon Lakes at 1500/littoral acre in three of four years, including 1996, 1997, and 1998.

Stock channel catfish fingerlings annually in Lake Tetonka at 25/littoral acre, starting in 1995.

EVALUATION PLANS

Obtain an index of abundance of walleye fingerlings by annual fall electrofishing in Gorman, Sabre, Tetonka, Upper and Lower Sakatah, and Cannon.

Conduct lake surveys in 1999 in the above five lakes plus Wells.

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Add additional pages if needed