Author: Cheryl Williss at 6DE-MAIN
Date: 3/23/99 3:05 PM
Normal
Receipt Requested
TO: Linda Coe
Subject: 98-99 annual water use report / mgmt plan
---------- Message Contents

Forward Header

Subject: 98-99 annual water use report / mgmt plan
Author: R6RW_TWK at 6de-main
Date: 3/23/99 3:55 PM

Cheryl

Thanks for finding that error. When I came, I went by what Fred had used in the previous years report for Storm Lake. After looking at the files, it looks like things were confused in 91 and it continued from there. I will make sure that next years report has the correct information.

Sandra

Initial	Date
LW	2-24-99
[illegible]	2/24/99

BA WTR
WR ND
Mail Stop 60189

FEB 25 1999

Memorandum

To: Project Leader, Tewaukon National Wildlife Refuge

From: Chief, Division of Water Resources, Region 6

/S/ CHERYL C. WILLISS

Subject: 1998-99 Annual Water Use Report/Management Plan

The subject reports for Tewaukon and Lake Elsie National Wildlife Refuges have been reviewed and approved as submitted. The Tewaukon Water Management Plan will be forwarded to the State as the 1999 Operations Plan.

The Declaration of Filing for Storm Lake NWR lists storage of 729 acre-feet and seasonal use of 516 acre-feet *NOT* 522 acre-feet storage and 900 acre-feet seasonal as shown on your report. Is there a reason for this discrepancy?

Attached is the signed approval page for your files.

Attachment

bcc:WR rf
RO rf
GARD, ND/SD (Shupe)
WTR:LCoe:lc:2/22/99
W:\WATERUSE\NO_DAKOT\99TEWAUK.99

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tewaukon National Wildlife Refuge Complex
9754 143½ Ave SE
Cayuga, ND 58013-9764

RECEIVED
FEB 11 1999

MEMORANDUM

Feb 3, 1999

To: R&W, ND Refuge/Fisheries Supervisor (60130)
Denver, CO

From: Refuge Manager, Tewaukon NWR Complex (62660)
Cayuga, ND

Subject: 1999 Annual Water Management Plan and 1998 Use Report

WATER RESOURCES (60189) RECEIVED FEB 19 1999 FWS-REG 6

1. List of Water Rights

Declaration of Filing dated September 1, 1934, for Lake Tewaukon and East and West White Lake (including Cutler Marsh), 7,198 acre-feet storage, 4,251 acre-feet seasonal from Wild Rice River.

Declaration of Filing dated September 1, 1934 claimed 397 acre-feet storage and 312 acre-feet seasonal use for Clouds Lake (Pool 8) now called Hepi Lake. Listed on the same sheet as Lake Tewaukon/White Lake, as per RO(EN) Marshall Fox's 11-14-83 memo. Water use in pools 5 through 10 is covered under this right, with Hepi Lake to be drawn down to fill these pools.

Permit #1261: 4852 acre-feet storage and 2287 acre-feet seasonal use, for a total of 7139 acre-feet. This permit covers additional storage and seasonal use in Lake Tewaukon, Cutlers Marsh and West White Lake; 409 acre-feet seasonal use to replace water to be diverted from the watershed by Sargent County Water Conservation District project; and total storage and seasonal use for Pools 3 and 4. Priority date December 28, 1964.

Tewaukon NWR #1262: 1,130 acre-feet yearly (635 acre-feet storage and 495 acre-feet seasonal use) for Sprague Lake, dated December 28, 1964, diversion from an unnamed creek in the SE1/4NW1/4, Section 2.

Tewaukon NWR #1263: 686 acre-feet yearly for Mann Lake (236 acre-feet) and Horseshoe Slough (450 acre-feet) dated December 28, 1964, diversion from the Wild Rice River.

Tewaukon NWR #3816 Nickeson Tract: 571 acre-feet (474 acre-feet storage, 97 acre-feet annual use) for the Nickeson Bottoms, a tract jointly owned by the ND Game and Fish Department, US Bureau of Reclamation and US Fish and Wildlife Service (FWS). Diversion is from the Wild Rice River, W ½ Section 27, T. 130 N., LTL, R. 54 W. Priority date August 15, 1985. Received perfected water permit on August 14, 1997. Recorded in the Register of Deeds, Sargent County on March 3, 1998.

2. Water Use - 1998

While not much winter precipitation was recorded in 1997/98, water levels were again high due to existing water levels at freeze up and excessive rain in the spring. The Wild Rice River, LaBelle Creek, Frenier Dam Outlet and Sprague Lake Creek flowed well above average this year, exceeding management levels in all wetlands. In February stoplogs were removed from Dam 1 to move water out of the system before a major spring thaw. The Wild Rice River continued a steady flow the entire year with high peaks at major rain events in May and July. It is believed that the cleaning of the Crete-Cogswell drain in 1984-85 plus several continuous high water years caused this increased flow in the Wild Rice River. Most wetlands on the Refuge were filled by the above normal runoff, and they held water into freeze-up. Freeze up this year was a month later than normal.

Pool 1 (Lake Tewaukon): Major inflow began on Feb 23 from LaBelle Creek and overtopped the township road on that day. On May 18, outflow peaked at 1150.94 flowing over the emergency spillway. The management level of 1148.20 was reached on May 30. Rain events in July increased the level to 1150.22 flooding the Point Road. The lowest level occurred on October 28 at 1146.75 when the water level was dropped to facilitate repairs to the Parkers Bay spillway. Once construction was completed on November 19 water was added from upstream pools to maintain the fisheries over winter. Duck numbers peaked on the lake during the week of November 2 at 15,310. This included 8400 mallards, 5200 shovelers, 900 Lesser scaup, 400 ringnecks and other species. Snow geese (400), Canada geese (5000) numbers peaked during the week of November 16 on Lake Tewaukon. Weather had been so warm during early fall that the geese took a while to build their numbers. Adequate water and available food in crop fields throughout the District distributed the flocks of geese. The lake was frozen at 1148.94 (which is full pool) on December 17. The river continued to provide an intermittent flow under the ice after freeze up and water continued flowing over the dam due to continued precipitation events.

Parker Bay (east end of Lake Tewaukon): Inflow from LaBelle Creek flowed into Parker's Bay and raised the water level to about 6 feet. The high water from LaBelle Creek over-topped the East Dike of Lake Tewaukon and the township road several times during spring flow. By late July the pool was at 3 feet. This pool received the most consistent waterfowl use during the migration period. Numbers of waterfowl were included in the Pool 1 survey information (see above).

Pool 2 (Cutler Marsh): This pool filled rapidly due to runoff from the Wild Rice River, West White Lake and privately drained wetlands south of Pool 2. Water came pouring in from south of the refuge at the corner of a curve on County Road 5. There was such a continual flow of water that the road south of Pool 2 and the Ducks Unlimited (DU) cross dike were severely eroded for the second year in a row. The peak on May 17 was 1153.90. The next measurable peak was 1153.75 on June 30. Water levels were dropped in July/August to facilitate riprap placement on the back of the dam (1149). In September water levels were raised to hold sufficient water for replacing water in Pool 1 (1153). Pool 2 received the most snow goose use in the fall of 98 with 7500 birds sitting on the pool on 11/2/98. Close proximity to food plots made the pool an attractive resting site. At freeze-up (December 17) the level of this pool was 1151.00.

Pool 2A: Pool 2A was kept as dry as possible in order to repair the 2A inlet dike with North American Wetland Conservation Council(NAWCC) funds. It was decided not to include this project in the NAWCC projects. The dike was repair during the year by force account with flood damage dollars. Water from spring runoff naturally maintained the pool at a depth of approximately 1153*.

* Approximate water level readings are based on recently completed surveys of pool depths which were mapped for refuge use. This is the only reliable method available at this time. All pools are scheduled to have gauges set to mean sea level in 1999.

Pool 3 (Maka Pool): Pool 3 peaked at 1156.55 on May 18. The water gradually dropped to 1150.99 by September 8 to expose erosion damage and to insure vegetation growth in the pool. Boards were added gradually staring September 10 to raise water level to store for Pool 1 after repairs were completed on the East Bay Dike. Late summer and fall this pool was a hot spot for waterfowl and pelican loafing. By September 17 the pool level was at 1157.65 and gradual drawdown started on November 19 to flow water into Pool 1. Drawdown was completed on December 4 at 1153.42 and froze at that level on December 17.

The DU cross dike was breached in April of 1997 allowing water to enter from the NE Pool 3 into the main Pool 3 east area. As a result, with the high water inflow in May, additional damage occurred to the cross dike and water levels behind the dike fluctuated with the Pool 3 water levels.

Pool 3A: This pool was lowered during the Pool 3 drawdown to facilitate Pool 2A inlet repairs. It had local runoff only, it did not increase above 1154 and naturally dried up in the early fall.

Nickeson Bottoms: Pool levels were high at 6 ft approximate depth. Waterfowl use in 1998 was low. Lack of emergent vegetation caused by deep water made the area unappealing to over water nesters and as brood water. This pool had some increase due to local runoff, flood relief from township roads to the north and decreased due to natural evaporation.

Pool 4 (River Pool): Peak water level occurred on May 20 when the water level was recorded as 1161.92. Gradual drawdown started on November 23 through December 4 (1158.74) to expose the upstream face of the dike to place rip-rap. On December 4 additional boards were added. Level at freeze up was 1158.95 on December 17.

Pools 3 and 4 had moderate water fowl use during the fall migration with ducks as the majority users. Peak numbers on October 21, 1998 included 920 mallards, 130 wigeon, 120 gadwall, 80 green-winged teal, 60 bufflehead and 10 blue-winged teal.

Pools 5, 5A, 6, 7, 7A: Pool 5 remained dry all year due to damage of the dike from high water levels in 1996. Structure replacement and dike repairs were completed in December. All other pools were full at the beginning of the year, but after the Hepi outlet to the north was washed open, pool levels dropped considerably due to lack of water from Hepi and loss of water from the damage to Pool 5. Pool 5A filled to approximately 1165 then dropped to 1162 at freeze up. Pool 6 filled to approximately 1168 and dropped to 1165 at freeze up. Pool 7's highest water level was approximately 1178 and dropped to 1173 during the summer. Pool 7A water level dropped through out the summer after reaching a peak level of 1177.05 on May 29. Pool 7A has a active rookery composed of great egrets, great blue herons, cormorants, and black-crowned night herons. In the fall of 1998, after Hepi Lake went dry, Pool 7A saw large numbers of puddle ducks (over 5,000 were observed on 10/15/97) utilizing the shallow water and vegetation as a resting and feeding area. 1,000 gadwalls were observed in the area on 10/15/97. At freeze up Pool 7A was estimated to be at 1174.

Pool 8 (Hepi Lake): A maximum depth of 6 feet was reached on May 29 and continued to drop during the rest of the summer. Water continued to exit the pool through the nonfunctioning north structure. By the end of summer only a small amount of water was located in the middle of the pool with mud flats around. Vegetation growth in the pool was good with emergents on the edges of the water including goosefoot, and dock. This area was used by shorebirds, ducks, geese and swans in the summer and fall. At freeze up the pool had approximately 1 ½ feet of water in the center of the pool. The open structure to the north made management water levels impossible. East and North side structures were repaired by the DU contractor and will make water management possible for next year.

Peak waterfowl numbers for Hepi Lake and adjacent pools were 3780 ducks and 1503 geese. Largest numbers by species were: 1500 Canada geese and 3500 mallards.

Pool 9: All water in Pool 8 ran into Pool 9 and water level peaked at approximately 10 feet in May. Because of the steep sides on this pool, vegetation only grew along the edges of the water. It drained through the existing pipe to the Wild Rice River until it reached 3 ½ feet by freeze up. An above ground outlet channel was constructed to the Wild Rice River above the existing pipe in December by the DU contractor which should allow additional sheet water to continue to the Wild Rice.

Pool 10: This pool received only local runoff and natural evaporation due to no management capability on Pool 8. In May it reached an approximately depth of 6 ft. This pool has vegetation around the edges and some submergent vegetation. Due to high water, management goals were not accomplished in this pool (desired depth of 2 ½ feet then dry by August as semi permanent marsh). Pool level gradually dropped to 4 foot by freeze up.

Pool 11 (West White Lake): This pool filled gradually due to water runoff conditions. It peaked at approximately 1151.65 on July 3. Water was moved into East White Lake then into south Pool 2 and the Wild Rice River when the south Pool 2 levels had dropped significantly. The southwest section of the pool has significant cattail growth and the area was utilized by ducks and geese in the fall. The rest of the pool was frequented by pelicans and cormorants. Pool 11 froze on December 17 at 1148.70.

Pool 12 (East White Lake): East White Lake peaked on July 3 at an elevation of 1151.65. It then maintained the same level as West White Lake. This pool has no vegetation except along a few edges. It also has developed severe erosion in some areas. The only wildlife to use this pool are pelicans, cormorants and great blue herons. In August these species were present in large numbers due to the fathead minnows in the pool. Pool 12 continued to flow into south Pool 2 and into the Wild Rice River most of the summer whenever possible. Freeze up was December 17 at approximately 1148.70.

East and West White Lake had peak waterfowl numbers on October 21, 1998 with 360 Canadas, 350 snow geese, 80 mallards, 100 gadwalls, 450 green-winged teal, and 40 wigeon.

Pool 13 (Mann Lake): Mann Lake control structure overtopped on May 10 and filled the lake to approximately 14 feet. The lake was lowered gradually as the river level dropped. Additional boards were taken out in September to remove as much water as possible. The west end of the pool saw some brood use and divers during the summer. In the fall migratory waterfowl use was also noted. The level at freeze up was approximately 10 feet.

Pool 14 (Sprague Lake): Sprague Lake overtopped on April 1 at several places through April 10 and agin June 28 through approximately July 8. Severe erosion occurred to the township road to the north making it impassible until the water level dropped. This lake had some migratory bird use as well as mergansers, grebes, cormorants and great blue herons. Elevation at Freeze up was approximately 9.1 feet.

Pool 16 (Horseshoe Slough Group): The Banish "J" Dike was overtopped by April 4 and was partially under water for about 2 weeks. B-North continued to receive water from the north from off of the Refuge where the County Road Department breached an old railroad grade in 1997 to relieve flooding of County Road 3. When the water level dropped in the Wild Rice River on approximately July 8, all Pools were lowered a few inches by backing water through "A" dike into the Wild Rice River. The pools in the Horseshoe Slough Unit saw high numbers of broods due to the good ratio of open water to cattails. They also provided shallow feeding areas for broods.

The Sprague Lake Refuge Units (Pools 13, 14 & 16) had large concentrations of waterfowl on November 2, 1998 with 900 Canadas, 600 snow geese, 5,000 mallards, 440 gadwalls, 20 pintails, 120 shovelers, 120 green-winged teal, 160 wigeon, 240 ringnecks, 20 redheads, 2 canvasbacks, 120 lesser scaup, 200 ruddy ducks and 300 mergansers.

3. Impoundment Data

Please see the attached chart for capacities for each pool at various elevations. No formal inflow/outflow records were maintained . There are currently no functional gauges on pools that relate to mean sea level. Please see Section #2 above for elevation changes for the various pools.

4. 1999 Plans

The following plans for the water levels in the pools are the best levels for attaining management objectives. However, with ongoing repair to damaged dikes and the third year of expected high water, is not anticipated that we will attain them this year. All efforts will be made to manage pool levels at desired elevations without incurring additional damage to dikes from high water.

On three pools (Pool 2A, 5 and 13) invertebrate samplers will be installed this fall for monitoring of wetland response to draw downs and to give managers a tool in knowing when a specific pool is in need of a draw down.

Pool 1 (Lake Tewaukon): Maintain 1148.0 Mean Sea Level (MSL). This elevation will help to maintain the sport fishery habitat.

Parker Bay (east end of Lake Tewaukon): If possible, lower to maintain a 2½-3 foot depth for waterfowl production.

Pool 2 (Cutler Marsh): Try and maintain the pool at 1148.0 MSL to relieve pressure on damaged dikes and to facilitate dike repair on the DU cross dike. This will also encourage vegetative growth in the east side of the pool and provide mud flats for shore bird use. Care will be taken to ensure that water is not dropped too low to allow sheep to escape the Cutler Woods Area. Keep Pool 2 South of DU dike at 1148 to relieve pressure on the breached dike and to promote vegetative growth for erosion control.

Pool 3 (Maka Pool): Maintain pool at 1152.5 to facilitate repairs to the DU cross dike. Stabilize water as quickly as possible before over-water duck nesting is initiated. If needed, supply water to Pools 2A and 3A.

Nickeson Bottoms: Water levels will be dropped as the Wild Rice water levels will allow. This pool has very little vegetation or wildlife use. An attempt must be made to try and lower this pool from approximately 6 feet to a depth of 3 feet to improve vegetative growth and waterfowl use.

Pool 4 (River Pool): Maintain approximately 1160 MSL for duck nesting, especially over-water nesting, and stabilize as quick as possible before April 15. Maintain muskrat populations by keeping this pool at this elevation.

Pool 2A: Maintain at a water level of 1154. This will allow a 4 foot water depth for brood use. Invertebrate samplers will be installed during the fall for sampling to begin in the spring of 2000. If sampling indicates a sufficient number of samples then the pool will be drawn down in the year 2001 and invertebrate response will be measured.

Pool 3A: The pool will be filled to a level of 1156 for brood use.

Pool 5: Repairs were completed by a DU contractor to this structure by the end of 1998. Leave this pool dry for 1999. Invertebrate samplers will be installed in the fall. Then water will be added the following spring and invertebrate sampling will be conducted.

Pool 5A - Allow to fill 2-3 feet (elevation 1162) with water diverted from Hepi Lake.

Pool 6 - Maintain at a level of 1167. Current density of cattail makes excellent cover for northern harriers, marsh wrens, bitterns, and red-winged blackbirds.

Pool 7 - Maintain at a level of 1174. Current density of cattail makes excellent cover for northern harriers, marsh wrens, bitterns, and red-winged blackbirds.

Pool 7A: Divert water from Hepi Lake during spring runoff to fill to a maximum depth to flood cattails and maintain water through out the summer (elevation 1178 minimum). The pools will dry out rapidly through an average summer due to evaporation. For Pool 7A's active rookery, water levels should be managed to keep 1- 3 feet of water in the pool throughout the summer and fall.

Pool 8 (Hepi Lake): Control structures on the north and east ends were repaired in Dec 1998. As flood waters increase the pool level in the spring water should be diverted to fill Pools 5A, 6, 7 and 7A. If excess water exists after filling these pools water should be diverted out of 7A through its north structure. Pool should be kept at a 2-4 foot level to encourage vegetative growth. The culvert to the north of Hepi should remain closed until the channel from pool 9 to the Wild Rice is vegetated.

Pool 9: Due to construction Pool 9 was lowered last fall. Plans are to avoid filling this pool from Hepi to reduce impacts to the channel from pool 9 to the Wild Rice until it is vegetated. Hopefully snows and rains will not exceed the current freeboard in Pool 9.

Pool 10: Lower to a depth of 2½ feet to encourage submergent vegetation growth to maintain its highest use as a semi-permanent wetland.

Pool 11 (West White Lake): Maintain depth at 4-4½ feet to slow cattail invasion. If necessary pump water to Pool 12 to keep from flooding County Road 5. Maximum level should be 1150 for cattail control and no higher than 1151 to reduce impacts to County Road 5. To allow drop in East White Lake, block structure after spring runoff.

Pool 12 (East White Lake): Add no water to this pool unless there is a need to pump water from Pool 11 to protect County Road #5. If possible allow this pool to drop to a level of 1148. Allow gradual drying to reestablish cattails and to reduce bank erosion.

Pool 13 (Mann Lake): Maintain at current elevation (8 ft). Invertebrate samplers will be installed during the fall for sampling to begin in the spring of 2000. Repairs for this structure are planned for the year 2,000 by a DU contractor.

Pool 14 (Sprague Lake): Maintain maximum pool, about 8½ to 9 feet in order to maintain the sport fishery. If flood project is to begin this summer there may be a need to reduce the water level.

Pool 16 (Horseshoe Slough): Pools are at maximum level, no water is needed in the system. Once the Wild Rice River recedes lower Pool A to protect the Banish "J" dike and the Pool A dike. If flood project is to begin this summer there may be a need to reduce the water level. The railroad grade still has a cut in it and may raise the water levels in these pools further.

5. Location Map

Please see attached Refuge Map on which all management pools are marked.

Submitted By: _____ Date: 2/5/99
Refuge Manager

Reviewed By: _____ Date: 2/15/99

Approved By: _____ Date: 2/25/99

Concurrence: _____ Date: 2-23-99

Attachments

TEWAUKON NATIONAL WILDLIFE REFUGE

Pools, Elevations and Acres

Pool No. & Name	Max. elevation (msl)	1985 Acres	1997 Acres *	1997 Volume (acre ft.) *	1998 Acres *	1998 Volume (acre ft.) *
Pool 1 - Tewaukon	1149	1015	>1067.77	>9366.92	1059.56	8303.05
- Parker's Bay	1149	95	>90.30	>371.36	>90.30	>371.36
Pool 2 - Cutler's Marsh	1152	246	246.62	825.73	246.62	825.73
Pool 2A	1152	30	24.19	45.84	>24.19	>45.84
Pool 3 - Maka Pool	1156	125	98.99	257.31	73.43	173.00
Pool 3A	1156	18			5.03	4.39
Pool 4 - River Pool	1159	108	25.82	31.71	>93.29	>206.92
Pool 5	1160	6	0.15	0.07	0.15	0.07
Pool 5A	1164	5	9.30	15.97	9.30	15.97
Pool 6	1169	6	>8.46	>20.99	7.18	13.15
Pool 7	1174	21	21.64	58.52	21.64	58.52
Pool 7A	1178	106	16.58	6.61	57.75	79.43
Pool 8 - Hepi Lake	1179	106	58.62	19.76	58.62	19.76
Pool 9	1167	10	8.54	15.20	11.10	35.35
Pool 10	1173	5.5	4.57	6.66	4.57	6.66
Pool 11 - West White Lake	1151	80	71.86	174.69	71.86	174.69
Pool 12 - East White Lake	1147	103	>97.75	>389.62	>97.75	>389.62
Pool 13 - Mann Lake	1207	57			>46.16	>163.31
Pool 14 - Sprague Lake	1209	186			>167.77	>722.97
Pool 16 - Horseshoe Slough		244				
- Pool 1 (A Pool)	1210	119.7			41.16	39.27
- Pool 2 (B Pool)	1206	42.5			>44.46	>120.02
- Pool 3 (C Pool)	1206	10.3			>10.25	>30.27
- Pool 4 (B West)	1206	+30.3			>44.83	>114.60
- Pool 5 (B North)	1206	24.5			>23.41	>31.98
- Pool 6 (C North)	1208	+2.8			8.57	7.22
- Pool 7 (C South & C East)	1206	14.5			21.83	50.77

* 1997-98 Pool acreages and volumes were calculated from information gathered during recently completed surveys of pool depths which were mapped for refuge management purposes. There are currently no functional gauges on pools that relate to mean sea level.

> Currently Area Tables do not go higher that this, however, water level was higher (see text for water level). Area Table will be expanded in the future.

WATER USE REPORT/MANAGEMENT PLAN
SHORT FORM

Lake Elsie NWR, Richland County
Station Name

Summer, 1997 (date not recorded)
Date Of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Considerable local runoff, at least two drainage ditches, springs
Source(s)

Several
(522 acre-feet storage)
(900 acre-feet seasonal)

Means of Diversion None
Rate

Water Diverted: Yes__ No X

Water Level 522 acre-feet
(Elevation or Est. Storage Amount)

*Impoundment(s): Yes__ No X

*Well(s):
Free Flowing none-known gpm
Pumped_____ gpm

Type of Use:
Surface Irrigation
(Crop)
Fish & Wildlife XX
Stock
Domestic
Other high public use: swimming, water skiing, fishing

Overall Climatic Conditions:

Condition of Facilities: No facilities present.

Proposed Water Program: County Commissioners and Water Board are looking for solutions to maintain the lake level. They have created an outlet (dug ditch) through Murphy Slough (FWS easement) & Dump Slough (off our easements) to stabilize the lake. Service has agreed to the stabilization provided that the North Dakota Game and Fish approve the water level for fishery purposes. No water management capability is currently present. At maximum the lake spills north from Murphy Slough through a culvert. In 1992 the Fish and Wildlife Service proposed to divest of the wildlife conservation and demonstration due to the current recreational use. The proposal indicated that we would be giving up the water right. In 1998 the proposal was attached to a bill (Public Law 105-312) that passed in October 30, 1998 which terminated the easement refuge. It also revoked Executive Order 8152. Steps are underway to amend the property deeds and transfer the water rights to the State of North Dakota.

Comments: The lake is an extremely popular summer recreational area. The Richland County Commissioners, Richland County Wildlife Club and the North Dakota Game and Fish are looking at a project that would include raising the bridge and county road, provide a fishing bridge, build a carp trapping area and the possibility of a walleye rearing pond.

Sandra M. Siekaniec, Refuge Manager — 2/5/99 Date

*If more than one impoundment or well, please attach additional sheet.

WATER USE REPORT/MANAGEMENT PLAN
SHORT FORM

Storm Lake NWR, Sargent County
Station Name

Summer, 1997
Date Of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Drainage ditch (legal)
Source(s)

Several
(522 acre-feet storage)
(900 acre-feet seasonal)

Means of Diversion Uncontrolled
Rate Unknown

Water Diverted: Yes__ No X

Water Level est 654 acre-feet
(Elevation or Est. Storage Amount)

*Impoundment(s): Yes__ No X

*Well(s):
Free Flowing none gpm
Pumped_____ gpm

Type of Use:
Surface Irrigation_____
(Crop)_____
Fish & Wildlife X Virtually no public use
Stock_____
Domestic_____
Other_____

Overall Climatic Conditions: 1998 was another wet year. The golf course flooded and the legal drain and diversion ditch maintained the lake level only after the snow and ice melted.

Condition of Facilities: A diversion dam at the head of the feed ditch serving Storm Lake washed out well before 1976. Apparently someone decided it wasn't worth repairing. The town dug a ditch beside the existing structure to allow for flood waters to move out of the town. At the end of 1997 the town placed a culvert with flap gate at an agreed elevation by a special use permit with the refuge manager. The culvert is well above the existing structure and will allow flood waters to be move out with out impacting the water right. The ditch through the golf course was also cleaned in 1997 through a special use permit to facilitate removal of flood waters. At that time the Golf Course placed 2 new bridges on the fee title property with out notification of the refuge. The Golf Course also applied for a water right for their green watering. Apparently the State Water Commission encouraged them to do this to clear up their existing water right for their current well system.

Proposed Water Program: No water management capability is present. Water runs down the ditch into the lake to an unknown degree each spring. Water did fill Storm Lake in 1993. Current high waters and overland flooding have resulted in the feeder ditch becoming an outlet for the water in Storm Lake into the legal drain.

Comments: The lake serves as an excellent waterfowl loafing sanctuary with good use by snow geese, canvasbacks, redheads, lesser scaup, and tundra swans. Water levels fluctuate on their own. If active management was initiated, some degree of improvement might be gained by a cycle of drawdown management. It is questionable if the benefits would be worth the costs for Storm Lake alone. However, when you look at the other three wetlands to the south we should continue to work with Ducks Unlimited and put the Mini Joint Venture back on tract. The Golf Course Association of Milnor which at one time requested lake water to irrigate portions of the Storm Lake Golf Course has found a well water source. The Association was granted a conditional water right, junior to that of the FWS.

Sandra M. Siekaniec 2/5/99
Sandra M. Siekaniec, Refuge Manager Date