

Tewaukon National Wildlife Refuge
Cayuga, North Dakota

Annual Narrative Report
Calendar Year 1999

U.S. Department of the Interior
Fish and Wildlife Service
National Wildlife Refuge System


Refuge Manager

6/28/02

Refuge Supervisor

Tewaukon National Wildlife Refuge Complex
Summary of 1999 for Annual Narrative

Comprehensive Conservation Planning

Work continued throughout the year with drafting and redrafting goals and objectives. Craig Mowry worked with Waubay NWR on their draft CCP. By the end of the year, a draft was circulated for internal review.

Construction

Work completed on new Butler 6 stall storage building. Morlock construction completed work on the Pool 2 and 3 cross dikes. This was a flood project partnered with Ducks Unlimited. Fence repairs were completed in Sargent and Ransom county to the greatest extent possible. Work started on the new shop late in the year. Repairs to the Gainor WPA dike. Thanks to Arrowwod NWR loan of a dozer. Completed trailer pads.

Dakota Tallgrass Prairie

Dakota Tallgrass Prairie project was in the developmental stages most of this year. Discussion on whether or not LWCF fund could be obtained occupied much time. A decision was made to write an environmental assessment and a Land Acquisition Priority System (LAPS) submittal. Eighty people attended public meetings.

Law Enforcement

Jack and Rob taught two sessions at Marana. Jack taught Defensive tactics for Region 3. Rob conducted the North Dakota refresher at Upper Souris. Jack and Rob assisted with the South Dakota refresher at Huron.

Fire

Don Lantz on a fire detail in Florida. Jeff Olson 3 week detail to Florida Panther NWR for Fire Suppression. An engine crew was on a detail to Mississippi and Florida. One fire fighter was on a detail to San Bernadino NWR, AZ and one other detail was to Watford City ND.

Staff conducted 21 prescribed burns for 2261 acres on the refuge and throughout the District. Staff also assisted Lacreek, Long Lake and Waubay NWRs with prescribed burns as well as the National Park Service at Theodore Roosevelt National Park and Knife River Indian Villages.

Easements

As **USA Waste** announced plans for a 60-year expansion to the landfill, clay mining was a major issue of discussion and development throughout the year. Staff also assisted Devils Lake with easement mapping. Drainage relief requests were numerous. We worked with **Alliance pipelines, on crossing several easement wetlands.** Staff attended meetings regarding the local Host agreement for Dakota Landfill and on their leachate ponds. A lot of effort went into mapping easements and working with landowners.

Wildlife

Five whooping cranes visited district during spring migration. Kristine participated in the wildlife working group for the Promises team. Northern Prairie initiated invertebrate sampling. Many landowners angry over the depredation of crops by Canada Geese. Worked on early Canada Goose season. Refuge hosted "before and after" meetings between landowners and ND Game and Fish regarding September season. More than 200000 leafy spruce beetles were released throughout the District.

NAWCA

In February, a meeting was held with partners to update them on progress. Drift Prairie II meeting was held to plan the DP II submittal. Evanson predator fence construction started.

Other Highlights

Richland County Commission approved sale of 160 acre tract to the FWS.

First ever spring snow goose season held this year.

Northern Pike spawning frenzy causes frenzied reaction from the public which included, among other things, herding fish on horseback and catching them on garbage cans.

Nevada Miller won the junior duck stamp contest.

Kristine presented at the National Association for Interpretation workshop in Bismarck.

Chris Schuler passed away on June 9 of this year. Chris worked at the Refuge for 22 years. In September a WPA was named in his honor,

Botulism breakouts on Kraft Slough, Gaukler wetland, and the Refuge

Stack Slough Prairie trail dedicated.

120 people at open house in October.

Paved tallgrass prairie trail next to office.

New fire engine and new payload arrived.

1999

E-MAIL

MEMORANDUM

March 8, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: January Activity Report

CCP

Worked on redrafting goals and objectives.

ENVIRONMENTAL EDUCATION/OUTREACH:

Judges for the Jr Duck Stamp Contest were selected and banquet plans were discussed. Financial support has been coming in from several state wildlife and sportsmen's groups - everywhere except the sponsoring agency (FWS). A news release on the Jr Duck Stamp was sent out.

Jack attended the Cogswell Gun Club.

FIRE:

Bill and Sandra attended PFPI training in Tucson.

LAW ENFORCEMENT:

Jack and Rob attended Law Enforcement refresher in Marana and taught two sessions.

EASEMENTS:

Jack met with Sargent county landowner and township board on road culvert request involving easement wetlands (145x,1 & 132x). Also worked on a culvert request involving Ransom county easement 233x,1.

Jack submitted ROW permit request on the Evanson WPA to realty and information to Rhoda Lewis, RO.

Jack worked on a route change for ditch on Lake Elsie.

Jack worked on research for the clay mining issue involving USA Waste.

Jack wrote response to State Engineer regarding their concerns on Sargent county easement(57x,1) case.

WILDLIFE:

Bald eagles were seen frequently throughout the month.

PPD1

Midwinter waterfowl survey yielded no birds.

PERSONNEL:

Kristine attended a wildlife working group meeting in Florida.

REFUGE OPERATIONS:

Jack worked on providing Refuge farming information to a new cooperator.

NAWCA:

Chris worked on a grazing system plan for two landowners.

Chris worked on evaluating and ranking grassland easements for the second grant.

Put together the Drift Prairie display board.

Jack, Chris, Rob & Sandra met with DU to conduct an on-site inspection of Tewaukon's NAWCA projects.

E-MAIL

MEMORANDUM

March 8, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: February Activity Report

HIGHLIGHTS:

- * NAWCA meeting to update partners held.
- * Jr Duck artwork is starting to trickle in.
- * ND Chapter of the Wildlife Society meeting.

EASEMENT:

Jack and Kristine traveled to Devils Lake to assist with easement wetland mapping.

Jack met with Klett on Forester easement and Landfill clay mining issue.

FLOOD PROJECTS:

Conference call with Sellards and Griggs, Moore Engineering (surveying) and GEI (bore testing) for project design and prep of the White Bridge.

CCP:

Met with Allison to discuss goals and objectives and develop alternatives.

Craig met with the Waubay Refuge staff and Allison to discuss and develop alternatives.

BIOLOGICAL ACTIVITIES:

Met with Chip Euliss to discuss a aquatic invertebrate sampling technique to evaluate our water management.

ENVIRONMENTAL EDUCATION/OUTREACH:

Kristine worked on entering in some early Jr Duck Stamp entries.

Kris, Chris attended the Cogswell Buffalo Supper. Jack and Rob worked the event. Jack also did a short radio spot.

FIRE:

Don returned from Florida.

Don worked on burn plans.

Don installed weather station.

PERSONNEL/TRAINING:

Chris, Don and Bill donated blood.

Jack traveled to Nebraska to recertify his instructor credentials.

Rob traveled to Cheyenne Wyoming for Forestry vehicle surplus training.

Don attended his first class in his 6 week First Responders training.

Submitted Performance reviews for temporary personnel (1040 apt. longer than 90 days).

Craig attended the ND GAP analysis meeting.

REFUGE OPERATIONS:

Attended Richland County commissioners meeting with Chuck Bosch to set up public meeting on Investment Rarities acquisition.

Submitted Water Management Plan, trapping information for Animal Protection Institute request, and GDU report for the Nickeson tract.

Jack sent in proposed hunting and fishing changes for 50 CFR through Nagle.

Sandra and Jack attended the Project Leaders meeting in Devils Lake. Met with Klett, McEnroe and Shupe over clay mining at the landfill, update on response to State Engineer and mapping.

Sandra, Craig, Chris and Kristine attended the ND Chapter of the Wildlife Society meeting in Mandan.

All computers Y2K scanned- operating system & hardware is compliant.

Posted information for small lot sale.

Submitted MMS project to Tom Locke for safety repairs to the shop.

Craig met with Region 3 ecosystem team in Minneapolis. He also attended a meeting on leafy spurge.

NAWCA:

Worked on grazing systems, DPP display board for the Wildlife Society meeting, ranking of grassland easements, culvert maintenance. Installed 5 culverts on private land near Smith WPA.

Attended NAWCA DPI meeting at Valley City to update all the partners.

OTHER:

48 uniform jeans/trousers were sent to Russia under the Leg-up program.

Searched Refuge Easement files and found memo indicating that easement refuges were initiated about 1935 primarily for the purpose of providing employment under the Works Progress Administration program with the secondary purpose of creating water impoundments during the extreme period of drought in ND.

E-MAIL
MEMORANDUM

May 14, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: March Activity Report

HIGHLIGHTS:

- * Drift Prairie Project II NAWCA grant meeting held.
- * The spring snow goose conservation season opened on March 13.
- * Commissioners and Governor approve land sale to FWS in Richland County.
- * Northern Pike spawning run by Highway 11 causes a crazed public frenzy with several violations.

CCP:

Sandra stopped in Washington DC to research some history on Tewaukon Refuge and District. Found a 1938 paper from the NA Wildlife Conference explaining the purpose for establishing Easement Refuges in the Great Plains.

EASEMENTS:

Jack, Klett, and Shupe met to discuss clay mining and USA Waste issues.

Mapped:	222x 1,2	Ransom Co.	Response to drainage request
	63x,1	Sargent Co.	Response to request
	71x	Ransom Co.	Violation
	265x 1,2	Ransom Co.	Response to request
	304x	Ransom Co.	Violation
	75x	Ransom Co.	Violation
	145x1	Sargent Co.	Response to request for culverts

Jack worked on road flooding problems on 209x(Sargent Co.) with coordination with NDG&F. And Alliance Gas Pipeline (Ransom Co. Easements) and SE Water Users (Evanson/Anderson) on compatibility determinations and environmental checklist.

FIRE:

Don wrote many burn plans.

Don traveled to Jackson Hole, WY for a Region 6 fire managers meeting.

Don worked on converting military truck to a fire engine.

PUBLIC USE:

The first ever spring snow goose conservation order opened on March 13. Calls from hunters were numerous mainly from Minnesota looking for geese. Average number of birds shot were 5-10 birds with a some lucky hunters

getting 50-60 birds. Geese were spooky and seldom stayed on the ground and fed during the night. Staff conducted 1 tv spot, 4 radio interviews and 2 newspaper interviews. Jack sent out 1 news release.

Jack attended a Fishing Tournament meeting.

ENVIRONMENTAL EDUCATION/OUTREACH:

The Cass County Wildlife Club hosted the 1999 ND Jr Duck Stamp Contest in Cassleton again this year. We received over 650 entries from over 50 schools. Nevada Miller won Best of Show honors again this year with his acrylic painting of a drake widgeon. Claudia Haugen, volunteer, helped with the judging, returning of artwork and planning for the awards banquet.

Staff worked the Fargo Sportsmen's Show.

Jack and Chris helped out at the Milnor Hunter's Education class. Jack taught the Forman class.

Jack, Chris and Bill attended the Pheasants Forever banquet.

Kristine attended the Cogswell Gun Club. Chris attended the Red River Sportsman's Club meeting. Jack & Kristine met with Julie and Murdean about Tewaukon Field Days.

Jack worked at a Pathways to Fishing Event and had a Hunter's Ed Display.

BIOLOGICAL:

Large numbers of snow geese showed up in the District during the week of March 20th. Flocks were scattered across the District with concentrations in the Colfax, Wyndmere, Milnor and Forman areas. When Lake Tewaukon started opening up on March 23, 100,000 snow geese used the open water. Numbers built over the next two to four days with a peak number of 350,000 (March 25) geese on the Refuge. Birds left Refuge 3 days later.

LAW ENFORCEMENT:

Jack worked the Great Grass Lake northern run. People were netting, snagging, reeling, and spearing with pitchforks. One person was using a horse to drive the fish to the crazed crowd.

Jack helped Region 3 with Defensive Tactics training.

PERSONNEL/TRAINING:

Sandra attended IMPACT training at NCTC.

Rob attended asbestos training in Bismarck.

Two laborers (1 from last year) were selected and five range technicians (3 from last year) were selected.

FLOOD PROJECTS:

Ground surveying for the white bridge replacement project began. Engineering services were contracted with Sellards & Grigg, Inc. (Denver). They are working with Moore Engineering for the survey data and GEI consultants for the geotechnical drilling.

REFUGE OPERATIONS:

Jack and Kristine attended the Richland County public hearing on the sale of a 160 acre piece of property to the FWS. No one from the general public showed up at the hearing. County commissioners approved the sale and the Governor signed off on the sale within a week. Staff brought to the commissioners attention another landowner who is interested in selling a tract of land in Richland County to the FWS. The commissioners said that they would not have any problem approving that sale as well.

Sandra attended the spring Township Officers meeting in Forman.

The Tewaukon Township board had their annual meeting at the Refuge.

Jack met with cooperative farmers about this years planting season.

Had small lot sale.

Staff submitted comments to Ron Shupe on the ND/SD goals and objectives.

Three landowners reported Canada goose depredation on their winter wheat fields and one on swathed millet. Staff picked up propane guns from ND Game & Fish for a landowner and referred all landowners to APHIS for additional assistance.

NAWCA:

A Drift Prairie Project II NAWCA grant meeting was held in Valley City. Kevin Willis, grant administrator, met with the partners to go over the grant. An update of DPP I was also given.

Worked on grazing systems, prepared predator fence, wetland restorations, culvert maintenance, and field check for grassland easement.

Attended grazing seminar in Jamestown.

E-MAIL
MEMORANDUM

May 12, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: April Activity Report

HIGHLIGHTS:

- * Jr Duck Banquet attracts over 150 people..
- * 5 Whooping cranes spotted in our District.

USA WASTE:

Jack, Sandra, Shupe, McEnroe, Klett and Rich Groz met with new company representatives to discuss a 60 year landfill expansion plan and to review the history of the easement to date. Worked out an immediate plan and developed queries to solicitors about clay mining and easements.

Jack met with Kim on landfill expansion plans.

CCP:

Team discussed the alternatives and decided to wait until June to work on them and to begin writing the Draft Plan.

PUBLIC USE:

Fishing docks went in on the 31st.

Put out 1999 public use summary brochure.

EASEMENTS:

Jack worked on a road flooding drainage request in Ransom Co. (314x2) and a easement request in Sargent Co. on septic flooding (83x). Met with Ransom Co. easement holder to identify wetlands on his DFM. (285x1, 296x). Met with landowner on drainage options for upland flooding, Kristine mapped (24x). Contacted Richland Co FmHA easement owners for seeding this spring.

Bueling ditch reopened to alleviate road flooding (174x1,2).

FIRE:

Jeff Olson traveled to Florida Panther NWR for 3 weeks or wildfire suppression.

Six prescribed burns were completed including Krause fence (42 ac., S. Krause fence (205 ac.), Kiefer alfalfa (50 ac.), SW LaBelle (49 ac.), NW Mann (91 ac.), McCann (48 ac.) for a total of 485 acres.

Don finished the first responder's course.

ENVIRONMENTAL EDUCATION/OUTREACH:

The ND Jr. Duck Stamp banquet was held in conjunction with the Lewis & Clark Wildlife Club's annual banquet. Thirty four of the 36 winning students attended. Nevada Miller's winning artwork was sent on to Washington D.C.

Jack and Kristine conducted 16 school programs in 13 schools in our District for National Wildlife Week. Theme was Endangered Species.

Lorrie Beck visited the Refuge to review educational and public use programs and facilities.

Jack, Sandra and Chris attended the Red River Sportsmen's Annual banquet in Wahpeton.

Kristine presented a program on the Service's Environmental Education and Interpretation programs and facilities at the Regional meeting of National Association of Interpretators in Bismarck.

Kristine taught a Backyard Wildlife Class at the 4-H Workshop in Oakes.

Sent out a news release on fishing.

Jack met with Fishing Tournament officials.

WILDLIFE:

Five whooping cranes were observed near Havana, ND. Remained in the area for about a week.

Grebes, egrets, herons, godwits, avocets and ticks arrived in April.

Early goose brood spotted on 4/30.

PERSONNEL/TRAINING:

Jeff Olson and Bonnie McDonald started as Range Technicians. Neal Hornseth, and Mike Skroch returned as Tractor Operators and Barb South and LaVonne Manikowski returned as Laborers.

Craig attended the GIS workshop in Bismarck and 130/190 training in Rapid City.

LaVonne, Neal, Mike and Barb attended 130/190 fire training in Bottineau.

REFUGE & DISTRICT OPERATIONS

Predator fences were turned on.

Checked land ownership for 4² mile surveys and sent out letters. Sandra attended a Garrison Diversion meeting in Bismarck.

Water Resources developed a hydrological summary for Tewaukon for staff review.

Craig was elected chairperson of the SD Chapter of TWS, Grassland Issues committee.

Pesticide Use Proposals completed.

Craig helped Waubay on two prescribed burns.

Jack signed up a new sheep grazing cooperator for the Metzen WPA

NAWCA:

Chris worked on 3 Sargent County grazing systems, grassland easement checks, and checking predator fence.

E-MAIL
MEMORANDUM

June 17, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: May Activity Report

HIGHLIGHTS:

- * 4² mile counts began with most area wetlands with 70-90% full and then became overflowing after 4-7 inches of rain fell at the end of the first round.
- * Tewaukon hosted the SE Crime Conference.
- * Several prescribed burns were conducted.
- * Mark Vaniman - ☒You Are The Man☒. Thanks for the help.
- * Easements, easements, easements - Tis the season.

FIRE:

Burns conducted were: SE Sprague Lake (30 acres), NW Mann Lake (91 acres), N Pool 4 (38 acres), the Racetrack (14 acres), Krause E (100 acres), Ahrens/Arndt (30 acres), N. Pool 2 (370 acres), LaBelle Creek (49 acres), Prochnow (27 acres), Native #4 (Hartleben WPA 27 acres), Englevale (355 acres), S Sprague (50 acres), and Klefstad/Nelson (250 acres).

Pack test was conducted for range technicians, biological technicians and permanent staff.

Don, Phil and Ryan left for Sandhill Crane NWR in Mississippi and then traveled to Florida to work on the ☒Friendly☒ fire in the Osceola National Forest.

LAW ENFORCEMENT:

Jack and Rob patrolled several weekends in May. Contacted about 20 people per 3 hour trip around Tewaukon and Sprague Lakes.

Hosted the SE Crime Conference for 45 law enforcement officers. Lots of walleyes were caught that afternoon.

BIOLOGICAL ACTIVITIES:

4² mile counts began in earnest. Most of the wetlands were 70-90% full with the temporary wetlands drying up beginning of the first round. At the end of the first round 4-7 inches of rain fell over several days filling all the wetlands back up and making the already expanded wetlands even bigger. seemed to be spread out all over the counties. On the second round 12 snow/blue geese were spotted on the Strander WPA, all but 1 could fly.

Kristine conducted the annual Dove coo count in Ransom County.

Began first round of nest dragging on the White Lake Predator fence and the Lunneborg predator fence.

MINIMAL EFFECTS & EASEMENTS

Jack and Kristine mapped and prepared response for drainage relief (SA Co 24x). Jack closed easement violation from last year (RA Co 304x 1,2 & 75x,1). Easement contact with landowner concerning rockpile in easement wetland (71x). Discussed DFM maintenance in field with easement landowner and coordinated with NRCS (RA Co 252x 1,2). Met with Bowen Township Officers regarding request to clean an old drainage not covered on DFM (SA Co 128x 1,2). Met with NRSC and Sargent Co road supervisor to discuss options for lowering easement wetlands along County Rd 3. One burn, pumping, irrigation travel way (SA Co 136x) and one temporary ditch for septic problems (62x,3) were issued.

Jack and Karen Kreil met with the Richland County commissioners to convince them to scale back a road project which included modifying road ditch which would drainage easement wetland. They agreed to berm the back slopes but fortunately due to budget constraints they could only afford to raise the road and not do any work in the road ditch. Sometimes we just luck out.

Jack coordinated seeding and buffer marking on FmHA RI Co 10C landowner.

Met with Ransom County landowner who wanted to permanently drain the Metzen WPA.

Re-emailed Jim Bueling in the former Soviet Republic regarding his request to make the temporary drain permanent. He received our response but did not reply back.

ENVIRONMENTAL EDUCATION/OUTREACH:

Kristine conducted school tours for Sargent Central (Forman), Lisbon, Enderlin, and Wyndmere. Jack conducted the West Fargo School tour.

The Jr Duck Display was exhibited at the West Acres Mall in Fargo and the Dakota Square Shopping Mall in Minot. Thank you to Duane Anderson who continues to support the Jr Duck Stamp program by setting up the exhibit in the mall.

Craig taught a couple of high school classes for freshman and sophomores at Webster, SD. Discussed grassland management and tallgrass prairie concerns, issues, ecology and FWS programs.

Jack attended fishing tournament meetings.

Sandra attended the Cogswell Gun Club.

Kristine assisted Sand Lake NWR staff with their RAMSAR dedication.

PUBLIC USE:

Tewaukon and Sprague Lakes were opened to boat fishing on May 1st.

Submitted changes on Refuge fishing regulations to the NDG&F for inclusion in their 2000-2002 regulation guide.

WILDLIFE:

Species of note: A golden eagle was spotted east of Forman (5/13).

60,000 northernns were released into Lake Tewaukon and 4,000 northernns were released into Sprague Lake.

Great egrets, great blue herons, black crowned night herons and cormorants are nesting again in the Pool 7A rookery.

PERSONNEL/TRAINING:

Jessica Dathe came on as Biological Technician and Bryce Livingston, Phil Millette, Bonnie McDonald, Ryan Gerth and Jeff Olson came on as Range Technicians.

Jeff, Phil and Bryce attended Engine Academy in Porcupine, ND.

Bryce, LaVonne, and Angie attended 4-wheeler training at Tewaukon. Thank you to John Jones for an outstanding job.

Craig attended B-3 aviation training in Huron.

Craig, Chris and Jack attended a Tom Roster shooting seminar.

REFUGE/DISTRICT OPERATIONS:

Rhoda Lewis visited the Refuge to survey flood projects not cleared by SHIPO's office and other projects.

Craig and Sandra attended a meeting in Aberdeen to discuss the Tallgrass Prairie Project for the Dakotas. Discussed LWCF funding, project boundary, realty staff needs, and easement document wording.

Craig met with the SD State Rangeland Management Specialist for NRCS to gain information and remaining tallgrass prairie acres in SD.

Met with engineers from Ransom & Sargent County Water Users regarding rural water right of way on the Evanson WPA and discussed land access with landowners through McCann/McGill WPA.

Jack ordered staff gauges for water control structures.

Work began on new pole barn.

Submitted 404 permit applications for flood repairs.

NAWCA:

Chris checked the progress of the seeding and the traps at the Lunneborg fence. Worked on grassland easements and grazing systems.

Wrote letter to Dave Weaver about change to NAWCA grant. Reprogramming unused construction funds to grass easements.

E-MAIL
MEMORANDUM

July 8, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: June Activity Report

HIGHLIGHTS:

- * Rain, Rain and more rain. Some areas in the District received 6-9 inches this month.
- * Tewaukon Field Days was a success with over 60 participants.
- * 13th annual Lake Tewaukon Fishing Tournament was held.
- * Chris Schuler past away on June 9, 1999. Chris was a biological technician at Tewaukon from 1962-1985. Jack, Rob and Kristine attended the funeral.

CCP:

Sandra & Kristine attended a CCP meeting for Tewaukon and Waubay in Denver.

MINIMAL EFFECTS AND EASEMENTS:

Jack met with Alliance Pipeline to discuss wetland easements that the pipeline would be affecting.

Jack met worked with Karen Kreil, ES, on a drainage report in Richland County.

Jack met with Ransom Township officers and landowners to resolve a road flooding problem on the Nickeson road.

BIOLOGICAL ACTIVITIES:

Worked with Chip, NPRC putting out invertebrate collection tubes in Pool 2A. Part of a wetland management monitoring project. Will finish Mann Lake and Pool 5 in July or this fall.

Finished second round of nest dragging on the 2 predator fences (Lunneborg, White Lake).

Finished second round of 4² mile counts.

Conducted 3 bird area searches.

Put out gypsy moth traps.

WEED CONTROL:

Bill began spraying the Refuge for spurge. Canada thistle mowing began in earnest as the spread of thistle continues to grow.

Sheep were put out on Cutler's Woods, Strander WPA, Bladow WPA and Boehning WPA.

ENVIRONMENTAL EDUCATION/OUTREACH:

The Refuge hosted the 13th annual Tewaukon Fishing Tournament. A total of 22 teams participated. Ten teams caught fish. The largest walleye was 3lbs 13oz. (Bill Enge) and the largest northern was 6lbs 11oz. (Bob Boughton). In the youth category the largest carp 9lbs 10oz (Rusty Loibl), 11lb 6oz largest walleye (Joe Krivarchka) and 11lb 3 oz bullhead (Holly Huckell) earned the youngsters cash prizes and trophies. The first place team was Tom and Delphine Wallock.

The Refuge hosted the annual Tewaukon Field Days that is sponsored by the ND Extension Service. This year the Field Days theme was wetlands. Over 60 young people participated in the annual event. Thank you to Lynda Knutson for coming down from Valley City to give a hand.

The Junior Duck Stamp Exhibit traveled to Sully's Hill Game Preserve and the Columbia Mall in Grand Forks. Thank you to Steve Wittson and Jim Alfonso for setting up the display.

3 news releases were written on the northern tallgrass prairie easements, fishing tournament and haying.

Jack worked at a Hunter Safety Field Day, about 30 kids attended.

Sandra, Harris Hoistad, Mike McEnroe, Al Sapa and Ken Torkelson met with Congressional staff in Fargo to present the new briefing books. Also visited John Lohman at the Fargo Forum.

Kristine hosted a tour of cub scouts on the Hartleben WPA.

WILDLIFE:

50,000 perch and 30,000 walleye fingerlings were released in Lake Tewaukon. 3,000 walleye were released in Sprague Lake.

Handled many phone calls from angry landowners with Canada goose depredation on their soybeans. Jack worked with Regional Migratory Bird Office on a September Canada goose season.

Jack picked up a dead bald eagle from Colfax took to Wahpeton veterinarians for x-rays. X-ray report negative. Body shipped to repository.

PERSONNEL/TRAINING:

Don, Ryan and Phil returned from wildfire & prescribed burn detail in Florida. Bonnie was detailed to San Bernadino NWR, AZ.

Annual fire fighter refresher was held.

Bill, Neal, Ryan, Bryce, Mike, Phil, and Jeff attended Wildfire

Urban Interface fire training, Bonnie was instructor.

Ryan, Jeff, Bryce, Phil, Neal traveled to S-212, S131 fire training in Minot. They also took S212 power saw training.

Angie traveled to Medora for S130/190 training.

Keith and Kristine donated blood.

REFUGE OPERATIONS:

Jack attended a meeting with the NDG&F to discuss the possibility of an early September Canada goose hunt in the southeastern corner of ND.

MMS projects submitted.

Held on small lot sale.

Memo sent to Shupe about compensatory mitigation and used several examples from the District for compatibility policy.

Handed out revenue sharing checks for Sargent, Richland and Ransom counties. Discussed water, tax base, weed, road, land acquisition and Lake Elsie issues.

Craig met with "Friends of the Prairie" (Friends group for the Northern tallgrass prairie eco-region) located in South Dakota to discuss a brochure and newsletter.

Sandra met with Bill Bicknell, Jerry Heiser to review the public use/access areas for the Kraft Slough Area. Plans are to improve the public knowledge and recreational access with the existing land base currently owned by the Bureau.

Sandra attended the mainstem Missouri Ecosystem Meeting in Pierre.

Bid packages for available hay units were sent out.

NAWCA:

Jack and Chris attended a meeting in Aberdeen to discuss assistance to complete the NAWCA grant grassland easement acquisitions. Fortunately they agreed to help us out.

Scott McLeod and Doug Lipinsky came out to potential sites for a predator exclosure on a WPA or Refuge. The first attempt to put the fence on private land failed. The south Evanson WPA was chosen.

Chris worked on predator fence, grazing systems and grassland easements. bilby

E-MAIL
MEMORANDUM

October 15, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: July Activity Report

HIGHLIGHTS:

- * Botulism outbreak begins early and slowly.
- * Over 400 prairie fringed orchids were discovered on potential grassland easement tracts.
- * USA Waste landfill to expand and build another cell.

USA WASTE:

Jack attended a series of meetings and wrote several letters involving the Department of Health and landfill about the construction of a new cell to avoid impacts to easement wetlands.

EASEMENTS:

Jack reviewed Sargent Co. 100x to evaluate project that would enlarge railroad siding capacity for Forman elevator.

Jack met with Forman Township officers concerning culvert placement for easement wetlands.

Jack met with Sargent Co. water board and state water engineer, Jim Lunseth, to discuss Ken Forester's basement flooding.

Jack met with Bob Cookson about closing a temporary easement ditch.

FLOOD PROJECTS:

Held a precon meeting with DU on Pool 2 and 3 crossdikes. Expected completion is the first of August.

Plans in the works to replace the White Bridge with 5 box culverts.

BIOLOGICAL ACTIVITIES:

Finished third round of nest dragging on 2 electric fences.

PUBLIC USE:

A landowner meeting was held at Tewaukon with the ND Game & Fish Department. Randy Kreil presented the landowners with the

information on the experimental September Canada Goose season from September 1 -15 in Sargent and Richland Counties.

FIRE:

Bonnie returned from San Bernardino, Az on a severity fire detail.

Burned the old Hartleben house.

WEED CONTROL:

Mowing for thistles continued and continued.

Leafy spurge bugs were released (c/litura):

- 5000 - Buckmiller
- 180000 - Strander
- 5000 - Stacks Slough
- 5000 - Bladow
- 2000 - Ford
- 5000 - Gainor

THREATENED/ENDANGERED SPECIES:

Kristine, Chris, Craig and Jack conducted prairie fringed orchid surveys on grassland easement tracts both potential easements and already purchased tracts. Over 400 orchids were discovered on tracts that had not been surveyed before.

Chris, Kristine and Craig attended the Prairie Fringed Orchid Working Group meeting.

ENVIRONMENTAL EDUCATION/OUTREACH:

The Jr Duck Stamp exhibit traveled to the Gateway Mall in Bismarck and the ND State Fair in Minot. Thank you to Ken Torkelson for his support of the program and setting up the exhibit in Bismarck every year. Thanks to the everyone else who helped set the exhibit up at the Fair. The extra publicity for the program was appreciated.

Put up interpretative signs on the Hartleben WPA prairie trail.

PERSONNEL/TRAINING:

Sandra and Keith attended Motorboat Operators Course at Waubay NWR. Don instructed part of the course.

Don and Bonnie attended aviation re-certification (B3 & M3) at J. Clark Salyer.

Jack and Kristine conducted midyear performance evaluations with temporary staff.

WILDLIFE:

Species of note: semipalmated plover.

Checked last year's botulism areas. Began picking up a few birds on the Gaukler wetland complex.

REFUGE OPERATIONS:

Hay units were put up on bid this year. Bids ranged from \$7.61 to \$18.37 per acre. A total of acres were offered up hay and acres in Ransom county were not bid on.

North Central Steel Systems is in the completion phase of the Butler storage building.

Sandra met with 18 of the now 52 Lake Elsie lake shore property owners and provided them with information on the removal of Lake Elsie from the National Wildlife Refuge System. A letter will be sent to the other landowners.

Quonset building was removed in preparation for the new shop building.

A Canada Goose Meeting was held at the Refuge for some of local landowners with goose problems to discuss the upcoming experimental September goose season in Sargent and Richland Counties.

Several repairs were made to the old shop including new overhead door with electronic door stop and new personnel doors.

Sandra attended a Sargent County Water Board meeting to request permission to repair a dike on the Gainor WPA. The project was approved, a 404 permit and cultural clearance has been received. Work will begin when the area dries out.

Staff referred several complaints about Canada geese and crop depredation to Joel Lyons (wildlife services, USDA).

Sandra attended the Lakeview Golf Course meeting to discuss upland habitat management on the golf course.

Craig and Sandra attended a meeting concerning LWCF funds for protection of tallgrass prairie habitat in North and South Dakota. An EA will be completed for the LAPS project. Public meetings will be held in Fargo, Brookings and Yankton in September.

Jack attended PPJV meeting in Bismarck.

SAFETY:

Some of the staff was re-certified in CPR.

NAWCA:

Chris attended a riparian workshop

E-MAIL
MEMORANDUM

October 15, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: August Activity Report

HIGHLIGHTS:

- * Stacks Slough Prairie Trail Dedication Held
- * Minor Botulism Outbreaks on Kraft Slough, Tewaukon Refuge and Gaukler Wetland.
- * Pool 2 & 3 crossdikes repaired.

CCP:

Charlie Pelizza met with Jack, Kristine, Sandra from Tewaukon, Laura from Waubay, Sylvia Pelizza and Allison Banks on wetland goals and objectives. We discussed present wetland management, wetland processes, and improved ways to write wetland goals and objectives. Thanks very much to Charlie for coming up to Tewaukon to help us with our CCP.

Kevin Johnson and Holly Ferguson came to Tewaukon to complete a contaminant assessment on the Refuge.

EASEMENTS:

Jack worked with Jim Bueling to resolve the easement violation and discussed exchanging on a co-owned wetland.

Reviewed environmental check sheet for National Guard on demolishing a wetland for a ballfield.

Jack worked on 314x2 on request for temporary ditch for road flooding.

Jack attended the Gwinner Township board meeting to discuss the host agreement with the landfill.

Jack worked on easement 80x for flooding in yard.

FLOOD PROJECTS:

Morlock Construction, Bismarck, completed the Pool 2 and 3 cross dikes. Final inspection completed.

The replacement building for the Hartleben collapsed pole barn was completed by Butler Building.

REFUGE & DISTRICT OPERATIONS:

Sandra and Jack traveled to Jamestown for the snow goose meeting.

A concrete box culvert was installed to replace the existing culvert underneath County Road 12. The road was closed for approximately 4 days.

Jack worked on SUP for rural water crossing on the Evanson/Anderson WPA. Also worked on compatibility and NEPA documentation for the rural water line on Evanson/Anderson WPA.

A MOU was forwarded to the RO regarding the Milnor Golf Course for the mowing of our fee title ditch on the Storm Lake Easement Refuge.

Craig attended a meeting at Waubay to decide how to proceed with the Dakota tallgrass prairie project for acquiring grassland easements in areas with low duck production.

Staff traveled to Big Stone NWR to look at their seed cleaning facility and planted native fields.

WILDLIFE/BIOLOGICAL ACTIVITIES:

Kristine and Keith monitored Canada goose numbers on and within 1 mile of the Refuge before and during the experimental goose season.

Minor botulism outbreaks occurred at Kraft Slough, Pool 7A on the Refuge and the Gaukler wetlands in Richland County. A total of birds were collected, predominately teal and coots.

A 7 lbs (25 inch) channel catfish was taken from Sprague Lake.

Pulled conibear traps from Refuge except by predator fences.

Conducted vegetative surveys on 3 sites.

ENVIRONMENTAL EDUCATION/OUTREACH:

Tewaukon hosted the Jr Duck Display.

Sandra attended the Cogswell Gun Club. Jack attended the Red River Sportsmen's meeting.

Kristine presented a Refuge program to the Veblen Senior Citizens.

Kristine taught at the ND Outdoor Women's Workshop.

Jack attended the Rutland Sportsmen's Field Day.

Jack attended the Red River Area Sportsmen's meeting.

PUBLIC USE:

Finally Federal Register reflects Refuge special hunting and fishing regulations in the refuge brochures.

Refuge received lots of calls regarding the early experimental Canada goose season in Sargent and Richland counties.

The Refuge Fall Public Use brochure was completed.

EASEMENTS:

Jack attended the White Stone Township meeting in Gwinner to discuss Fish & Wildlife Service easement interests and landfill expansion.

WEED CONTROL:

50 Ceutorhynchus litura and 50 Larinus planus were released for thistle control on the Smith/Tanner WPA.

Keith and Jessica treated russian olives on the Refuge with Arsenal.

LAW ENFORCEMENT

Rob traveled to Upper Souris for LE

PERSONNEL/TRAINING:

Bonnie, Ryan, Bryce, Jessica ended their tour of duty for the summer.

Kristine, Jack, Rob, and Bill attended the Motorboat Operator's Training Course in Devils Lake. Don participated as an instructor.

Rob went to Upper Souris to complete re-certification for staff in North Dakota.

Barb South resigned from the Sturgis Motorcycle Rally.

Jack conducted exit interviews with Bonnie and Bryce.

FIRE:

Don traveled to J. Clark Salyer to learn the new fire budget system.

Burned 40 acres on the Aaser WPA.

Bonnie, Phil, Jeff, and Bryce went to Long Lake NWR to help with prescribed burn.

NAWCA:

Permits for Aaser wetland restoration were completed.

Chris worked on grazing systems and grassland easements. The number of landowners interested in grassland easements continues to grow.

Site preparation began on the Evanson WPA for the DU predator fence.

E-MAIL
MEMORANDUM

November 29, 1999

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: September Activity Report

HIGHLIGHTS:

- * Refuge staff hosted the Chris Schuler WPA Dedication Ceremony.
- * September Canada Goose Hunt held in Sargent and Richland counties.
- * Refuge open to Youth Deer Gun season.

ENVIRONMENTAL EDUCATION/OUTREACH:

Kristine, Jack and Keith presented a program entitled "Wildlife Jeopardy", where students learn about wildlife in a game show setting for the Richland, Ransom and Sargent County Conservation Tours.

Kristine and Chris helped out at the Aberdeen Water Festival.

Kristine presented a program on wildflowers and prairie to Lidgerwood's Holy Cross Lutheran meeting.

Refuge staffed a booth at the Sargent County Fair. This year's theme was Backyard Wildlife.

Wrote 2 newsreleases (road closure around Lake Tewaukon & youth deer and duck seasons).

Jack attended the Cogswell Gun Club meeting.

PUBLIC USE:

The Refuge was open during the Youth Deer Gun hunt (12) and archery season. District open for Youth Waterfowl Hunt.

Sargent and Richland Counties held the first September Canada Goose hunt for depredation. Several hunters had good success. Responded to several reporters from media about September Goose Hunt.

Took down interpretative signs at the Stacks Slough Prairie Trail.

EASEMENTS:

Jack continued to work with the NDG&F, Ransom Township officers and private landowners on the Nickeson Road flooding.

Jack wrote letter to landowner on Storm Lake Easement Refuge request to locate house on the easement refuge.

Jack worked on the proposed Forman drainage bypass project and coordinated with FEMA on (33x,1). And sent commencement determination file information to landowner.

Jack responded to a request on SA Co 55x,1 regarding a wetland drainage request, a septic system easement wetland problem (SA Co 64x), flooding in yard (80x) and a request for information on easement (RA Co 41x) for a pending land auction.

Closed easement (SA Co 63x,1) regarding septic system case.

Issued 3 burn permits on CRP that was to be unenrolled and had easement wetlands.

Jack reviewed the Alliance Pipeline easement wetland crossings and sent compliance letter.

WEED CONTROL:

Keith and Kristine put out 100 c. litura and P. planus for Canadian thistle control.

FIRE:

Don, Jeff and Phil traveled to Medora to assist Teddy Roosevelt National Park with burning. Also assisted on the Knife River Native American Village burn.

Don, Jeff and Phil assisted Waubay with prescribed burn.

LAW ENFORCEMENT:

Jack and Rob traveled to Heron for refresher.

Rob traveled to Upper Souris to instruct at the LE refresher.

WILDLIFE:

Botulism pickup slowed in September and consisted of Pool 7A on the Refuge, Kraft Slough, and the Gaukler wetlands.

Kristine conducted Canada goose surveys 2-3 times a week during the Canada goose season. The number of Canada geese on the Refuge did not increase as expected during the September Canada goose hunt. Instead the number of geese plummeted to under 100 birds during the season. We aren't sure where the approximately 1500 Refuge birds went, possibly South Dakota or they spread out throughout the District.

Species of Note: Bald eagle (10 immatures, 5 adults), osprey and peregrine falcons were spotted throughout of the District.

PERSONNEL:

Staff along with Ron Shupe, RO honored Chris Schuler by naming a WPA after him at a Dedication Ceremony. Thanks to Ron Shupe for attending, Sand Lake for letting us borrow their tablecloth and all the FWS employees who contributed to the event. Special thanks to Keith Frankki and his brother-in-law Scott Geiger who built the monument.

Rob and Bill attended the maintenance workshop in Spearfish South Dakota.

REFUGE OPERATIONS:

Jack contacted roadside mowers.

Chris and Craig went on the SE Geology tour put on by NRCS.

Craig's computer replacement finally arrived after Craig has spent 2 months trying to get the company to ship him out a new one. It only took Angie 3 days to get a new one for him!!

Purchased two new 4-wheelers (MMS).

Hosted Open House for public input for the Dakota Tallgrass Prairie Project in Fargo, Yankton, and Brookings. Approximately 80 people total attended.

Staff traveled to Big Stone NWR to tour their seed cleaning facility and native grass plantings. Thank you to the Big Stone NWR staff for the hospitality.

Craig attended the grasslands ecosystem team meeting in Spearfish.

NAWCA:

Worked on mowing the perimeter of the Evanson WPA predator fence. Held preconstruction meeting and work on the fence began at the end of the month.

Worked on grazing systems and grassland easements.

Checked Aaser WPA wetland restoration areas. Still very wet.

E-MAIL
MEMORANDUM

February 23, 2000

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: October Activity Report

HIGHLIGHTS:

- Refuge hosts over 120 visitors at annual Open House.
- 65 students from Sheldon come out to learn about prairie.
- Waterfowl hunters numbers in area are up.
- Seasonal employees finish positions.
- ND Educator's Conference a Success.
- Rob Holfen receives 20 year pin and certificate.
- Easements, easements, and more easements...

EASEMENTS:

Rob and Jack conducted fall easement flights and follow-up ground checks. Three drain and one fill violation was found.

Jack worked on 1 easement consultation and 1 dfm consultation and issued 10 burn permits and 1 pumping permit. Completed and closed an agreement with Ransom Township on a tile project for a persistent flooded road. Closed a 2 year old rockpile easement violation (SA Co 145x,1). Worked on setting wetland elevation stakes for an easement. The State Engineer told the landowner that the drainage of this water was going to require a state permit, no work was done by the landowner.

Kristine mapped 7 easements associated with drainage consultation.

Jack met with the Landfill regarding leachate settling (storage) pond outside the 32 acre disposal site.

Jack marked and Bill seeded wetland buffer zones on FmHA tract (10C) in Richland county.

Jack and Sandra met with the Sargent County Commissioners and Water Board on the Crooked Creek diversion around the City of Forman project. Also provided information on compatibility policy.

Department of Transportation removed a permitted dike that was affecting easement wetlands.

FIRE

Don traveled to Waubay and assisted in burning the Meyer WPA and the North Kastner WPA.

Burned the Biggs Berndt WPA (305 acres), a old brush pile, and the Asche WPA (5 acres).

Don traveled to LaCreek to assist with their prescribed burning.

CCP:

Started working on gathering information on national goals and background information.

BIOLOGICAL ACTIVITIES

Pulled gypsy moth traps. No gypsy moths found.

ENVIRONMENTAL EDUCATION/OUTREACH:

Kristine and Karen Kreil staffed a FWS booth at the ND Educator's Conference in Grand Forks. Talked to over 700 educators and passed out lots of materials.

65 students (K-6th) from the Sheldon school came down to the Refuge. Jack and Kristine presented an all day program on different aspects on prairie.

The Refuge held its annual Open House on Saturday the 23rd. Greg Brooks, Gilby ND, came down with a prairie falcon and bald eagle and presented a program on raptors. Winning students from Sargent Central presented their posters on a National Wildlife Refuge. Horse and wagon and airboat rides were given. A self-guided auto tour, games for kids, tatoos and pinecone birdfeeders helped round out the day. Over 150 visitors stopped in for the festivities.

PUBLIC USE:

Closed the Refuge road around the lakes and closed to boat traffic on the 1st.

Received a large amount of phone calls and hunters stopping by to request hunting information both on waterfowl and pheasants.

The Tewaukon tallgrass prairie trail next to the office was completed.

Two panels for the Stacks Slough trail were returned to Genesis Graphics to correct typos.

WILDLIFE:

Waterfowl surveys conducted. Largest groups of mallards (10,000+) were seen toward the end of the month.

PERSONNEL/TRAINING:

Jeff and Phil ended their tour of duty at the station. They moved on to another 1040 assignment at Mississippi Sandhill Crane NWR. Lavonne, Mike and Neal also finished up their jobs for the season and Jack conducted exit interviews.

Rob Hoflen received his 20 year pin and certificate.

REFUGE OPERATIONS:

Jack and Sandra met with the Sargent County Commissioners on a potential fee title purchase. The Commissioners voted 3 to 2 to approve the sale pending more tax information. Will present tax information at next meeting and then will get recommendation for approval in writing before proceeding.

Craig worked on Refuge comments for the Sheyenne National Grasslands Management Plan.

Craig met with the Nature Conservancy in South Dakota to discuss priority areas for the Dakota Tallgrass Prairie project.

Craig worked on selecting priority areas for the Dakota tallgrass prairie project, the new grassland easement form and setting up Archview.

Work began on the new shop building by Butler Manufacturing with test drilling and site preparation.

The fire budget was submitted and the FY99 Accomplishment Report completed.

FLOOD PROJECTS:

Fence repair in Sargent and Ransom Counties were completed. The replacement of structures in Pool 6, 7A, and Sprague Lake oxbow were also completed. Dam 2 and 4 were raised, repaired and riprapped.

NAWCA:

Work began on the DU predator fence on the Evanson WPA.

Chris met with landowners on a grazing system and grassland easements.

E-MAIL
MEMORANDUM

February 24, 2000

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: November Activity Report

HIGHLIGHTS:

- * Refuge deer rifle, pheasant, and second archery season opened.
- * Two wildfires occur on Refuge and WPA.
- * Unseasonable warm weather and no snow led to a large amount of field work on private land (ditching, cleaning of ditches, working fields, burning of wetlands, roadsides, CRP fields (anything that could be burned was). Smoke and dirt filled the air for most of the month.

EASEMENTS:

Jack worked on follow-up letters and documentation. Conducted several field checks on drainage requests for Crooked Creek, coulee clean-out and others.

Jack worked on 3 dfm consultations and issued 5 burn permits.

Kristine completed 7 easement mapping cases associated with drainage clean-out requests.

Jack met with the Landfill folks to locate easement wetlands for expansion planning purposes.

LAW ENFORCEMENT

Jack wrote a ticket for shooting muskrats on the Refuge and one for illegal entry.

FIRE:

Don traveled to western North Dakota (Watford City) to help with wildfires.

Two wildfires broke out in November. One in Ransom County on the Smith/Tanner WPA for 140 acres. This one started from a road ditch fire. The second wildfire occurred on the Refuge southwest of the Krause predator fence (5 acres). Suspected cause is either a cigar from one of our farming cooperators or a cigarette from a pheasant hunter.

Don finished and submitted the fire budget.

PERSONNEL/TRAINING:

Keith completed his tour of duty with the Refuge.

ENVIRONMENTAL EDUCATION/OUTREACH:

News releases on the Refuge deer hunting seasons, pheasant season and Jr Duck Stamp program were sent out.

Craig worked on a brochure for the Dakota Tallgrass Prairie Project.

Sandra attended the Cogswell Gun club and the Red River Sportsmen's meetings. Discussions included updates on hunting and fishing opportunities on the Refuge, Adopt-A-Pothole and how to increase pheasant numbers.

Kristine presented a program to elementary students at North Sargent on wildlife.

Jack wrote Director Clark regarding the process to honor John Lohman, Fargo Forum outdoor writer, for his scheduled retirement.

Jack presented a wildlife program and Refuge tour to 35 Environmental Science students from West Fargo.

PUBLIC USE:

Refuge deer season opened. 55 permits issued. Hunters reported that they had been successful. The warm weather made processing the deer quickly a priority. Public use signs were changed.

Refuge pheasant season opened with a large number of hunters enjoying the mild fall weather.

Staff handled a large volume of calls from pheasant and waterfowl hunters this month. Most of the callers were interested in ducks and geese and wanted to know "where are all the birds"?

WILDLIFE:

Largest flock of snow geese on the Refuge was 2000 birds. Peak number of mallards used the Refuge this month at 15,000.

REFUGE OPERATIONS:

Kristine and Craig attended the Native Plant Summit in Bismarck. Kristine spoke on the tallgrass prairie in eastern North Dakota and the programs at Tewaukon NWR related to biodiversity.

Craig attended a conference about restoring native ecosystems in Nebraska.

Genieve Thompson and Donna Schneider, ND State Office of the Audubon Society, were given a tour of the Refuge.

Sandra and Kristine attended the Challey Ranch (formerly the Brown Ranch) and Nature Conservancy public meeting in Lisbon. Folks were relatively quiet and mild (except the lawyers of course). The meeting was held by the Governor's Advisory Council concerning the purchase of the Ranch by a conservation buyer and the Nature Conservancy's desire to provide the buyer with a gift annuity for the property. The Nature Conservancy is going to meet with the Township and County commissioners to iron out some issues of contention such as taxes, weed control and road responsibilities. There was a feeling on the part of the Township that the Nature Conservancy should have met with the Township first and applied for their zoning permit. The Township felt slighted and that the Conservancy was trying to bypass them.

A follow-up meeting for area landowners was held at the Refuge to discuss this fall's Canada goose experimental season in Sargent and Richland Counties. Randy Kreil, NDG&F, led the meeting with landowners attending. The State estimated that 2,000 birds were harvested. Most of the landowners had favorable things to say and the season will be continued next year.

Sandra met with Ransom County commissioners to discuss the upcoming compatibility policy and how it might affect the county.

Five performance reviews were completed.

Mud-jacking and roof repair on the old shop were completed. This completes the safety repairs for the old shop with MMS funding.

The new Butler building (new shop) was delivered. Work began on the foundation.

FLOOD PROJECTS:

Thanks to the use of Arrowwood's low ground pressure dozer, the Gainor WPA dike was repaired. The dozer was also used to work on repairs at the Horseshoe Slough Unit. Thank you very much Arrowwood!

NAWCA:

Chris met with landowner about grazing system and wetland creation.

Worked on Aaser wetland restorations.

E-MAIL

MEMORANDUM

February 24, 2000

TO: R&W, ND Associate Supervisor (60130)
Denver, CO

FROM: Biologist, Tewaukon NWR Complex (62660)
Cayuga, ND

SUBJECT: December Activity Report

HIGHLIGHTS:

- * Mild winter weather allowed some extra hunting and construction days.
- * Christmas bird count record number of birds.

CCP:

A draft of the CCP was given to the staff for internal review.

ENVIRONMENTAL EDUCATION/OUTREACH:

Jack attended the Cogswell Gun Club.

PUBLIC USE:

Mild weather prompted many pheasant hunters to try their luck on the Refuge into the middle of December.

EASEMENTS:

Two burn permits, one temporary drainage permit, two dfm consultations and six consultations were completed. One easement mapping request was done. Thank goodness it snowed at the end of the month to help slow down the activity on the District.

Jack worked with Sargent County and Ransom Township regarding easement wetland and road projects.

Kristine worked on 2 easement mapping requests.

WILDLIFE:

The mild weather contributed to the record number (31) of bird species observed on the Christmas Bird Count. Species of note were 6025 Canada geese, 308 mallards, 1 gadwall, 4 rough legged hawk, 8 northern harriers, 10 red-tailed hawks, 5 bald eagles, 2 kestrels and 10

Lapland longspurs. This year 4 students from the Oakes Vocational Center rode along with staff on the count as part of their Job Shadowing project.

REFUGE OPERATIONS:

The new stake bed truck for a fire engine and a new payloadder arrived.

The DU predator fence was completed on the S. Evanson WPA.

The foundation, exterior concrete pads, and septic system were completed. The water lines were connected.

Don Fazzan, RO Enginecring, visited the station to review Dam 1 which is scheduled for repairs to the concrete with MMS money.

TALLGRASS PRAIRIE:

Craig commented on a new "Conservation Standard For Restoring and Management of Declining Habitats" for the NRCS in SD.

NAWCA:

Chris worked on grassland easements, NAWCA grant budgets, the DU Evanson WPA predator fence, wetland creations and grass seeding.

Volunteer Services Report

FISCAL YEAR 99

Station Information

Station: **Tewaukon NWR**

OrgCode: 62660

1. Number of volunteers by age:	Under 18	18-35	36-61	Over 61	TOTAL
	<u>20</u>	<u>59</u>	<u>74</u>	<u>11</u>	<u>164</u>

2. Number of hours by Activity Category

Monitoring & Studies

Surveys & Censuses _____
Studies & Investigations _____

Habitat Restoration

Wetland Restoration _____
Upland Restoration _____
Riverine Restoration _____
Deepwater/Coral Reef Restoration _____

Habitat Management

Water Level Management _____
Moist Soil Management _____
Graze/Mow/Hay _____
Farming _____
Forest Management _____
Fire Management 15
Pest Plant Control _____

Fish & Wildlife Management

Bird Banding _____
Disease Monitoring & Treatment 10
Reintroductions _____
Nest Structures _____
Pest, Predator & Exotic Control 40

Coordination Activities

Interagency Coordination _____
Tribal Coordination _____
Private Lands Activities (ex.restoration) _____

Resource Protection

Law Enforcement _____
Permits & Economic Use Management _____
Contaminant Investigation _____
Contaminant Cleanup _____
Water Rights Management _____
Cultural Resource Management _____
Land Acquisition Support _____

Public Education & Recreation

Provide Visitor Services _____
Outreach 1026

Planning & Administration

Comprehensive Conservation Planning _____
General Administration _____

Provisions Unique to Alaska

Subsistence _____
Public Access _____
Manage Comm./Subsistence Fisheries _____
Manage Private Lands _____
Navigability Determinations _____

Total Hours 1091

Operation Costs (\$K)

Operations (Supplies, Materials, Equipment, Uniforms, etc.)	_____
Travel/Transportation, Per Diem, Housing/Utilities (etc.)	<u>\$2.2</u>
Other (Staff/Volunteer Training, Recruitment, Recognition)	<u>\$0.2</u>

Volunteer Services Report

FISCAL YEAR 99

Station Information

Station: **Tewaukon NWR**

OrgCode: 62660

Other (Staff/Volunteer Training, Recruitment, Recognition)

	\$0.2
TOTAL	\$2.4

Staff Time/Salary for Administration of Program

Staff Time (Days)	<u>25</u>	Staff Salaries (\$K)	<u>\$5.2</u>
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Volunteer Highlights

Recreation

The Tewaukon Fishing Tournament is an annual fishing tournament that is sponsored by 2 local sportsmen's groups. Over 35 teams participated in this year's tournament. Volunteers help staff organize the event, run the event, gather prizes and sell tickets to the event. All proceeds go back to the refuge to improve lakeshore fishing access and the fishing program.

Environmental Education (Outreach)

The ND Jr Duck Stamp Program is administered out of the Tewaukon Refuge office. This year we had several volunteers that helped with the sorting of over 700 entries, judging, returning artwork to schools, the awards banquet and publicity.

Special Recognition

Claudia Haugen, Tewaukon NWR

administered most of the duties involved with the ND Jr Duck Stamp Contest, including organizing the over 700 entries, assisting with judging, returning artwork to schools, organizing awards banquet and assisted with publicity.

Recommendations to improve the volunteer program:

we would like to continue to receive funding to help support the volunteer program for the ND Jr Duck Stamp contest

Volunteer Services Report

FISCAL YEAR 99

Station Information

Station: **Tewaukon NWR**

OrgCode: 62660

REMEMBER to submit photos, especially those with volunteers wearing the volunteer patch. Please provide a caption with the person(s) name, site name, and description of the project being accomplished. Submit to the regional or national volunteer coordinator.

7.b.	TWK-NWR:62660					LES-NWR:62661					7.b.	SRL-NWR:62662				
Stations:	INPUTS					INPUTS					Stations:	INPUTS				
INPUTS (\$ and Staff Time)	INPUTS					INPUTS					INPUTS	INPUTS				
Staff Costs - 1260	49					45					0					
Staff Costs - Other	0					0					0					
Non-Staff Costs - 1260	8					5					0					
Non-Staff Costs - Other	0					0					0					
Staff Days - 1260	315					290					0					
Staff Days - Other	0					0					0					
Volunteer Days	85					35					0					
OUTPUTS (Various Measures of Activity)	OUTPUTS					OUTPUTS					OUTPUTS	OUTPUTS				
						7,000					0					
						8,000					0					
						24					0					
						3					0					
						10					0					
OUTCOMES (Proportion of Effort)	OUTCOMES					OUTCOMES					OUTCOMES	OUTCOMES				
	TE	WF	OMB	HEC	IAF	TE	WF	OMB	HEC	IAF	TE	WF	OMB	HEC	IAF	
	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0
	SDA	RFW	PED	PRC	TOT	SDA	RFW	PED	PRC	TOT	SDA	RFW	PED	PRC	TOT	
	0	5	75	0	100	0	0	0	0	0	0	0	0	0	0	0
HIGHLIGHT and COMMENTS	HIGHLIGHTS					HIGHLIGHTS					HIGHLIGHTS	HIGHLIGHTS				
Activity Highlight	School tours on refuge, Wildlife Week Programs off refuge, Sportsmen's Clubs, News Releases, Jr. Duck Stamp Contest															
Volunteer Highlight	Activities include the Tewaukon Fishing Tournament															
Comment																

Volunteers - 1999

Claudia Haugen - 504 hours
18-35

Doug Askerooth - 30 hours
18-35

Korrine Weisbrod - 50 hours
36-61

Stephanie Frankki - 20 hours
18-35

Stacie Mowry - 10 hours
18-35

Scott Gieger - 30 hours (10 hours disease, 20 outreach)
18-35

Matt Soiensauce - 40 hours
18-35

Murdean Gulsvig - 16 hours
over 61

Larry Bartholomay - 30 hours
18-35

Chris Hildebrand - 30 hours
18-35

Hankinson Women
10 x 5 = 50 hours
1 - 18-35
9 - 36-61

Tewaukon Fishing Tournament - 280 hours
20 - under 18
50 - 18-35
64 - 36-61
10 over 61

1999 Nest Success On Tewaukon Predator Fence

FIELD	SPECIES	# NESTS	SUCCESSFUL	COMMENTS
ELF 001	Blue-winged teal	9	9	
	Mallard	9	8	1 - Predator
	Gadwall	2	1	1 - Predator
	Shoveler	2	1	1 - Predator
TOTALS		22	19	86.4 (A) - (M)

One exclosure = 33 total acres

1999 Nest Success on Lunneborg Fence (Private Land)

FIELD	SPECIES	# NESTS	SUCCESSFUL	COMMENTS
LUN 001	Blue-winged teal	34	29	5-predated
	Mallard	10	8	1-predated 1-abandoned
	Pintail	1	1	
TOTALS		45	38	84% (A) - (M)

One exclosure = 80 total acres

NESTING RESULTS BY SAREA AND FIELD, ALL SPECIES COMBINED

11:31 Wednesday, October 20, 1999 93

COOPERATOR OR RESEARCH PROJECT=TEWAUKON NWR YEAR=99

STUDY AREA	SPECIFIC FIELD WITHIN A STUDY AREA	NORMAL NESTS	SUCCESSFUL NESTS	UNSUCCESSFUL NESTS	FATE UNKNOWN	EXPOSURE DAYS	APPARENT HATCH RATE	MAYFIELD LOWER 95% CL	MAYFIELD HATCH RATE	MAYFIELD UPPER 95% CL	MLE LOWER 95% CL	MLE HATCH RATE	MLE UPPER 95% CL
ELF	001	21	18	3	0	275.7	0.857	0.447	0.689	1.056	0.458	0.696	1.058
LUN	001	44	38	6	0	674.9	0.864	0.576	0.738	0.945	0.581	0.742	0.947

NESTING RESULTS BY SAREA AND SPECIES

11:31 Wednesday, October 20, 1999 94

COOPERATOR OR RESEARCH PROJECT=TEWAUKON NWR YEAR=99

STUDY AREA WITHIN PROJECT	HOST SPECIES	NORMAL NESTS	SUCCESSFUL NESTS	UNSUCCESSFUL NESTS	FATE UNKNOWN	EXPOSURE DAYS	APPARENT HATCH RATE	MAYFIELD LOWER 95% CL	MAYFIELD HATCH RATE	MAYFIELD UPPER 95% CL	MLE LOWER 95% CL	MLE HATCH RATE	MLE UPPER 95% CL
ELF	MALLARD	9	8	1	0	120.2	0.889	0.424	0.753	1.322	0.438	0.760	1.317
ELF	GADWALL	2	1	1	0	23.5	0.500	0.010	0.228	3.885	0.011	0.226	4.598
ELF	B-W-T	8	8	0	0	119.0	1.000	1.000	1.000	1.000	148E15	148E15	148E15
ELF	SHOVELER	2	1	1	0	13.0	0.500	0.000	0.066	10.263	0.000	0.065	28.391
LUN	MALLARD	10	8	2	0	138.2	0.800	0.300	0.609	1.219	0.308	0.614	1.226
LUN	B-W-T	33	29	4	0	520.7	0.879	0.591	0.769	0.999	0.597	0.773	1.000
LUN	PINTAIL	1	1	0	0	16.0	1.000	1.000	1.000	1.000	844E74	844E74	844E74

NESTING RESULTS BY STUDY AREA, ALL SPECIES AND FIELDS COMBINED

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COOPERATOR OR RESEARCH PROJECT=TEWAUKON NWR YEAR=99

STUDY AREA	NORMAL NESTS	SUCCESSFUL NESTS	UNSUCCESSFUL NESTS	FATE UNKNOWN	EXPOSURE DAYS	APPARENT HATCH RATE	MAYFIELD LOWER 95% CL	MAYFIELD HATCH RATE	MAYFIELD UPPER 95% CL	MLE LOWER 95% CL	MLE HATCH RATE	MLE UPPER 95% CL
ALL	65	56	9	0	950.6	0.862	0.583	0.724	0.897	0.589	0.728	0.900
ELF	21	18	3	0	275.7	0.857	0.447	0.689	1.056	0.458	0.696	1.058
LUN	44	38	6	0	674.9	0.864	0.576	0.738	0.945	0.581	0.742	0.947

NESTING RESULTS BY SPECIES, ALL STUDY AREAS COMBINED

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COOPERATOR OR RESEARCH PROJECT=TEWAUKON NWR YEAR=99

HOST SPECIES	NORMAL NESTS	SUCCESSFUL NESTS	UNSUCCESSFUL NESTS	FATE UNKNOWN	EXPOSURE DAYS	APPARENT HATCH RATE	MAYFIELD LOWER 95% CL	MAYFIELD HATCH RATE	MAYFIELD UPPER 95% CL	MLE LOWER 95% CL	MLE HATCH RATE	MLE UPPER 95% CL
ALL	65	56	9	0	950.6	0.862	0.583	0.724	0.897	0.589	0.728	0.900
MALLARD	19	16	3	0	258.4	0.842	0.424	0.672	1.060	0.434	0.679	1.063
GADWALL	2	1	1	0	23.5	0.500	0.010	0.228	3.885	0.011	0.226	4.598
B-W-T	41	37	4	0	639.7	0.902	0.652	0.808	0.999	0.657	0.810	1.000
SHOVELER	2	1	1	0	13.0	0.500	0.000	0.066	10.263	0.000	0.065	28.391
PINTAIL	1	1	0	0	16.0	1.000	1.000	1.000	1.000	844E74	844E74	844E74

NESTS NOT USED IN MAYFIELD CALCULATIONS

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OBS	PROJECT	SAREA	FIELD	SPECIES	YEAR	NEST	NESTFATE	CAUSE	INCUB	COMMENT
1	TEWK	ELF	001	1400	99	4	1	.	0	INVESTIGATOR/PREDATOR/PARASITIC DISTURBANCE
2	TEWK	LUN	001	1400	99	6	3	1	4	INVESTIGATOR/PREDATOR/PARASITIC DISTURBANCE

				D	M	V	D	C	P	E	S				P	P	P	P	S			M	P	C	P
	S			A	A	X	S	A	S	M	G	H			S	S	S	S	M			U	N	A	D
	P	V		T	G	A	T	U	H	S	L		P		H	H	H	H	L		L	E	E	H	R
	E	I		E	E	G	L	S	L	A	A		P		L				G		P		S	S	E
N	C	S		D	D	E	A	I	F	T	N		S		I	2	L	G	S		B	Y	T	E	A
E	I	I		E	E	E	P	C	R	A	S		M		S	O	E	S	H		I	O	G	R	E
S	T	S		T	T	R	E	B	G	S	T		L		C	M	M	L		D	P	L	R	A	T

10	SHO	1	05/28	21	12	20	4	9	89	Tr	0	8	38	63	0	0	0	13	38	75	25	8	25	38	38	0	0	8	0	0	N	Tr	
22	MAL	1	07/07	24	11	20	8	9	22	0	6	2	0	100	0	0	0	0	0	100	0	2	100	0	0	0	0	0	0	0	0	N	O s
21	GAD	1	06/16	31	7	21	12	12	0	0	0	0	.	.	.	.	.	.	.	.	0	.	.	.	0	0	0	0	0	0	N	O F

	S	P	E	N	E	S	T	D	M	V	D	C	P	A	E	S	P	P	P	P	S	M		M	P	P	C	P					
	A	A	X	S	A	L	S	M	G	H							S	S	S	S	M		U	N	N	A	D	H	R				
	T	G	A	T	Y	U	H	T	S	L	P	P	P	P	P	H	H	H	H	L		L	E	E	C	U	E	E					
	E	E	G	L	S	T	L	F	A	A	S	L	F	T	C	L	_	_	_	G	P	P	P	T	S	S	H	G	N	D			
N	C	S	D	D	E	A	I	S	_	R	T	T	M	A	R	R	I	2	L	G	S	S	E	B	I	Y	T	T	E	A	D	A	
E	I	I	E	E	E	P	C	I	E	A	N	N	A	R	A	A	U	N	O	E	T	H	I	N	O	P	O	G	A	G	R	E	T
S	E	T	S	S	R	S	U	Z	G	G	S	S	L	G	C	M	S	S	C	1	1	E	D	D	T	L	L	R	I	G	E	A	O
T	S	S	T	T	R	E	B	E	G	S	T	T	L	E	T	P	H	T	M	M	M	L	E	S	H	E	K	D	R	S	A	D	R
43	MAL	1	07/13	22	7	14	8	7	57	>1	0	4	0	75	25	0	0	50	75	75	25	3	0	0	100	0	0	Tr	0	0	N	Tr	
12	BWT	1	05/27	20	12	23	4	8	75	Tr	0	6	17	50	33	0	0	33	50	100	0	4	50	50	0	0	0	0	0	0	N	0	RS
23	MAL	1	05/28	19	14	23	0	10	70	Tr	2	7	57	29	14	0	0	0	43	71	29	6	33	50	17	0	4	38	0	0	N	0	
35	BWT	1	06/19	21	12	25	4	9	11	0	0	1	0	0	0	0	100	0	100	100	0	0	.	.	.	0	0	3	0	0	N	0	B
40	BWT	1	06/16	31	5	25	15	11	9	>1	0	1	0	0	100	0	0	0	100	100	0	0	.	.	.	0	0	0	0	0	N	0	b

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OBS	FATES	COOPERATOR OR RESEARCH PROJECT	YEAR	Total No. Nests	No. 2 Vis. in Incub	% with Missing Eggs	Mean No. Days	St. Dev. Days	Mean Egg loss rate	St. Dev. Loss Rate
1	Hatched	TEWK	99	56	6	33.3333	19.5	2.94958	.0062799	0.010817
2	Destroyed	TEWK	99	8	.	.	.	.	.	.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tewaukon National Wildlife Refuge Complex
9754 143 ½ Avenue SE
Cayuga ND 58013-9764
701-724-3598 FAX: 701-724-3683
Email: R6RW_twk@fws.gov



August 26, 1999

MEMORANDUM

To: National Wildlife Health Center

From: Kristine Askerooth, Biologist

Subject: History for Enclosed Specimen Collected From Pool 3 Tewaukon NWR, Sargent County, ND

Diagnostic Specimens collected on August 24, 1999 in Pool 3 wetland: 1 Canada goose (euthanized).

Wetlands will continue to be surveyed every week.

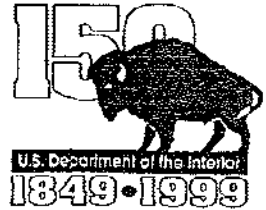
Attached is a map of the area.

Attachment



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tewaukon National Wildlife Refuge Complex
9754 143 1/2 Avenue SE
Cayuga ND 58013-9764
701-724-3598 FAX: 701-724-3683
Email: R6RW_twk@fws.gov



MEMORANDUM

August 17, 1999

To: National Wildlife Health Center

From: Kristine Askerooth, Biologist

Subject: Report on Enclosed Specimens Collected from Pool 7A, Sargent County

Diagnostic specimens (2) collected on August 17, 1999 in Pool 7A on the Tewaukon National Wildlife Refuge in Sargent County, ND. Enclosed is 1 green-winged teal (found dead) and 1 sandpiper (believed to be a least sandpiper) was acting sick near shore and was euthanized. Ten other birds were picked up at the site (1-cormorant, 2-shovelers, 1-mallard, 4-green-winged teal and 2 blue-winged teal) but they were badly decomposed and were disposed of on site.

Attached is a map of the area. This wetland and other wetlands on the Tewaukon Wildlife Refuge will be checked this week.

If questions please give me a call.

Kristine Askerooth



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tewaukon National Wildlife Refuge Complex
9754 143 1/2 Avenue SE
Cayuga ND 58013-9764
701-724-3598 FAX: 701-724-3683
Email: R6RW_twk@fws.gov



August 23, 1999

MEMORANDUM

To: National Wildlife Health Center

From: Kristine Askerooth, Biologist

Subject: History for Enclosed Specimens Collected From Kraft Slough Wetland, Sargent County, ND

Diagnostic Specimens collected on August 19, 1999 in Kraft Slough wetland: 1 coot (euthanized), 1 pintail (euthanized) and 1 green-winged teal (found dead).

History

During the fall of 1998 this area was surveyed after a landowner spotted dead birds. Botulism was confirmed and several hundred birds were picked up during September.

A total of 141 birds were picked up on August 19, 1999. American coots and ducks made up the majority of birds collected. A few grebes were also picked up.

Wetlands will continue to be surveyed every week.

Attached is a map of the area.

Attachment

Kristine Askerooth



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Tewaukon National Wildlife Refuge Complex
9754 143½ Ave SE
Cayuga, ND 58013-9764

MEMORANDUM

March 13, 2000

To: R&W, ND/E. MT Refuge Supervisor (60100)
Denver, CO

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

Subject: 2000 Annual Water Management Plan and 1999 Use Report

1. List of Water Rights

Water Right Filing No. 57: Declaration of Filing dated September 1, 1934 claimed 104 surface acres, for 397 acre-feet storage and 312 acre-feet seasonal use for Clouds Lake (Pool 8) now called Hepi Lake from unnamed tributary to Wild Rice River. 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.

Water Right Filing No. 64: Declaration of Filing dated September 1, 1934, for Lake Tewaukon and East and West White Lake (including Cutler Marsh), 1417 surface acres, for 7198 acre-feet storage, 4251 acre-feet seasonal from Wild Rice River and unnamed tributary.

Permit #1261: 4852 acre-feet storage and 2287 acre-feet seasonal use, for a total of 7139 acre-feet from the Wild Rice River for fish and wildlife use. 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 SE1/4 NW1/4, Sec. 2.

Tewaukon NWR #1263: 686 acre-feet yearly for Mann Lake (total of 236 acre-feet comprised of 107 acre-feet storage and 129 acre-feet seasonal use) and Horseshoe Slough (total of 450 acre-feet comprised of 270 acre-feet storage and 180 acre-feet seasonal use) 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 - 1999

While not much winter precipitation was recorded in 1998/99, water levels were again high due to existing water levels at freeze up and rainfall through the year. There was however a slight drop in pool water levels as compared to last year. The Wild Rice River, LaBelle Creek, Frenier Dam Outlet and Sprague Lake Creek flowed 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 June, August, and September. 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. In the late fall (October, November) very little to no precipitation fell causing some drying of wetlands. Freeze up this year was a month later than normal occurring on December 6. Descriptions of pool levels in this section are based on the existing gauges in the pools except where gauges do not exist then approximations are given from the pool elevation survey maps. Duck numbers peaked during the week of November 4 with 36,000. Snow geese (4300), and Canada geese (8700) numbers also peaked during the week of November 4.

Pool 1 (Lake Tewaukon): In anticipation of spring runoff, boards were pulled from the lake at the end of February, beginning of March. Spring runoff caused the pool to peak at 1148.67 on April 7. Average lake level for the year was 1148.31 just a few tenths above the desired management level of 1148. Normal evaporation at the end of July showed a level of 1147.68. A major rain event occurred in early September which increased the level to 1149.44 on September 7. Final level recorded was on November 30 with a level of 1148.06. Freeze up was later than normal due to the unusually warm temperatures and lack of snow fall. Duck numbers peaked during the week of November 4 on the Lake with 14,235 birds counted. Snow geese (3000), Canada geese (3000) and white-fronted geese (50) were also observed at high numbers during that week. Weather had been so warm during early fall that the ducks and geese took a while to build their numbers and some flew over late in the year without stopping. It was reported that many flocks were headed south then with the warm temperatures they moved north again. Adequate water and available food in crop fields throughout the District distributed the flocks of geese. The lake was frozen at 1148 (which is full pool) on December 6. 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. Unusually warm temperatures combined with the aerator managed to keep some geese and ducks in the area through January and into February 2000. 2,500 geese and 37 ducks were observed on January 6 during the midwinter waterfowl survey. In February 2000 more ducks and geese moved in with the warmer weather.

Parker Bay (east end of Lake Tewaukon): Spring runoff from adjacent areas filled the pool to 3 feet. Flow was prevented from entering Parker's Bay from LaBelle Creek (stoplog structure). Average pool depth throughout the year was at 3 feet. Waterfowl, especially diving ducks continued to utilize this pool in the fall migration period. Numbers of waterfowl were included in the Pool 1 survey information (see above).

Pool 2 (Cutler Marsh): This pool peaked at 1151.63 on April 7 during the spring runoff. In May boards were pulled to facilitate the repair of the DU Pool 2 cross dike which was breached during the 1997 flood. The pool was dropped to an elevation of 1148.75 on June 2. The repair was completed in early August of 1999. The old cross dike structure was replaced with a structure (66" CMP riser, with a 48" culvert), the breached portion was repaired and the dike was reinforced. On August 23 boards were added to Pool 2 to facilitate the replacement of a culvert on County Road 12 with a box culvert. This road was also damaged during the spring 1997 flood. At the end of September the boards were removed to facilitate the addition of riprap on the upstream face of the Pool 2 dike. On October 30 the pool was back to 1148.75. Average elevation of the pool for the year

was 1150.49. Limited goose use was observed on this pool during the fall migration. At freeze-up (December 6) the level of this pool was approximately 1149.

Pool 2A: Going into the winter of 98/99 the pool was froze at approximately 1153*. Water was moved out of the pool in the spring to remove the normal runoff. This pool was maintained through out the year at approximately 1153 to facilitate the installation and collection of data from the invertebrate traps. At freeze up in early December 1999 it remained at 1153*.

Pool 3 (Maka Pool): Pool 3 peaked at 1154.55 on April 7. The water dropped to 1151.17 by May 27 to provide vegetation growth in the pool and to facilitate the repair to the DU Pool 3 cross dike. Repairs to the cross dike were completed by August. The breached portion was repaired and the dike was reinforced. A review of the pool at this time showed growth of smartweed, spikerush, nutsedge, millet, and many small cattail plants. Use of the pool at this time included shorebirds, egrets, pelicans, geese and a few ducks. On September 6 a major rain event rose the pool level to 1153.60 ruining plans to put water gradually on the area. The pool then peaked at 1154.00 on October 30. Average level for the year was 1152.77. A final reading of 1153.50 was taken on November 30.

Pool 3A: Spring runoff caused the pool to peak at 1156*. It continued to drop through the year due to evaporation loss. At freeze up it was approximately 1153*.

Nickeson Bottoms: Spring runoff from the local watershed, flood relief from township roads and the natural state land flows increased the pool to 8 feet. Waterfowl use in 1999 was low. Lack of emergent vegetation caused by deep water made the area unappealing to over water nesters and as brood water. During May through August when Pool 3 was lowered, attempts were made to remove water from Nickeson Bottoms. From this effort and natural evaporation the pool froze at an approximate depth of 6 feet.

Pool 4 (River Pool): Peak spring water level occurred on April 7 when the water level was recorded as 1159.50. The pool was then raised to 1160.27 on May 12. It gradually dropped due to evaporation. The September rain event bounced the pool level back up to 1160.84. In early October boards were removed to facilitate riprap placement on the upstream dike face. Average pool level for the year was 1159.50. A final pool reading of 1158.07 was recorded on November 30.

Pools 3 and 4 had moderate waterfowl use during the fall migration with ducks as the majority users. Peak numbers on November 4, 1999 included 3000 mallards, 500 pintail, 200 wigeon, 100 gadwall, 100 shovelers 20 redheads and 10 canvasbacks. Also observed were 2000 Canada geese, and 300 snow geese.

Pool 5: Pool 5 was repaired in 1998. The structure was replaced with a 48" riser with a 24" culvert, a new spillway was built and the dike was repair and reinforced. No water was added in 1999 to allow for vegetative growth on the spillway and face of the dike. Some water did flow through especially during the repairs to Pool 6 and 7A in October.

Pool 5A: This pool was at approximately 1165* during the spring. It was drawn down in August to facilitate repairs to Dam 6. It froze at approximately 1162*.

* Approximate water level readings are based on 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 2000.

Pool 6: During spring runoff this pool overtopped full pool of 1170' and eroded the structure. It no longer held water and dropped to 1165'. In October this structure was removed and replaced with a new water control structure (24" culvert with 48" structure). Very little additional accumulation was received after the structure replacement and the pool froze at 1166'.

Pool 7: On April 7 the pool elevation was 1173.3 then when Pool 7a developed structure problems boards were pulled to relieve pressure on the 7a dike (April 27). This dropped the pool to 1172 at which it was maintained for the remainder of the year.

Pool 7A: In April this pool continued to have structural problems with holes allowing water to escape from the pool. The structure was temporarily patched with dirt to allow filling of the pool to 1177' during the heron nesting season. Pool 7A has a active rookery composed of great egrets, great blue herons, cormorants, and black-crowned night herons. The pool maintained at 1174' for most of the year until the structure was replaced. Due to the extremely dry conditions of the pool in early fall, several carcasses (waterfowl and shorebirds) were found in the pool. Botulism is suspected but unconfirmed. In October the structure was replaced with a new structure (24" culvert with 48" structure). Pool was at approximately 1175' at freeze up.

Pool 8 (Hepi Lake): East and north side structures were repaired by the DU contractor in the fall of 1998. The east structure was a 48" riser with a 24" culvert and the north structure was 60" riser with a 48" culvert. Freeze up depth in winter 98/99 was 1 ½ feet deep in the center of the pool (1170.8'). During spring runoff the pool peaked at 1177.9 (spillway elevation). Water was moved into Pool 7a to maintain safe nesting habitat for the herons and egrets. Efforts were made to avoid excessive flow into Pool 9 to allow for vegetative growth in the constructed above ground outlet. Some flow was allowed but it was restricted to what would flow through the original outlet pipe. The pool was maintained at approximately 1174 through the year which continued through freeze up.

Peak waterfowl numbers on November 4 for Hepi Lake and adjacent pools (7A, 9, 10) were 4050 ducks and 1010 geese. Largest numbers by species were: 500 Canada geese, 500 snow geese and 3000 mallards.

Pool 9: Both the inlet (from Pool 8) and the outlet of this pool were repaired in the fall of 1998. The outlet installed consisted of a 8' wide channel with 2:1 side slopes (at an elevation of 1170 dropping to the river) and a steel drop structure with a grouted riprapped base. This was installed above the existing 12" PVC pipe to provide a spillway for larger and higher flows. Freeze up depth in the winter of 98/99 was 3 1/3 feet deep (1164.6'). From spring flows the pool peaked at 1166'. Efforts were made to avoid excessive flow to allow for vegetative growth in the constructed above ground outlet. The remainder of the year flows from Pool 8 were limited to what the original outlet pipe could handle. This maintained the pool at approximately 1164' through freeze up.

Pool 10: Efforts were made to reduce inflows to this pool through the structure (no adding or subtracting of water). As a result it only increased slightly and then dropped due to evaporation. The pool was maintained at 1175' through the year into freeze up.

Pool 11 (West White Lake): On April 7 the pool elevation was 1149.45. At this time boards between East and West White Lake were removed to try to move water out of both pools into Pool 2 and the Wild Rice River when the south Pool 2 levels had dropped significantly. On July 7 both pools were at 1148.5 when the boards were added to prevent back flows into these pools. By freeze up Pool 11 was at 1150.55 due to rain events.

Pool 12 (East White Lake): On April 7 the pool elevation was 1149.45. At this time boards between East and West White Lake were removed to try to move water out of both pools into Pool 2 and the Wild Rice River when the south Pool 2 levels had dropped significantly. It then maintained the same level as West White Lake. On July 7 both pools were at 1148.5 when the boards were added to prevent back flows into these pools. 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. Pool 12 continued to flow into south Pool 2 and into the Wild Rice River most of the summer whenever possible. By freeze up Pool 12 was at 1148.18.

East and West White Lake had peak waterfowl numbers on November 4, 1999 with 100 Canadas, 4000 mallards, 100 gadwalls, 50 ringnecks, 200 redheads and 1000 lesser scaup.

Pool 13 (Mann Lake): Spring runoff showed a peak water level of 1210'. In June water was pumped out of the pool (river was too high to reduce water through the structure) to facilitate the installation and collection of data from the invertebrate traps. 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 1206'.

Pool 14 (Sprague Lake): The lake peaked at 1213.5 during spring runoff. It was maintained through out the year at 1212 through freeze up. This lake had some migratory bird use as well as mergansers, grebes, cormorants and great blue herons.

Pool 16 (Horseshoe Slough Group): The Banish "J" Dike was repaired and riprapped in May of 99. "A" dike was also repaired in June of 1999. These areas were part of the 1997 flood damage. B-North continued to receive water from the north 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, all Pools were lowered by backing water through "A" dike into the Wild Rice River. Pool A (16-1) was dropped two feet from 1209' to 1207'. The remainder of the pools were dropped one foot from 1208' to 1207'. The watershed inflow continued through much of the year making it impossible to reduce the pools further. 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 4, 1999 with 3000 Canadas, 500 snow geese, 5000 mallards, 100 gadwalls, 500 pintails, 300 shovelers, 300 wigeon, 300 ringnecks, 500 redheads, 20 canvasbacks, 1000 lesser scaup, 20 buffleheads, and 10 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. 2000 Plans

The following plans for the water levels in the pools are the best levels for attaining management objectives. However, with ongoing repair to roads and structures and possible continued high flows through the Wild Rice River, it 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 one additional pool (Pool 5) invertebrate samplers will be installed 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. Two previous pools (Pool 2a and 13) had samplers installed last year and we are awaiting invertebrate data and information on whether the number of samplers installed is sufficient for the station's monitoring needs.

Pool 1 (Lake Tewaukon): Maintain water level at 1148. This elevation will help to maintain a large open water area for migrating waterbirds which will also benefit the sport fishery habitat. Prior to the Point Road construction repairs the lake will be drawn down two feet. After that project is completed a half of a foot will be added. This should provide sufficient draw down for the Bridge replacement project on the north end of the lake. After all projects are completed the pool will be raised from water held in Pool 2, 3, and 4 to provide for the 1148 elevation prior to freeze up.

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 1154.5 to store water for Pool 1. Once the Pool 1 construction projects have been completed move water into Pool 1 to provide for migrating waterbirds and overwintering of the fishery. Also try to remove additional water from south Pool 2, East White Lake and West White Lake into Pool 1.

Pool 2A: Maintain at a water level of 1153. This will allow a 4 foot water depth for brood use. Invertebrate samplers will continue to collect invertebrates during the year.

Pool 3 (Maka Pool): Maintain pool at 1155 to store limited water for Pool 1 and reduce backflows from Pool 2. If needed, supply water to Pools 2A and 3A. Once the Pool 1 construction projects have been completed move water into Pool 1 (through Pool 2) to provide for migrating waterbirds and overwintering of the fishery. Also try to remove additional water from east Pool 3.

Pool 3A: The pool will be filled to a level of 1156 for brood use. If needed obtain water from Pool 3 during spring flows.

Nickeson Bottoms: Water levels will be dropped as the Wild Rice River 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 1161 to store water for Pool 1. For duck nesting, especially over-water nesting, stabilize water level as quick as possible before April 15. Once the Pool 1 construction projects have been completed move water into Pool 1 to provide for migrating waterbirds and overwintering of the fishery.

Pool 5: Fill this pool to 1160 for brood use. Water placed on the existing vegetation should provide a flush of invertebrates for brood use. After the initial flush of sediments the invertebrate samplers will be installed.

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 pool will dry out rapidly through an average summer due to the evaporation of its large surface area. For Pool 7A's active rookery, water levels should be managed to keep 3 feet of water in the pool throughout the summer and fall. Also maintain sufficient water to avoid a botulism problem (which occurred last year due to structure failure).

Pool 8 (Hepi Lake): Control structures on the north and east ends were repaired in Dec 1998. As spring runoff increases the pool level, water should be diverted to fill Pools 5, 5A, 6, 7 and 7A (with 5 and 7A as the priorities). If excess water exists after filling these pools water should be diverted out of 7A through its north structure. Pool 8 should be kept at a 2-4 foot level (maximum of 1174*) to encourage vegetative growth. The culvert to the north of Hepi should only allow water to flow through the original Pool 9 outlet pipe 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. If possible maintain a 2 - 3 foot level in this pool (no greater than 1164.5) to allow for vegetative growth around the edges.

Pool 10: Lower to a depth of 2 ½ feet (1173.5*) to encourage submergent vegetation growth to maintain its highest use as a semi-permanent wetland.

Pool 11 (West White Lake): Maintain depth at 4 to 4 ½ 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 feasible allow this pool to drop to as low as possible. Try to move water into Pool 2 especially during the expected late summer filling of Pool 1. Allow gradual drying to reestablish cattails and to reduce bank erosion.

Pool 13 (Mann Lake): Maintain at current elevation (1206', ~4 feet). Pumping may be required to maintain this depth if the river level is high. Invertebrate sampling will continue through the year. Repairs for this structure are planned for the year 2000 by a DU contractor. With the planned elevation there should be no conflict with the construction process.

Pool 14 (Sprague Lake): Maintain maximum pool, about 8 ½ to 9 feet in order to maintain a large open water area for migrating waterbirds which will also benefit 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 all pools as much as possible. The railroad grade still has a cut in it and may raise the water levels in these pools further.

TEWAUKON NATIONAL WILDLIFE REFUGE

Pools, Elevations and Acres

Pool No. & Name	January 1, 1999			December 31, 1999		
	Elevation	Surface Acres *	Volume (acre ft.)*	Elevation	Surface Acres *	Volume (acre ft.)*
Pool 1 - Tewaukon	1148.94	1068	9374	1148.00	1059.56	8303.05
- Parker's Bay	1145	61.50	66.11	1145.00	61.50	66.11
Pool 2 - Cutler's Marsh	1151.00	257.87	1078.17	1149.00	227.79	587.18
Pool 2A	1153	27	71	1153	27	71
Pool 3 - Maka Pool	1153.42	81	205	1153.5	83.02	212.03
Pool 3A	1151.09	0	0	1153	5.03	4.39
Pool 4 - River Pool	1158.95	101	212	1158.07	74	132
Pool 5	1154.71	0	0	1154.71	0	0
Pool 5A	1162	3.57	3.29	1162	3.57	3.29
Pool 6	1165	1.14	.43	1166	3.34	2.63
Pool 7	1173	18.95	38.18	1172	15.10	20.95
Pool 7A	1174	16.57	6.61	1175	35.93	31.91
Pool 8 - Hepi Lake	1171	80.38	93.34	1174	96.23	358.66
Pool 9	1164.50	9.49	19.72	1164	8.54	15.20
Pool 10	1174.5	6	15	1175	7	18
Pool 11 - West White Lake	1148.70	55	91	1150.55	81.86	217
Pool 12 - East White Lake	1148.70	104	561	1148.18	102	507
Pool 13 - Mann Lake	1212.4	57	441	1206	44	118
Pool 14 - Sprague Lake	1212.37	186	1319	1212	184	1250
Pool 16 - Horseshoe Slough						
- Pool 1 (A Pool)	1209	90.00	173.90	1207	41.16	39.27
- Pool 2 (B Pool)	1208	56	220	1207	50	167
- Pool 3 (C Pool)	1208	12	53	1207	11	41
- Pool 4 (B West)	1208	58	217	1207	51	163
- Pool 5 (B North)	1208	39	95	1207	31	60
- Pool 6 (C North)	1208	14.29	18.6	1207	8.57	7.22
- Pool 7 (C South & C East)	1208	25.65	74.65	1207	21.83	50.77

*1998-99 Pool acreages and volumes that were taken from a table 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.

Whole numbers (i.e. 27) are from expanded area tables from data collected in 1997.

[illegible]

Total 25.0 ACRES

6.25g ~~3.12~~ gal 2,4 D @ 10.38 = 64.87
3.12g ~~6.25~~ gal Tordon @ 74.58 = 232.68

SPRAYING RECORD (Hours/Fuel)

[illegible]

1949

SPRAYING RECORD (Hours/Fuel)

Date	County	WPA	Name	Regular Hours	Comp Time Hours	Gas	Diesel	Vehicle	Miles
6-22	Sargent	Tewanton	Bill + Neal	8			24.0		Finished 14,869 Start 14,326
6-23	Sargent	Tewanton	Bill + Neal	8					total → 543 mi x .45 \$244.35
6-24	Sargent	Tewanton	Bill + Neal	8					
6-30	Sargent	Tewanton	Bill + Neal	8		3.3			
7-12	Sargent	Tewanton	Bill + Mike	8		4.0			
6-25	Sargent	Tewanton	Bill + Mike	8					
6-30	Sargent	Tewanton	Bill + Mike	8					
7-1	Sargent	Tewanton	Bill + Mike	8					
7-2	Sargent	Tewanton	Bill + Mike	8			24.5		
7-7	Sargent	Tewanton	Bill + Mike	8					
7-12	Sargent	Tewanton	Bill + Mike	8					
7-19	Sargent	Tewanton	Bill + Mike	8					
7-13	Sargent	Sprange	Bill + Mike	8					
7-14	Sargent	Sprange	Bill + Mike	8					
7-15	Sargent	Sprange	Bill + Mike	8					
7-16	Sargent	Sprange	Bill + Mike	8					
7-19	Sargent	Sprange	Bill + Mike	8					

Bill
 136 hrs @ 14.41 = 1,959.76
 22 hrs @ 12.74 = 280.28
 12.74 = 407.68
 12.74 = 407.68
 \$3692.40

	TIME	WPA	CROP	LEGAL DESCRIPTION	NUMBER OF ACRES	PEST CONTROL	WIND INFO	TEMP	PESTICIDE USED	SUPPLIER OF PESTICIDE	GAL/ACRE 1 PT TORD/ 2 PT 2,4-D	LBS. AI # TORDON/ # 2,4-d	TANK MIX /AC	APPLICATOR INITIALS
6-22-99	1300	Tewaukon	grass	130-54-L-30	1.0	spurge	S 8	83	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-22		Tewaukon	grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-22	1400	Tewaukon	grass	130-54-L-34	1.0	spurge	S 9	85	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-22	0900	Tewaukon	grass	130-54-L-36	2.5	spurge	S 8	75	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-23	1500	Tewaukon	grass	131-54-L-36	3.0	spurge	W 5	77	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-24	0900	Tewaukon	grass	130-54-L-35	4.5	spurge	SW 6	72	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-24	1000	Tewaukon	grass	130-54-L-36	4.0	spurge	SW 6	74	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-25	0900	Tewaukon	grass	129-53-9	4.0	spurge	S 5	71	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
6-30	1300	Tewaukon	grass	130-54-L-L	3.0	spurge	W 6	73	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-1	1100	Tewaukon	grass	129-53-9	9.0	spurge	NW 4	68	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-1	1300	Tewaukon	grass	129-53-L-6	3.0	spurge	W 3	73	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-2	0900	Tewaukon	grass	129-53-9	4.0	spurge	SE 4	70	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-2	1300	Tewaukon	grass	130-53-L-31	9.0	spurge	SE 5	75	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-2	1500	Tewaukon	grass	129-53-L-5	2.0	spurge	SE 7	81	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-7	0900	Tewaukon	grass	130-53-L-31	14.0	spurge	SE 4	70	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-7	1000	Tewaukon	grass	130-54-L-25	1.0	spurge	SE 3	72	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-7	1300	Tewaukon	grass	129-53-5	1.0	spurge	SE 4	77	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-7	1400	Tewaukon	grass	130-53-L-31	8.0	spurge	SE 4	81	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-7	1500	Tewaukon	grass	129-53-5	3.0	spurge	SE 5	83	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-12	0900	Tewaukon	grass	129-53-5	1.0	spurge	S 6	67	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-12	1000	Tewaukon	grass	129-53-6	1.0	spurge	SW 6	72	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-12	1300	Tewaukon	grass	130-54-L-34	.5	spurge	S 3	80	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-12	1400	Tewaukon	grass	129-54-L-1	4.5	spurge	S 3	82	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-19	0900	Tewaukon	grass	129-54-L-1	3.0	spurge	W 2	70	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	

Total 87.0 ACRES

21.75 g 2,4-D @ 10.38 = 225.76

10.87 g Tordon @ 74.58 = 810.68

DATE	TIME	WPA	CROP	LEGAL DESCRIPTION	# OF ACRES	PEST	WIND INFO	TEMP	PESTICIDE USED	SUPPLIER OF PESTICIDE	GAL/ACRE 1 PT TORD/ 2 PT 2,4-D	LBS. AI # TORDON/ # 2,4-d	TANK MIX /AC	APPLY- CATOR INITIAL
7-19	1300	Palensky (137)	grass	132-58-4	None	spurge	E5	74	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-19	1300	Widmer (172)	grass	132-58-3	None	spurge	E5	74	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-26	1200	Gainor (134)	grass	132-54-14/23	Wet	spurge	NW6	76	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-26	1200	Douglas (174)	grass	132-54-14	Wet	spurge	NW6	76	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-26	1200	Gainor (170)	grass	132-54-13/24	Wet	spurge	NW6	76	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-26	1200	Hellen (181)	grass	132-54-24	Wet	spurge	NW6	76	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-26	1200	Brekke (183)	grass	132-54-24	Wet	spurge	NW6	76	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-24-27	1300	Bauer (10)	grass	131-58-12	25.0	spurge	SW6	90	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-24	1400	Bauer (10)	grass	131-57-7	Wet	spurge	SW7	90	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-21	0900	Saunders (157)	grass	131-56-31	7.0	spurge	S2	72	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-28	1000	Asche (148)	grass	131-55-12	None	spurge	SE7	75	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-20	1300	Mahrer (94,a)	grass	131-55-24	6.0	spurge	SE5	84	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-20	1100	Wyum (168)	grass	131-54-33	Wet	spurge	SE4	80	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-20	1100	Kaske (175)	grass	131-54-33	Wet	spurge	SE4	80	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-20	1100	Palensky (154)	grass	131-54-34	Wet	spurge	SE4	80	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-24	0900	Even (126)	grass	130-56-5	Bugs	spurge	SW2	82	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-23	0900	Evanson (160)	grass	130-56-2	4.0	spurge	SE7	75	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-23	1000	Anderson (31)	grass	130-56-11	Wet	spurge	SE7	76	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-20	0900	Olson (150)	grass	130-56-14	7.0	spurge	S3	74	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-19	1400	Olson/BN(151a)	grass	130-56-25	5.0	spurge	E3	76	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-20	1600	Lunstad (167)	grass	130-55-5	1.0	spurge	SE6	84	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-27	1000	Klefstad (149)	grass	130-55-33	2.0	spurge	SW7	74	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-26	1200	Krause (158)	grass	129-53-4/5	None	spurge	NW5	77	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-20	1400	Evanson (163)	grass	129-56-2	None	spurge	SE5	85	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
7-26	1000	Nelson	grass	130-55-33	.5	spurge	NW4	72	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
			grass			spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	

Total 57.5

14.37 gal 2,4 D @ 10.38 = 149.16
7.18 gal Tordon @ 74.58 = 535.48

1999

SERVING RECORD (1999-2000)

Date	County	WPA	Name	Regular Hours	Comp Time Hours	Gas	Diesel	Vehicle	Miles
7-19	Sargent	Olson (151)	Bill	8				Finish 15,800	
7-20	Sargent	Olson (151)	Bill	8	1	3.0		Start 14,869	
7-26	Sargent	GAINOR BONSTAS Kellen Brekke	Bill	8					931
7-24									
7-27	Sargent	Bauer	Bill	8			24.5		
7-21	Sargent	SAUNDERS	Bill	8					
7-28	Sargent	Asche	Bill	8					
7-20	Sargent	Mahrer	Bill	8			22.0		
7-20	Sargent	WYAM KASKE FALENSKY	Bill	8					
7-24	Sargent	Even	Bill	8					
7-23	Sargent	ANDERSON EVANSON	Bill	8					
7-20	Sargent	OLSON	Bill	8			25.3		
7-19	Sargent	Olson (151A)	Bill	8					
7-20	Sargent	LUNSTAD	Bill	8					
7-27	Sargent	KLESTAD	Bill	8					
7-20	Sargent	EVANSON	Bill	8					
7-26	Sargent	NELSON	Bill	8					

128h x \$14.41 Salary \$1844.48

15,800
-14,869
mi. 931 x .45
418.95

1999

PESTICIDE APPLICATOR RECORDS

DATE	TIME	WPA	CROP	LEGAL DESCRIPTION	# OF ACRES	PEST	WIND INFO	TEMP	PESTICIDE USED	SUPPLIER OF PESTICIDE	GAL/ACRE 1 PT TORD/ 2 PT 2,4-D	LBS. AI # TORDON/ # 2,4-d	TANK MIX /AC	APPLICATOR INITIALS
		Boehning (30)	grass	130-52-25	Sheep	spurge	—	—	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
9-29	1000	Smith (28)	grass	130-52-35 129-52-2	30.0	spurge	SW6	51	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
9-27	1300	Novetzke (39)	grass	130-51-20	7.0	spurge	SW4	60	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
		Ford (36)	grass	130-51-22		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Kuehn (43)	grass	130-51-29/32		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Bladow (13)	grass	130-50-20	Sheep	spurge	—	—	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
		Bladow (20)	grass	130-50-20	Sheep	spurge	—	—	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
9-30	1400	Wollitz (35)	grass	129-LTL-52-5/8	16.0	spurge	NW4	75	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
8-3	1400	Stenson (25)	grass	129-LTL-52-8	None	spurge	NW6	72	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
8-3	1400	Paetzke (32)	grass	129-LTL-52-5	None	spurge	NW6	72	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
8-3	1500	Paetzke (33)	grass	129-LTL-52-8	None	spurge	NW7	73	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
8-3	1300	Haaland (38)	grass	129-LTL-52-19	6.0	spurge	NW3	73	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
8-3	1300	Vogeler (15)	grass	129-LTL-52-19	1.0	spurge	NW4	73	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
		Leack (44)	grass	129-52-3		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Leack (44,a)	grass	129-52-4		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
9-28	1100	Hegar (26,a)	grass	129-LTL-52-12/13	7.0	spurge	NW5	54	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
9-28	1000	Nechas (16)	grass	129-LTL-52-12	1.0	spurge	NW5	53	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
9-26	1100	Willprecht (51)	grass	129-LTL-52-12	None	spurge	SW3	55	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
9-26	1200	Gaukler (27)	grass	129-LTL-51-19	None	spurge	SW3	55	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Krause (23)	grass	129-LTL-51-21		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Ahrens (41,42)	grass	129-LTL-51-21		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Arndt (21)	grass	129-LTL-51-21		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Gunness (34)	grass	130-50-35 129-50-2		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Boldt (53)	grass	129-50-2		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Hentz (37)	grass	129-50-2		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
9-30	1000	Elsen (50)	grass	129-50-2/11	7.0	spurge	N8	50	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH
		Biggs (12a)	grass	129-50-13		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
		Berndt (10)	grass	129-50-13/24		spurge			Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	
9-30	1500	Korth (22)	grass	129-50-26	None	spurge	N9	52	Tord/2,4-D	Ostlund	1-Tor/2-2,4	.25/.94	20	WH

Total 75.0 ACRES

SPENDING RECORD 1964-1965

Date	County	WPA	Name	Regular Hours	Comp Time Hours	Gas	Diesel	Vehicle	Miles
8-3	Richland	STANSON PAETZKE	Bill Mike	2					
7-30	Richland	Wollitz	Bill	8	1				Final 16,374 start 15,800
8-2	Richland	Wollitz	Bill	4			14.0		574 mi x .45 = 258.30
8-3	Richland	Wollitz HAINES Kogler	Bill Mike	8					
9-27	Richland	Nowitzke	Bill	8					
9-28	Richland	Hegar	Bill	4			15.0		
9-28	Richland	Nechas	Bill	4					
9-29	Richland	Smith Korth	Bill Neal	8					
9-30	Richland	Elsen	Bill Neal	2					
9-30	Richland	Hortleben	Bill Neal	4			18.5		
9-26	Richland	Glauder Willenrecht	Bill	8					
9-30	Richland	Biggs-SWANSON ANDERSON CARSON-OSTAY	Bill Neal	2					16,374
				Bill Mike Neal	60 hrs @ 14.41 = 864.60 10 hrs @ 12.74 = 127.40 16 hrs @ 12.74 = 203.84 86 hrs = 1224.66				

DE APPLICATOR RECORDS 1977

[illegible]

Total 8.0
Grand total 03 acres

20.75 2,40 @ 10.38 = 215.38
10.37 Tordon @ 14.58 = 773.39

HERBICIDE APPLICATOR RECORDS

[illegible]



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tewaukon National Wildlife Refuge Complex
9754 143 1/2 Avenue SE
Cayuga ND 58013-9764
701-724-3598 FAX: 701-724-3683
Email: R6RW_twk@mail.fws.gov



June 2, 2000

Dear County Commissioners:

In accordance with the North Dakota Wetland Acquisition and Management Agreement, the following is the Tewaukon National Wildlife Refuge Complex's annual report.

Approximately 296 acres were hayed during the year with 157 acres (5 permittees) in Sargent County, 0 acres in Ransom (0 permittees) and 139 acres in Richland County (5 permittees). Haying in the three county District is used as a management tool to increase vigor of certain grass species.

Grazing is another tool used at Tewaukon to manipulate vegetation. This year the pasture in our rotational grazing system located in Sargent County dried out enough to allow us to graze 281 acres with 225 AUM's.

Tewaukon again carried out noxious weed control measures on the Refuge and Waterfowl Production Areas (WPA's) in our three county District. The methods used to control noxious weeds were biological control (insect releases and sheep grazing), mowing, and herbicide application.

In 1999, 3 permittees in Sargent, and Richland Counties grazed sheep on 154 acres to control leafy spurge. These areas consisted of a few WPA's, and a couple of spots on the Refuge that were difficult to treat with traditional means.

Tewaukon also used mechanical methods to control Canada thistle. Mechanical methods of control included mowing 297 acres of thistle in Sargent, Ransom and Richland Counties before seed set.

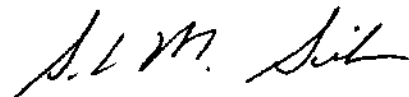
Tewaukon has worked with APHIS, NDSU, local weed boards, and sportsmen's clubs to release approximately 172,000 *Aphona czwalinae/A. lacertosa* flea beetles to control leafy spurge (76 sites). The Refuge also dispersed 50 *Larinus planus* bud weevils and 50 *Ceutorhynchus litura* stem weevils to control Canada thistle (1 site). Each insect release site is approximately 1 acre in size, and will hopefully become larger over time. The release sites described above are in addition to insect release sites previously reported. A total of over 1,417,300 insects/galls (5 species which attack leafy spurge, and 2 species which attack Canada thistle) have been released on the Tewaukon Complex since 1993.

Sheep and insect treatment sites were located in shelterbelts with a heavy infestation of noxious weeds in the trees, topography not easily accessible to herbicide application equipment, areas with high water tables, or sensitive plant communities.

We have continued a crop rotation system with the Refuge farmers that reduces the amount of chemicals used on the Refuge. The farmer's share of the crop has been increased in order to compensate them for using different crops, and doing more mechanical control of weeds. A total of 426 acres were farmed on the Tewaukon Complex in Sargent County during 1999.

Attached is a summary sheet of roadside mowing, a herbicide cost summary, and breakdown of sheep grazing for leafy spurge control. After reviewing this report, we would welcome any comments or suggestions you may have. In addition, during 2000, if you receive any complaints concerning noxious weeds or road ditches which need to be mowed on our areas, we would appreciate being informed as soon as possible.

Sincerely,

A handwritten signature in cursive script, appearing to read "S. L. M. Siekaniec".

Sandra Siekaniec
Refuge Manager

Attachments

1999 ROADSIDE MOWING

RANSOM COUNTY ROADSIDE MOWERS:

<u>Permittee</u>	<u>WPA</u>	<u>Date Checked</u>	<u>Permit Type</u>
Dale Dick	Smith/Tanner	10/99	Haying (ditch)
Dale Dick	Buckmiller	10/99	Haying (ditch)
Dale Dick	Reinke-Bachman	10/99	Haying (ditch)
Dale Dick	Dick-Gjertson-Kenyon	10/99	Haying (ditch)
N/A	Compson	10/99	Under H20, road closed
State Highway Dept.	Dick, Holt	10/99	no cost
Aliceton Township	Carlson	10/99	no cost
Ft. Ransom Twp.	Strander	10/99	no cost
Sydna Township	Metzen	10/99	no cost

Paid Mowers

Herman Funk	Shelver	10/99
Northland Township	Blikre-Arneson	10/99
Lance Bueling	L. Bueling	10/99
Shenford Township	Wiltse-Kaspari	10/99
Ray Bartholomay	Warner	10/99

RICHLAND COUNTY ROADSIDE MOWERS:

<u>Permittee</u>	<u>WPA</u>	<u>Date Checked</u>	<u>Permit Type</u>
Ted Harles	Nechas	10/99	State Highway Dept.
Andy Gaukler, Jr.	Boehning	10/99	Haying (ditch)
Red River Sportsmen	Smith	10/99	
Jerry Berg	Bladow	10/99	Haying (ditch)
N/A	Kuehn	10/99	Under H20, road closed
unknown	Korth	10/99	no cost
Clint Gaukler	Wollitz	10/99	Farming
State Highway Dept.	Novetzke	10/99	no cost
State Highway Dept.	Gunness	10/99	no cost
Wayne Robey	Hartleben	10/99	Haying
Marvin David	Hartleben	10/99	Haying
David Tiegs	Hartleben	10/99	Haying

Paid Mowers

Mike Skroch	Gaukler	10/99
Mark Stenson	Haaland/Vogeler	10/99
Steve Stregc	Ford	10/99

1999 ROADSIDE MOWING (cont.)

SARGENT COUNTY ROADSIDE MOWERS:

<u>Permittee</u>	<u>WPA</u>	<u>Date Checked</u>	<u>Permit Type</u>
Pheasants Forever	Klefstad-Asche-Nelson	10/99	Farming
Joe Breker	Tewaukon Refuge	10/99	Farming
Quentin Hoistad	Sprague Lake	10/99	Farming
Darren Hoistad	Sprague Lake	10/99	Farming
Tewaukon Refuge	Krause, Nickeson Gravel Road, County Road #12, County Road #5 to W. White Lake		
Mark Saunders	LK. TWK. gravel road	10/99	Haying (ditch)
State Highway Dept.	BN/Olson	10/99	no cost
State Highway Dept.	Evanson/Anderson	10/99	no cost
State Highway Dept.	Even	10/99	no cost
Donald Wucherpfenning	Saunders	10/99	no cost
(Forman Township)	L. Olson	10/99	no cost
<u>Paid Mowers</u>	<u>WPA</u>		
Thomas Geffre	Widmer/Palensky	10/99	
Bob McLaughlin	South Evanson	10/99	
Dennis Miller	Lunstad	10/99	
Larry Erickson	Sprague Lake	10/99	
Don Marquette	Mahrer	10/99	
Roger Gibbon	Gainor	10/99	

1999 HERBICIDE (Weed Control) COST SUMMARY

SARGENT COUNTY (WPA)

CHEMICAL	14.37 GAL. 2,4-D @ \$10.38/GAL.....	\$ 149
	7.18 GAL. TORDON 22K @\$74.58/GAL.....	\$ 535
SALARY	1 PERSON - 128 HOURS	\$ 1844
TRUCK	931 MILES @ \$.45/MILE.....	<u>\$ 419</u>
		\$2947

SARGENT COUNTY (REFUGE)

CHEMICAL	28 GAL. 2,4-D @ \$10.38/GAL	\$ 291
	13.99 GAL. TORDON 22K @ \$74.58/GAL.....	\$1043
	4.68 GAL. CURTAIL @ \$52.00/GAL(contractd)..	\$ 243
SALARY	2 PEOPLE - 344 TOTAL HOURS.....	\$4730
TRUCK	959 MILES @ \$.45/MILE.....	<u>\$ 432</u>
		\$6739

RICHLAND COUNTY

CHEMICAL	20.75 GAL. 2,4-D @ \$10.38/GAL.....	\$ 215
	10.37 GAL. TORDON 22K @ \$74.58/GAL.....	\$ 733
	42.18 GAL. CURTAIL @ 52.00/GAL (contractd)..	\$2193
	6.81 GAL. PLATEAU @ 435.19/GAL (contractd)..	\$2964
SALARY	2 PEOPLE - 88 TOTAL HOURS.....	\$1225
TRUCK	574 MILES @ \$.45/MILE.....	<u>\$ 258</u>
		\$7588

RANSOM COUNTY

Did not get sprayed in 1999. Have already started spraying this year.

GRAND TOTAL = \$17,274

ACREAGES SPRAYED:

SARGENT COUNTY (REFUGE)	112 (SPURGE) 15 (THISTLE)
SARGENT COUNTY (WPA)	58 (SPURGE)
RICHLAND COUNTY (WPA)	192 (SPURGE) 135(THISTLE)
RANSOM COUNTY (WPA)	None

TOTAL ACRES SPRAYED: 512

COST PER ACRE: \$17,274/512 acres treated = \$33.73/acre

1999

[illegible]

Traps set out on March 27th

Canada Goose Survey - 1999

Date of Survey	# geese on Refuge	# geese w/in 1 mile of Refuge	Total # geese
8/18/99	281	200	481
8/20/99	885	30	915
8/23/99	200	495	695
8/25/99	55	425	480
8/27/99	420	200	620
9/01/99	220	75	295
9/07/99	95	0	95
9/10/99	405	40	445