



# Moose River Impoundment Project

## GENERAL

The project, which is a two pool design, was a cooperative effort of the Red Lake Watershed District and the Mn department of Natural Resources for flood control and wildlife management. Flood damages will be reduced by impounding floodwaters in the upper reaches of the watershed. Wildlife and associated recreational benefits will be enhanced by water retained in the two pools. The project is constructed on lands managed by and the Mn department of Natural Resources.

## LOCATION

The project is located at the headwaters of the Moose and Mud Rivers in northwestern Beltrami County, approximately 15 miles northeast of Grygla, MN.

## PURPOSE

Multi-purpose – designed to provide flood control, streamflow maintenance, increase wildlife values, and benefit fire control

## PROJECT COMPONENTS

**North Pool:** The North Pool outlets into the Moose River (JD #21). The major components of the north pool are: 5 miles of diversion ditch, 4 miles of earthen dike with a top elevation of 1218.0, one gated outlet structure, one rock lined emergency spillway at an elevation of 1216.0. Approximately 1/3 (41.7 sq. mi.) of the total project drainage area (125.0 sq. mi.) drains to the Moose River.

**South Pool:** The South Pool outlets into the Mud River (JD #11). The major components of the south pool are: 3 miles of diversion ditch, 9 miles of earthen dike with a top elevation of 1220.0, 4 miles of earthen dike between the north and south pools, one gated outlet structure, two rock lined emergency spillways at an elevation of 1218.0. Included between the pools is an interpool structure which may be used to pass water between the pools. Approximately 2/3 (83.3 sq. mi.) of the total project drainage area (125.0 sq. mi.) drains to the Mud River.

**Moose River Impoundment Project**

**FUNCTIONAL DESIGN DATA**

	<b>North Pool</b>	<b>South Pool</b>	<b>Total</b>
Top of Dam Elev. (ft.-msl)	1218.0	1220.0	
Freeboard Flood Elev. (ft.-msl)	1217.2	1219.3	
Freeboard Flood Storage (ac.ft)	16,250	38,250	54,500
Emer. Spillway Elev. (ft.-msl)	1216.0	1218.0	
Emer. Spillway Storage (ac.ft.)	12,000	24,250	36,250
Gated Pool Elev. (ft.-msl)	1215.3	1217.4	
Gated Pool Storage (ac.ft.)	9,750	19,750	29,500
Typical Summer Elev. (ft.-msl)	1211.7	1213.6	
Typical Summer Storage (ac.ft.)	2,000	4,000	6,000
Typical Winter Elev. (ft.-msl)	1210.5	1212.4	
Typical Winter Storage (ac.ft.)	800	1,800	2,600
Max No-Flood Elev. (ft.-msl)	1212.5	1214.5	
Max No-Flood Storage (ac.ft.)	3,000	6,000	9,000
Project Drainage Area (sq. mi.)	41.7	83.3	125.0

**OPERATION & MAINTENANCE**

Operation of the floodgates is the responsibility of the Red Lake Watershed District. A local person monitors and records the pool elevations and streamgages and operates the floodgates as directed by the Red Lake Watershed District. Outflows from the pools are coordinated with Agassiz National Wildlife Refuge and Thief Lake Wildlife Management Area.

Maintenance items are the responsibility of the Red Lake Watershed District and the State.

**COST**

The total project cost was approximately \$3.4 million. Funding was provided by the following:

State of Minnesota	\$1,690,000
Red Lake Watershed District	\$ 612,000
Red R. Watershed Management Board	\$ 1,126,000

**OPERATIONAL**

# Lost River Impoundment Project

## GENERAL

In approximately the mid 1970's, the project was constructed by the Mn Department of Natural Resources to improve waterfowl habitat. On December 14, 1978 the Red Lake Watershed District entered into a formal agreement with the Mn Department of Natural Resources to modify the original impoundment by raising the elevation of the dike and emergency spillway. Four (4) 48 in. diameter gated pipes and a spillway from ditch 200 of JD #11 supply water to the impoundment which is an "off channel" reservoir.

## LOCATION

Marshall County, Grand Plain Township, approximately 20 miles northeast of Thief River Falls. The drainage area above the impoundment is 53 square miles.

## PURPOSE

Multi-purpose – designed to increase wildlife values, and provide flood control

## PROJECT COMPONENTS

Approximately 10 miles of earthen embankment, an outlet control structure, and an emergency spillway into Ditch 200.

## FUNCTIONAL DESIGN DATA

	Elev. (ft. – msl)	Storage (ac. – ft.)
Top of Dam	1150.2	14,600
Emergency Spillway	1148.2	10,000
Typical Summer	1146.2	5,500
Typical Winter	1145.2	3,700

Drainage Area – 53.0 sq. mi.

## OPERATION & MAINTENANCE

Operation and maintenance is the responsibility of the State.

## COST

To modify approximately - \$109,000

## OPERATIONAL

1978

## **Elm Lake Project (Farnes Pool)**

### **GENERAL**

Elm Lake was drained in about 1920 by the construction of Branch #200 of Judicial Ditch #11. The Elm Lake project is a cooperative effort of the U.S. Fish and Wildlife Service, Mn Department of Natural Resources, Red Lake Watershed District, and Ducks Unlimited. Majority of funding for the project was provided by Ducks Unlimited, Inc. At the time, this was the largest Ducks Unlimited project in the lower 48 states.

### **LOCATION**

Marshall County, approximately 17 miles northeast of Thief River Falls. The drainage area of ditch 200 above Elm Lake is 63 square miles.

### **PURPOSE**

Multi-purpose – designed to meet three major objectives: Flood control, Increase wildlife values, and upstream drainage improvement

### **PROJECT COMPONENTS**

Approximately 9 miles of earthen embankment, an outlet control structure, rock lined emergency spillway, and an enlargement of a portion of Ditch 200.

### **FUNCTIONAL DESIGN DATA**

	Elev. (ft. – msl)	Storage (ac. – ft.)
Top of Dam	1145.0	19,700
Emergency Spillway	1142.0	11,000
Max Summer	1141.0	7,500
Typical Summer	1140.0	5,500
Typical Winter	1139.0	3,500

Drainage Area – 63.0 sq. mi.

### **OPERATION & MAINTENANCE**

During significant flood events the Red Lake Watershed District will determine the need to install additional stop-logs to provide downstream flood control. Operation of the outlet structure is the responsibility of Agassiz National Wildlife Refuge.

Various maintenance items are the responsibility of either the U.S. Fish and Wildlife Service, State of Minnesota, or Red Lake Watershed District.

### **COST**

Approximately - \$2 million

### **OPERATIONAL**

**SCHIRRICK DAM #25  
RED LAKE WATERSHED DISTRICT**

**LOCATION:** Black River, T152N, R45W

**DRAINAGE AREA:** 107.7 square miles

**FLOOD POOL:**

<u>Gated Storage</u>	<u>Temporary Storage</u>	<u>Total Storage</u>
4000 ac.ft. Elev. 962 - 987	800 ac.ft. Elev. 987 - 989.3	4800 ac.ft (.8")

**DESCRIPTION:**

The Schirrick Dam was constructed in 1984. The primary purpose of the project is to provide flood relief on the Red Lake River and the Red River of the North by controlling the flow contribution from the Black River. A small permanent pool is also provided.

The dam consists of the following components: An earthen embankment and reservoir with capacity to detain up to 4,800 acre-feet of water and a gated outlet control structure.

The operable components of the dam are the stoplog bays and the flood control gates. The stoplog bays control the elevation of the permanent pool. The floodgates control the flow contribution of the Black River during floods. The outlet structure has large enough flow capacity to pass Black River flood flows with minimal waste of storage. The gates will normally be open, and will only be closed in the event of severe mainstem flooding. The flood gates will be closed 24 hours in advance of a predicted stage of 26 feet in Crookston, or 60 hours in advance of a predicted stage of 46 feet in Grand Forks.

**COST:** \$1,019,000

**OPERATIONAL DATE:** January 1985

## FACT SHEET

### RED LAKE DAM

GENERAL: The U.S. Army Corps of Engineers operates the dam at the outlet of the Red lakes. The dam was completed in 1951. Operation of the dam provides major flood control and stream flow maintenance benefits.

LOCATION: The dam is located in Clearwater County on the western shore of Lower Red Lake. Trunk Highway 89 crosses the dam approximately 12 miles northwest of the village of Red Lake and 42 miles southeast of Thief River Falls.

RESERVOIR INFORMATION: Upper and Lower Red Lake comprise the largest lake area wholly contained within Minnesota. The Red Lakes have a surface area of approximately 290,000 acres (453 square miles). With over 1 million acre-feet of flood storage, Red Lake is by far the largest reservoir in the Red River Valley.

DISCHARGE CAPACITY: The discharge capacity of the dam is very small in relation to the size of the drainage area (and reservoir); therefore control efforts to release high water can take years. The current outflow capacity of approximately 1000 cfs can lower the lake level only .2 foot per month (assuming no inflow).

DAM OPERATION: The dam is manually operated in relation to stages in the lake and downstream on the Red Lake River at Highlanding.

- a. Problem: When the lake is above target levels, water is discharged at the capacity of the downstream channel. Rainfall events, combined with high discharges from the dam, often cause flooding of ag lands along the Red Lake River. The flow travel time of 1.5 days from the dam to Highlanding, and the dam operators living off-site at Winnibigoshish, Leech, or Pokegama Dams, cause a lag in response time and contribute to the problem.
- b. Solutions: One possible solution involves modification of operations to include: remote sensing of lake and river stages, and precipitation; and remote control capabilities of the dam. These modifications are presently being considered, and could lessen the lag time between hydrologic occurrences and gate operations at the dam.

**FACT SHEET**  
**GOOD LAKE PROJECT**

**INTRODUCTION:** The Good Lake Project is a cooperative effort of the Red Lake Band of Chippewa Indians, and the Red Lake Watershed District to provide wetland habitat, flood water retention, and a potential irrigation water supply.

**LOCATION:** The project area lies entirely within the Red Lake Indian Reservation. The site is approximately 30 miles east of Thief River Falls, within Clearwater and Beltrami Counties.

**PROJECT COMPONENTS:** The project includes the following main components: approximately 9 miles of dike at elevation 1178.5, 7.5 miles of inlet channels, a reinforced concrete outlet structure, and 2 miles of outlet channel and access road.

**FISH AND WILDLIFE:** The project will provide expanded and enhanced wetland habitat for waterfowl, furbearers, and other wetland species. The normal water level of Good Lake will be increased approximately 3 feet, which will expand the water surface area from the existing 84 acres to 1800 acres. The reservoir will also have potential to be used for seasonal rearing of northern pike.

**FLOOD CONTROL:** The project will reduce flood peaks on both the Red Lake River and the Red River of the North. The dam will store runoff from the 82 square mile drainage area. Spring storage capacity is 11,300 ac.ft., equal to approximately 2.6 inches of runoff from the drainage area. The project will also reduce flooding on approximately 4000 acres of private land immediately west of the project, by intercepting overland flows.

**WATER SUPPLY:** The reservoir may be used as a water supply for irrigation of wildrice paddies. Paddies have not been built, but there is a potential for paddy development in adjacent areas.

**COST:** The total project cost is \$2,129,000. Project funding or in-kind contributions were provided by the following:

Red Lake Band of Chippewa Indians  
Red Lake Watershed District  
Red River Watershed Management Board  
State of Minnesota

**BR-6**  
**BURNHAM CREEK DAM**

**INTRODUCTION:**

This dam was constructed as part of an overall PL-566 project in the Burnham Creek Watershed. The dam was completed in 1988. The project was designed and built by the U.S.D.A. Soil Conservation Service. Local sponsors were the East and West Polk Soil and Water Conservation Districts and the Red Lake Watershed District.

**LOCATION:**

The dam is located in Polk County approximately 14 miles southeast of Crookston. The dam is built on the downstream side of a beach-ridge of glacial Lake Agassiz. Water is stored in parts of Sections 1, 2, 11, and 12 of Onstad Township (T148N, R45W).

**PROJECT COMPONENTS:**

The dam includes an earthen embankment approximately 1.8 miles long, with a maximum height of 18 feet. The outlet structure consists of a two-stage riser with a five foot diameter outlet pipe. Two pools were created by the project: a permanent wildlife pool consisting of a restored wetland, and a temporary flood pool.

**WILDLIFE HABITAT:**

A 62 acre permanent wildlife pool was created in the upper part of the impoundment by restoring a drained wetland. Over 130 bird species have been identified on the site with 60 species nesting here. The area is used heavily by migrating waterfowl including flocks of up to 5000 Sandhill Cranes. The area is managed by the Minnesota Department of Natural Resources as a waterfowl refuge.

**FLOOD CONTROL:**

The flood control goal of the project is to reduce flooding of agricultural lands downstream. The pool has a flood storage volume of 1023 ac.ft. and will store approximately two inches of runoff from the 8.1 square miles that drains into the dam. The dam is located in the headwater area of County Ditch 140. County Ditch 140 routinely overflowed into the Burnham Creek Watershed downstream of the dam--adding to the flood damages along Burnham Creek. The dam provides benefits to areas downstream along County Ditch 140 and Burnham Creek.

**COST:**

The dam cost \$1,127,000. The unit flood storage cost was \$1100/acre-foot.

Funding was provided by the following agencies:

Federal PL-566 Funds	\$919,553
Red River Watershed Management Board	105,825
Red Lake Watershed District	101,363

**Burnham Creek Impoundment, Red Lake Watershed District Proj. No. 43, BR 6 Structure**

Location: Section 2, T148N, R45W

Drainage Area: 8.1 square miles

Flood Pool:

Area-212 acres

Volume-1,023 acre-feet

Permanent Pool:

Area-95 acres

Volume-108 acre-feet

Description: The flood retention structure BR-6 is part of an overall PL 566 project sponsored by Polk County and by the East and West Polk Soil and Water Conservation Districts. The project is an earthfill dam.

Cost: \$1,126,741 = \$1,101/A.F.

Funding:	Federal PL 566 Funds	\$919,553
	Red River Watershed Management Board	\$105,825
	Red Lake Watershed District	\$101,363

**Burnham Creek Channel, Red Lake Watershed District Proj. 43B**

The channel work will involve enlargement and realignment of 12.5 miles of man-made ditch or previously modified channel and 1.9 miles of unmodified well-defined natural channel.

Area: 104,000 acres in Polk County

Cost: \$2,166,175

Funding:	Public Law 566 Funds	\$1,772,238
	Local Assessment	\$ 393,937

# Red Lake Watershed District Project #121 Louisville/Parnell Impoundment and Wetland Bank Project Summary

## Background

The project was petitioned for by the project landowner, Mr. Paul Hoff. Mr. Hoff requested that the RLWD Board consider construction of a water impoundment and wetland restoration on the project site. In August of 1996, the Board appointed HDR Engineering, Inc. as the project engineers.

## Technical Information

The project has a tributary area of approximately 5 square miles. The project site receives "break-out" flows from legal drainage systems during extreme rainfall events. The flows cause significant erosion and crop loss for several miles downstream. The project is designed to control runoff from the 25-year 30 hour summer storm event. The project consists of 5 pools. One primary pool for flood control and 4 pools for wetland restoration and banking purposes. The total flood storage available is 400 acre feet. Approximately 39 acres of wetland bank are anticipated. The total project site is 480 acres.

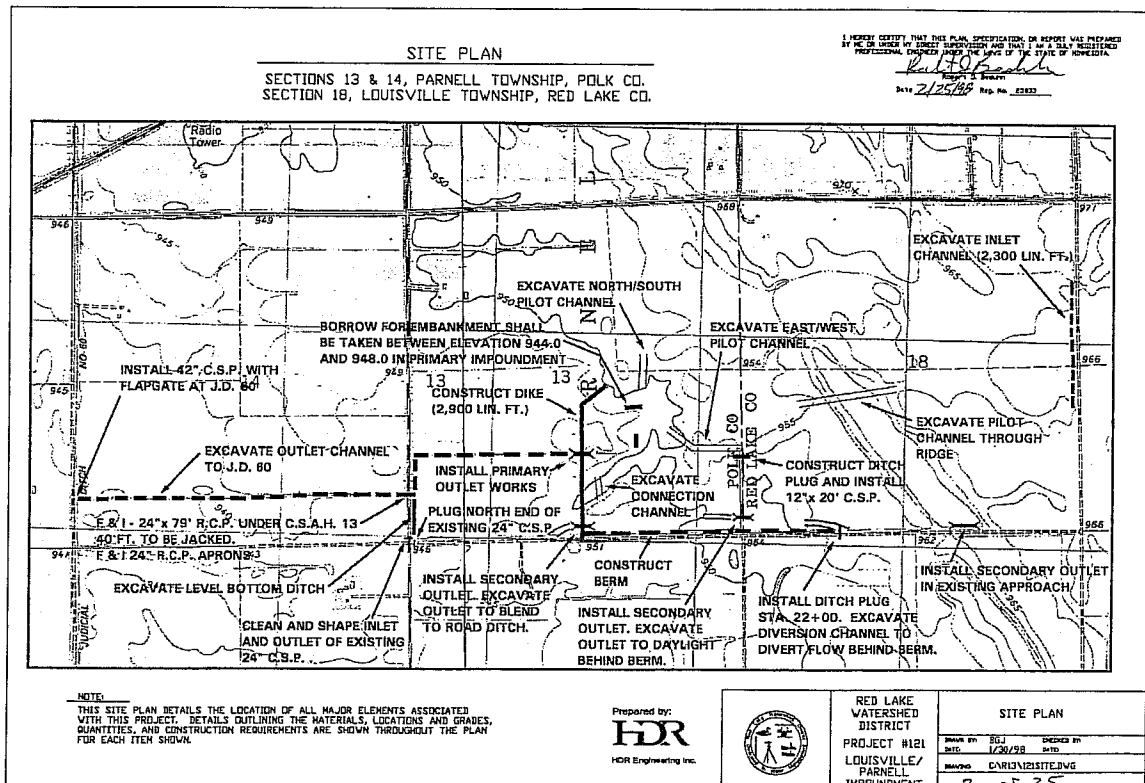
## Project Cooperators

The project is sponsored by the Red Lake Watershed District. Other sponsors include:

- Red River Watershed Management Board - Flood Control
- MN/DNR Flood Damage Mitigation Grant Program - Flood Control
- Minnesota Department of Transportation - Wetland Banking
- Farm Service Agency - CRP areas for agricultural wetland restoration (10 and 15 year CRP Contracts)

Technical services have been provided by:

- RLWD Engineering and Surveying Technicians
- HDR Engineering Inc. - Project Engineer
- Widseth Smith Nolting - Surveying and Construction Observation
- Midwest Testing - Soils Testing



SITE	Thief Lake(Existing)	# 2	
LOCATION	Section 21, T158N, R41W, Marshall County Source of the Thief River		
DRAINAGE AREA (sq. mi.)	About 200		
PERMANENT POOL	Normal	Drawn Down	Drawn Down
ELEVATION (feet MSL)	1158.5	1157	1157
AREA (acres)	7000	5800	5800
Volume (acre-feet)	18,000	8,000	8,000
FLOOD POOL	Full Pool	Full Pool	Maximum
ELEVATION (feet MSL)	1161	1161	1163
AREA (acres)	7500	7500	11,500
Volume (acre-feet)	35,000	35,000	54,000
FLOOD CAPACITY			
VOLUME (acre-feet)	17,000	27,000	46,000
RUNOFF (inches)	1.6	2.5	4.3
1975 High	1161.12		
INITIAL COST (\$)			

COMMENTS:

This existing impoundment is operated by the DNR for wildlife management. The pool is normally drawn down over the winter to 1157 feet to help control spring runoff. 1163 feet is the maximum legal elevation.

SITE	Agassiz National Wildlife	# 3
	Refuge (Existing)	
LOCATION	T156N, R42W, Marshall County At the junction of Mud and Thief Rivers	
DRAINAGE AREA (sq. mi.)	615. of which ____sq. mi. are not controlled by the impoundments. Thief Lake and the Moose River are upstream.	
PERMANENT POOL	Normal	Draw Down
ELEVATION (feet MSL)	Approved 1976 Elevations	
AREA (acres)	23,100	19,500
Volume (acre-feet)	38,400	25,700
FLOOD POOL		
ELEVATION (feet MSL)	See note below	
AREA (acres)		
Volume (acre-feet)	70,000	70,000
FLOOD CAPACITY	See note below	
VOLUME (acre-feet)	31,600	44,300
RUNOFF (inches)	1.0	1.4
AGASSIZ POOL		
Normal	1140.5	
1975 High	1142.0	
1979 High	1142.5	

INITIAL COST (\$)

Note: The gates are operated with regard to downstream, as well as, refuge flood conditions. Greater volumes than those indicated can be stored, and have been in the past. The amount represents what can reasonably be stored, with the existing facilities, without considerable damages on the refuge. Run-off control listed is based on the uncontrolled drainage area.

COMMENTS:

Agassiz National Wildlife Refuge is operated by the U.S. Fish and Wildlife Service primarily for the benefit of waterfowl. The total refuge area is 61,660 acres, or about 96 square miles. About 23,000 acres are normally under water.

The impoundment area includes 15 separate pools. The data listed is a summary of all the pools.

Agassiz Pool is the largest and includes the original Mud Lake. This pool is normally drawn down about 1 1/2 feet in the fall.

SITE	Clearwater Lake	# 14
LOCATION	T149N, R35-36W, Beltrami and Clearwater Counties	
DRAINAGE AREA(sq.mi.)	153	
PERMANENT POOL	Existing lake	
ELEVATION (feet MSL)	1273	
AREA (acres)	990	
VOLUME (acres/feet)		
FLOOD POOL	Existing Dam	Drawn Down
ELEVATION (feet MSL)	1277	1270
AREA (acres)	1120	890
VOLUME (acres/feet)		
FLOOD CAPACITY	Existing Dam	Drawn Down
VOLUME (acres/feet)	4180(1)	2820(2)
RUNOFF (inches)	0.5	0.3
INITIAL COST (\$)		

COMMENTS:

- (1) Storage capacity above normal lake level.
- (2) Storage capacity below normal lake level if drawn down.

The existing dam was constructed by the Minnesota Department of Game and Fish in 1931. Stop logs are provided to adjust lake levels above and below normal.

SITE	Pine Lake	# 19(35)	
LOCATION	T149N, R38W, Pine Lake Twp., Clearwater County. On the Lost River.		
DRAINAGE AREA (sq.mi.)	44.7		Proposed 8.2
PERMANENT POOL	Summer Level	Drawn Down	
ELEVATION (feet MSL)	1283.5	1282.5	1283.5
AREA (acres)	1310	1190	1310
VOLUME (acres/feet)	10300	8900	10300
FLOOD POOL (100 year)			
ELEVATION (feet MSL)	1285.7	1287.3	1284.5
AREA (acres)	1620	1890	1400
VOLUME (acres/feet)	13800	16600	2910
FLOOD CAPACITY	Summer Flood	Spring Flood	
VOLUME (acres/feet)	3500	7700	1400
RUNOFF (inches)	1.5	3.2	3.2 #
INITIAL COST (1981)	\$70,000.00 ??		

COMMENTS:

There is considerable shoreline development.

Potential Impoundment Sites No. #19 and #28 are upstream.

SITE	Baird-Beyer Dam (Existing) # 25(16)
LOCATION	Section 3. T151N, R45W, Louisville Twp., Red Lake County. On the Little Black River, a small tributary of the Black River, upstream from Huot.
DRAINAGE AREA (sq.mi.)	22.6 total
PERMANENT POOL	
ELEVATION (feet MSL)	962
AREA (acres)	24
VOLUME (acres/feet)	70
FLOOD POOL	
ELEVATION (feet MSL)	972
AREA (acres)	37
VOLUME (acres/feet)	330
FLOOD CAPACITY	
VOLUME (acres/feet)	260
RUNOFF (inches)	0.7
INITIAL COST (\$)	???

COMMENTS:

Goose Lake Flood Stage is 5500 feet. Drainage Area is 15.6. Runoff is 6.6".

SITE	Abraham Dam (Existing)	# 32
LOCATION	Northeast 1/4 Section 32, T148N, R38W.	
DRAINAGE AREA (sq.mi.)	0.3	
PERMANENT POOL		
ELEVATION (feet MSL)	76	
AREA (acres)	7	
VOLUME (acres/feet)	30	
FLOOD POOL		
ELEVATION (feet MSL)	82	
AREA (acres)	15	
VOLUME (acres/feet)	96	
FLOOD CAPACITY		
VOLUME (acres/feet)	66	
RUNOFF (inches)	4.1	
INITIAL COST (\$)	???	

COMMENTS:

SITE	Odrey Flaad Dam (Existing)	# 33
LOCATION	Section 9, Onstad Township	
DRAINAGE AREA (sq.mi.)	7.1	
PERMANENT POOL		
ELEVATION (feet MSL)	1002.0	
AREA (acres)		
VOLUME (acres/feet)		
FLOOD POOL		
ELEVATION (feet MSL)	1004.0	
AREA (acres)		
VOLUME (acres/feet)		
FLOOD CAPACITY		
VOLUME (acres/feet)	35.9	
RUNOFF (inches)	0.1	
INITIAL COST (\$)	\$25,000.00	

COMMENTS:

SITE	Ke-Wa-Sa	# 34
LOCATION	Greenwood Township	
DRAINAGE AREA (sq.mi.)	35.6	
PERMANENT POOL		
ELEVATION (feet MSL)	1175.0	
AREA (acres)	2579	
VOLUME (acres/feet)	5615	
FLOOD POOL		
ELEVATION (feet MSL)	1177	
AREA (acres)	4580	
VOLUME (acres/feet)	12,610	
FLOOD CAPACITY		
VOLUME (acres/feet)	6995	
RUNOFF (inches)	6.3	
INITIAL COST (\$)		

COMMENTS:

SITE	Goose Lake (Existing)	# 35
LOCATION	Polk Center Township	
DRAINAGE AREA (sq.mi.)	15.6	
PERMANENT POOL		
ELEVATION (feet MSL)	995	
AREA (acres)		
VOLUME (acres/feet)		
FLOOD POOL		
ELEVATION (feet MSL)	996	
AREA (acres)		
VOLUME (acres/feet)		
FLOOD CAPACITY		
VOLUME (acres/feet)	5,500	
RUNOFF (inches)	6.6	
INITIAL COST (\$)		

COMMENTS:

SITE	Knutson (Existing)	# 37
LOCATION	Section 26, T151N, R44W Red Lake County	
DRAINAGE AREA (sq.mi.)	2.71	
PERMANENT POOL		
ELEVATION (feet MSL)	1030.0	
AREA (acres)	2.7	
VOLUME (acres/feet)	12.6	
FLOOD POOL		
ELEVATION (feet MSL)	1039.2	
AREA (acres)	9.4	
VOLUME (acres/feet)	55	
FLOOD CAPACITY		
VOLUME (acres/feet)	42.4	
RUNOFF (inches)	.29	
INITIAL COST (\$)		

COMMENTS:

SITE	Thibert (Existing)	# 38
LOCATION	Section 17, T151N, R44W Red Lake County	
DRAINAGE AREA(sq.mi.)	1.02	
PERMANENT POOL		Raised
ELEVATION (feet MSL)	1005	1009
AREA (acres)	.83	1.8
VOLUME (acres/feet)	4.3	9
FLOOD POOL		
ELEVATION (feet MSL)	1008	1012
AREA (acres)	1.4	3
VOLUME (acres/feet)	7.7	15
FLOOD CAPACITY		
VOLUME (acres/feet)	3.4	6
RUNOFF (inches)	.06	.11
INITIAL COST (\$)		

COMMENTS:

SITE	Seeger Dam (Existing)	# 39
LOCATION	North 1/2 Section 29, T151N, R44W	
DRAINAGE AREA (sq.mi.)	6.4	
PERMANENT POOL		
ELEVATION (feet MSL)	1004	
AREA (acres)	25	
VOLUME (acres/feet)	220	
FLOOD POOL		
ELEVATION (feet MSL)	1011	
AREA (acres)	40	
VOLUME (acres/feet)	450	
FLOOD CAPACITY		
VOLUME (acres/feet)	230	
RUNOFF (inches)	.7	
INITIAL COST (\$)		

COMMENTS:

SITE	Miller (Existing)	# 40
LOCATION	West 1/2 Section 26, T151N, R43W	
DRAINAGE AREA (sq.mi.)	4.4	
PERMANENT POOL		
ELEVATION (feet MSL)	1076.5	
AREA (acres)	11	
VOLUME (acres/feet)	32	
FLOOD POOL		
ELEVATION (feet MSL)	1082.7	
AREA (acres)	30	
VOLUME (acres/feet)	155	
FLOOD CAPACITY		
VOLUME (acres/feet)	123	
RUNOFF (inches)	0.5	
INITIAL COST (\$)		

COMMENTS: