UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

BOWDOIN NATIONAL WILDLIFE REFUGE
HC 65 Box 5700
Malta, Montana 59538

December 14, 2001

James M. Corven
Manomet Center for Conservation Sciences
P.O. Box 1770
Manomet, MA 02345

Dear Mr. Corven:

Enclosed is the application for Bowdoin National Wildlife Refuge for designation as a Western Hemisphere Shorebird Reserve Network Site. Thank you for considering our application.

Sincerely,

Dwain M. "Fritz" Prellwitz
Acting Refuge Manager

Western Hemisphere Shorebird Reserve Network (WHSRN)

Site Identification Form

Please type or print clearly. Complete all questions that apply and attach more details, maps or information as needed.

Site name Bowdoin National Wildlife Refuge

Location Phillips County, Montana, USA
(country, state/province, district/town, local names, etc.)

Geographic coordinates 48° 24' N 107° 39' W (latitude and longitude)

Total area to be nominated 15,551 acres (hectares or acres)

Principal contact: (manager, director, etc.)

Name Carmen R. Luna Position Refuge Manager

Mailing address Bowdoin Nat. Wildlife Ref., HC 65 Box 5700, Malta, MT 59538

City/town Malta State/Prov. Montana

Postal/Zip code 59538 Country USA

Telephone (406) 654-2863 Fax (406) 654-2866

E-mail carmen_luna@fws.gov

Person completing this form:

Name Dwain M. "Fritz" Prellwitz Position Wildlife Biologist

Mailing address Bowdoin Nat. Wildlife Ref., HC 65 Box 5700, Malta, MT 59538

City/town Malta State/Prov. Montana

Postal/Zip code 59538 Country USA

Telephone (406) 654-2863 Fax (406) 654-2866

E-mail fritz_prellwitz@fws.gov

Western Hemisphere Shorebird Reserve Network (WHSRN)
Key Characteristics of the Site

1. Nominating organization(s):

U.S. Fish & Wildlife Service
Bowdoin National Wildlife Refuge
HC 65 Box 5700
Malta, MT 59538
Telephone: 406.654.2863
FAX: 406.654.2866
carmen_luna@fws.gov; fritz_prellwitz@fws.gov

The U.S. Fish & Wildlife Service is the landowner and managing agency for Bowdoin National Wildlife Refuge (NWR) near Malta, Montana. Bowdoin NWR is a field station in Region 6 administered out of Denver, Colorado.

2. Site Description:

Bowdoin NWR was established by Executive Order 7295 on February 14, 1936, as a refuge and breeding ground for migratory birds and other wildlife. The Refuge encompasses 15,551 acres and is located in the short and mixed grass prairie region of North-central Montana. It lies about 7 miles northeast of Malta in the Milk River Valley of Phillips County. Major habitat types on the Refuge include freshwater wetlands, saline wetlands, native prairie, dense nesting cover and shrubs. The Bowdoin area was glaciated 15,000 years ago, but does not have the abundance of semi-permanent and permanent wetlands found in the true glaciated prairie. Refuge wetlands total about 6,615 acres and the remainder is uplands. Geologic history indicates that Lake Bowdoin was once an oxbow of the pre-glacial Missouri River channel. Today the Missouri lies nearly 70 miles south of Bowdoin NWR. The oxbows which remain at Bowdoin include Lake Bowdoin and Dry Lake, the two largest water units on the Refuge. Both have extensive areas of shallow water with higher than normal salinity. This results in alkaline beaches and mud flats which are highly productive in terms of invertebrate life. Both lakes have been altered with diking and installation of water control structures designed to transport flood waters from Beaver Creek, a tributary of the Milk River. Most of the water for the Refuge, however, is delivered by the Dodson South Canal, a facility of the Milk River Irrigation System.

The Refuge currently is fenced on the approximate Executive Order boundary and all lands within the fence are administered by the U.S. Fish and Wildlife Service. State of Montana School Trust lands within the Executive Order boundary became part of the Refuge in the 1940s, as did railroad lands by a letter of consent. Small parcels of U.S. Bureau of Reclamation and U.S. Bureau of Land Management lands near the boundary were made part of the Refuge by various agreements and Memorandums of Understanding. The majority of the shorebird habitat was included in the original Executive Order designating public lands to be part of the Refuge.

3. Designations:

"Important Bird Area" designated on March 17, 2001

4. Biology: Maximum single counts for 38 shorebird species found at Bowdoin were determined from an ISS route run during 1996 through 2001, with two exceptions. A single mountain plover observed in 1989, and a single red phalarope photographed in 1985, were included in this report because of their presence, but the number is insignificant. The total number of 32,370 shorebirds is very conservative. The ISS route does not cover the entire Refuge, and some good shorebird areas are missed because they are not near existing roads and trails. An attempt was made during 2000 and 2001 to determine the proportion of shorebirds missed by the ISS route. Six surveys which also included some of the better shorebird habitat not on the ISS route determined that 28 to 44 percent of the shorebirds were not being counted by the ISS route. Expanding the ISS maximum count of 32,370 shorebirds to include the 28 to 44 percent additional birds produces a range of 44,958 to 57,804 shorebirds on Bowdoin NWR. Other data were not used in the following table because information was not collected by a systematic survey. There have been sightings of 90 whimbrels in spring, killdeer presence from March through November, and larger number of snipe during the hunting season, for example. The type of use in the following table is either migration (M) or breeding (B).

List of species	Season	Use	Maximum
Black-bellied plover (*Pluvialis squatarola*)	May - Oct	M	60
American golden-plover (*Pluvialis dominica*)	May,Jul,Aug,Oct	M	2
Pacific golden-plover (*Pluvialis fulva*)	Oct	M	1
Snowy plover (*Charadrius alexandrinus*)	Jun	M	2
Piping plover (*Charadrius melodus*)	May - Aug	B	4
Semipalmated plover (*C. semipalmatus*)	May - Sep	M	55
Killdeer (*Charadrius vociferus*)	Apr - Oct	B	188
Mountain plover (*Charadrius montanus*)	Jun	M	1
American avocet (*Recurvirostra americana*)	Apr - Oct	B	699
Black-necked stilt (*Himantopus mexicanus*)	Apr - Aug	B	102
Willet (*Catoptrophorus semipalmatus*)	Apr - Sep	B	1,288
Greater yellowlegs (*Tringa melanoleuca*)	Apr - Nov	M	103
Lesser yellowlegs (*Tringa flavipes*)	Apr - Oct	M	701
Solitary sandpiper (*Tringa solitaria*)	May,Jul,Aug	M	2
Spotted sandpiper (*Actitis macularia*)	May - Aug	B	24
Whimbrel (*Numenius phaeopus*)	May,Jul	M	7
Long-billed curlew (*Numenius americanus*)	May - Aug	B	384

Marbled godwit (*Limosa fedoa*)	Apr - Oct	B	1,610
Hudsonian godwit (*Limosa haemastica*)	Jun - Aug	M	7
Ruddy turnstone (*Arenaria interpres*)	May,Jul,Aug	M	2
Red knot (*Calidris canutus*)	May,Jul,Aug	M	3
Sanderling (*Calidris alba*)	May - Oct	M	72
Dunlin (*Calidris alpina*)	Jul,Aug	M	1
Semipalmated sandpiper (*Calidris pusilla*)	May - Oct	M	2,261
Western sandpiper (*Calidris mauri*)	Jun-Sep	M	49
Least sandpiper (*Calidris minutilla*)	May - Oct	M	244
White-rumped sandpiper (*Calidris fuscicollis*)	May,Jun,Aug,Sep	M	24
Baird's sandpiper (*Calidris bairdii*)	May - Oct	M	920
Pectoral sandpiper (*Calidris melanotos*)	May,Jul - Oct	M	154
Upland sandpiper (*Bartramia longicauda*)	May - Aug	B	7
Buff-breasted sandpiper (*Tryngites subruficollis*)	Jul,Sep	M	1
Short-billed dowitcher (*Limnodromus griseus*)	May,Jul - Aug	M	28
Long-billed dowitcher (*L. scolopaceus*)	May - Oct	M	1,727
Stilt sandpiper (*Calidris himantopus*)	May - Oct	M	1,803
Common snipe (*Gallinago gallinago*)	May - Sep	B	7
Wilson's phalarope (*Phalaropus tricolor*)	May - Sep	B	13,826
Red-necked phalarope (*Phalaropus lobatus*)	May - Aug	M	6,000
Red phalarope (*Phalaropus fulicaria*)	Jul	M	1
Total			32,370

Percentage of shorebirds on and off the Bowdoin ISS route during six samples in 2000 and 2001.

Date of survey	Percent on ISS route	Percent off ISS route
02 August 2000	72	28
09 August 2000	56	44
16 August 2000	63	37
23 August 2000	70	30
25 July 2001	61	39
01 August 2001	72	28

5. Land Use:

a) Principal uses: Bowdoin NWR is a unit of the National Wildlife Refuge System, established in 1936 by Executive Order as a "refuge and breeding ground for migratory birds and other wildlife" and as a "shooting area to be operated under a cooperative agreement" with the State of Montana. Forty percent of the Refuge is open to waterfowl and upland game bird hunting during the fall. Located just a few miles to the north are Nelson Reservoir (a large Bureau of Reclamation irrigation storage reservoir) and Hewitt Lake NWR, both of which have extensive shorebird habitat. Lands adjacent to the Refuge include native prairie to the north, dryland cropland to the east, and irrigated hayland to the south and west. The hayland, when flooded, can attract larger shorebirds by the thousands.

b) Staff: Bowdoin NWR employs seven full time employees and as many as a dozen temporary employees during summer. There also are two Charles M. Russell NWR employees stationed at Bowdoin to operate a black-footed ferret breeding and preconditioning facility. One or two volunteers occasionally work at Bowdoin during summer, but for most of the year volunteers are present only during special events.

c) Visitation: Bowdoin NWR is located in a semi-remote area with a low density population. U.S. Highway No. 2 passes a couple miles north of the Refuge and provides the main artery for tourist traffic. General tourism and bird watching occurs primarily from April through October, with nearly 1,700 visitors during 2000. Hunter recreation during September through December amounted to around 1,600 individuals in 2000. The east-bound and west-bound Amtrak passenger trains cross Bowdoin NWR each day with the conductor announcing that the train is on the Refuge. If current studies which indicate that 10-25 percent of the population observes or photographs birds are accurate, then a range of 9 to 22 thousand additional visitors enjoy Bowdoin from the train each year. Several hundred school children visit Bowdoin each year in class field trips.

d) Local population: Bowdoin NWR is located in the center of Phillips County, Montana, one of the larger counties in the United States. Its current population is around 5,000 and is slowly declining. Malta, the County Seat, is seven miles west of the Refuge and has about 2,000 people. Malta is the largest community for at least 70 miles in any direction. Larger cities such as Billings, Great Falls and Williston (ND) are slightly over 200 miles away.

6. Threats (natural and human):

Water quality is a major issue at Bowdoin NWR. Lake Bowdoin and Dry Lake accumulate salts from groundwater seeping to the surface near the shorelines. Saline seeps are a common occurrence in eastern Montana, but the size of the water bodies and magnitude of the problem at Bowdoin have raised concerns with the Montana Department of Environmental Quality. Bowdoin Refuge is not allowed to discharge water into Beaver Creek except during infrequent flood events. Salt levels in water units continue to slowly increase, with wind erosion from dry salt flats in late summer the only other means of releasing salts. Although some salt is advantageous to many shorebird species because of the tremendous productivity of invertebrate life in salty water, excessive salt loads and biomass production lead to outbreaks of avian botulism at Bowdoin and the potential for deformities in some bird species. Botulism has killed in excess of eight thousand water fowl in some years, with shorebird losses being significantly

lower. Salt also can enter the Refuge in irrigation return flows which the Refuge has to accept from the Milk River Irrigation System.

Invasion of noxious weeds and other unwanted plants is also of concern at Bowdoin. Most noxious weeds have been kept in check in this part of Montana by quick local response and the problem is not as great as in the Pacific Northwest, but of concern to Bowdoin wetlands is the invasion of Russian olive (*Elaeagnus angustifolia*) along shorelines of Refuge water units. Encroachment by Russian olives could limit shorebird use of some feeding areas, but an eradication program was begun in 2000 to remove invading olives from certain areas. Although olives will never be completely eradicated from Bowdoin, the prairie wetland vegetation community has been restored at several locations on the Refuge.

Periods of drought are a natural occurrence in eastern Montana, but they have a tremendous effect on shorebird use of Bowdoin Refuge. The early years of drought can expose additional feeding areas and greatly increase use by shorebirds, as occurred on Dry Lake in 1999 when nearly 14 thousand Wilson's phalaropes were present. As drought persists, and wetlands become dry, habitat is lost temporarily and shorebird use declines. The cyclic nature of these events is good for the health of the prairie wetland community, but fluctuating shorebird populations is a result.

7. Ownership:

All lands within Bowdoin NWR either are owned by the U.S. Fish and Wildlife Service, or are covered by agreements or memorandums of understanding. The Refuge currently is fenced on the approximate Executive Order boundary and all lands within the fence are administered by the U.S. Fish and Wildlife Service. State of Montana School Trust lands within the Executive Order boundary became part of the Refuge in the 1940s, as did railroad lands by a letter of consent. Small parcels of U.S. Bureau of Reclamation and U.S. Bureau of Land Management lands near the north boundary were made part of the Refuge by various agreements and Memorandums of Understanding in order to more effectively manage lands adjacent to the Dodson South Canal. The majority of the shorebird habitat was included in the original Executive Order designating public lands to be part of the Refuge.

8. Protection:

The entire area of Bowdoin NWR is protected by various Refuge Administration Acts passed by Congress over the years and as recently as 1997. Secondary uses of Refuge lands must meet a compatibility test based on the establishing documents. Two Executive Orders establishing Bowdoin Refuge make reference to "irrigation uses" and "for the purpose of oil and gas development" (only a portion). There is no natural gas development on the Refuge, but wells are located on adjacent lands to the east. With current technology in directional drilling, any future activity on Bowdoin would have minimal short term impact on shorebirds and their habitats.

9. Management:

Bowdoin NWR is scheduled for a Coordinated Conservation Planning (CCP) effort in 2008. There currently is no Master Plan in place, and the Refuge is managed under a set of "interim goals and operating statements". Resting, feeding and breeding habitat for migratory birds, including shorebirds, is a primary function of the Refuge. Current water management is done for waterfowl as well as for shorebirds, colonial-nesting waterbirds, and for marsh and wading birds. Periodic drawdowns are accomplished to recycle nutrients and provide for shallow water feeding areas. Upland management techniques include prescribed fire, grazing and mowing, all of which maintain native prairie for use by nesting waterfowl as well as by larger upland nesting shorebirds. The east half of Lake Bowdoin and western portion of Dry Lake have been designated as critical habitat for the threatened piping plover. Any management activities in this area must take into account impacts on piping plovers. Two gravel beaches on Dry Lake have been enhanced for piping plovers, and a low-level dike is planned for construction in 2002 to provide a more permanent nesting area for piping plovers on the western edge of Dry Lake. These projects have benefits for other shorebird species.

10. Research & Monitoring:

Bowdoin NWR participates in All Bird Monitoring for the State of Montana, as developed by the Montana Bird Conservation Partnership. There are 80 species of concern that are monitored as well as groups of bird species such as waterfowl, upland game birds, colonial nesting birds, grassland songbirds, shorebirds, raptors, and endangered species. Shorebirds are monitored by International Shorebird Survey (ISS) routes on Bowdoin (since 1996) and Hewitt Lake (since 2000) NWRs, nest monitoring for upland nesting shorebirds found during waterfowl and grassland songbird nest dragging, banding of incubating adults and nestlings, and by intensive pair and nest counts for piping plovers on Bowdoin and Hewitt Lake NWRs and Nelson Reservoir. ISS routes are run every Wednesday for Bowdoin and every Thursday for Hewitt Lake from April through mid November when water is present and the observer is available. The best in optics are used, with the Refuge having a Questar Birding Scope and the observer an Optolyth 20-60x100 fluorite scope. The Bowdoin ISS route circles Lake Bowdoin and Dry Lake mostly on existing roads and trails, but does not cover all of the shorebird habitat on the Refuge.

The Refuge Biologist has published peer-reviewed shorebird articles in major wildlife journals three times (attached) and is currently working on nest site fidelity for larger upland nesting shorebirds.

11. Community:

a) Community support and use: Local community interest in the Refuge is minimal, although outreach efforts are underway. The Malta School System uses the Refuge for field trips and environmental education. Montana State University - Northern in Havre (Dr. Vaughn Rundquist, 406-265-3700) has used the Refuge for a one-credit Teacher Workshop in summer in some years, with birds being the general topic of instruction. There is no "Friends Group" active for Bowdoin Refuge. An article in the Phillips County News on 14 November 2001 by the Refuge Biologist explaining the WHSRN application for Bowdoin met with no opposition, and received several favorable comments.

b) Public activities: Public involvement in birding activities centers around the Bowdoin NWR Christmas Bird Count in December and some type of observance for International Migratory Bird Day on the second Saturday in May. Both events are organized by Refuge employees.

c) Community economic benefits: The Refuge Biologist is a member of the Malta Chamber of Commerce and Agriculture where he actively promotes the economic value of the Refuge to local businesses. There is reluctance in this agricultural community to recognize those benefits, but wildlife viewing has become the top tourism activity in Montana and is finally getting the recognition it deserves. Motels, restaurants and gas stations/convenience stores are the primary recipients of the tourism money generated by Bowdoin visitors. There are no concessions on the Refuge.

d) Fund raising activities for the Refuge: Economic activities for the Refuge from local efforts have provided indirect benefits on various occasions. A local Ducks Unlimited banquet committee has been active for over 20 years raising near 150 thousand dollars for Ducks Unlimited. Ducks Unlimited, in return, has spent more money in Phillips County than in any other County in Montana. Some of this has been on Bowdoin NWR or within the Bowdoin Wetland Management District (WMD). The Gallatin County Chapter (Bozeman) of Pheasants Forever has been active in providing funds for land acquisition in the Bowdoin WMD. They provided 20 thousand dollars toward the purchase of 965 acres adjoining Bowdoin NWR and Beaver Creek Waterfowl Production Area (WPA) in 2000, and are actively pursuing additional acquisition at present. A Malta Boy Scout Troop, as part of an eagle scout project and with additional funding from the Montana Department of Fish, Wildlife and Parks, constructed a handicapped-accessible wildlife viewing/hunting blind on Pearce WPA in 1995. Several businesses in Malta provided materials or equipment for construction of an interpretive trail around the Headquarters Display Pond in 2001.

12. Map:

Attached are general locality map and a Refuge map with the boundary marked.

13. Bibliography:

Attached are ISS route data sheets for 1996 through 2001. These counts survey only a portion of the Refuge.

Prellwitz, D.M., T.A. Prellwitz, K.L. Stutzman, and J.W. Stutzman. 1989. Piping plovers nesting at Nelson Reservoir, Montana. Prairie Naturalist 21(2):84-86.

Prellwitz, D.M. 1993. Additional mountain plover sightings in Montana. Prairie Naturalist 25(1):23-26.

Prellwitz, D.M., K.E. Erickson, and L.M. Osborne. 1995. Translocation of piping plover nests to prevent nest flooding. Wildlife Society Bulletin 23(1):103-106.

14. Additional information:

Data for this site identification form were collected primarily from an ISS route on the Refuge. This route does not cover all of the shorebird habitat on the Refuge. Sampling of non ISS portion of the Refuge in 2000 - 2001 found that 28-44% of the shorebirds using the Refuge are not being counted by the ISS route (see 4. Biology section).

ISS Route

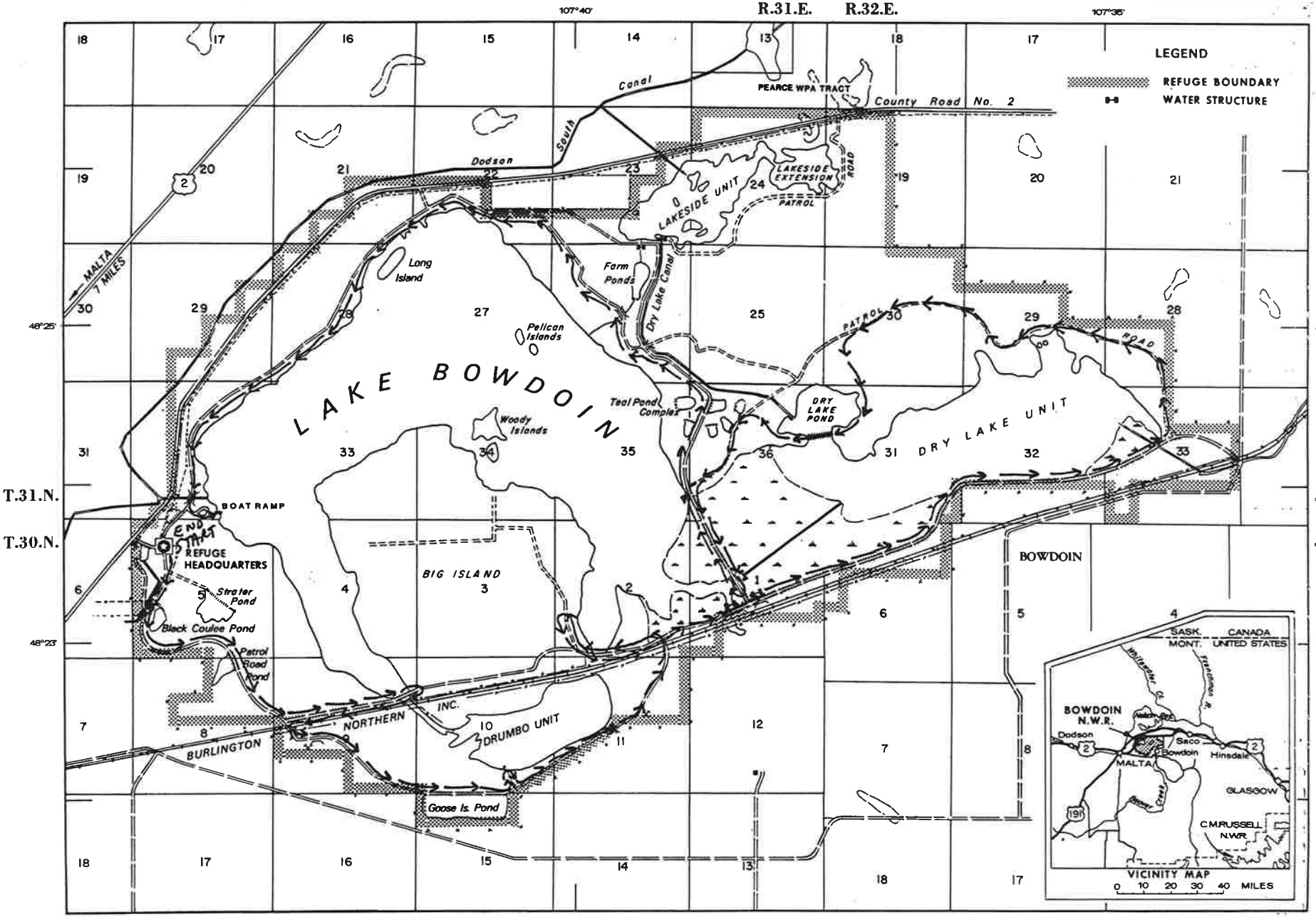
BOWDOIN NATIONAL WILDLIFE REFUGE

1996-2001

PHILLIPS COUNTY, MONTANA

UNITED STATES
DEPARTMENT OF THE INTERIOR

UNITED STATES
FISH AND WILDLIFE SERVICE



COMPILED IN SURVEYS AND MAPS FROM SURVEYS BY THE USGS, STATE OF MONTANA AND FWS

DENVER COLORADO
REVISED: MAY 1992

FEBRUARY, 1977

PRINCIPAL MERIDIAN MONTANA

0 2640 5280 10,560 FEET

0 ½ 1 2 MILES

True North 16° Magnetic N.

MEAN DECLINATION 1975

6R MONT. 195 403

U.S. GOVERNMENT PRINTING OFFICE: 1992—836-840

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 936, Manomet, MA 02345 U.S.A.

PAGE 1

YEAR 1996

NAME Stephen J. Dinsmore CENSUS AREA Bowdoin NWR, MT

ADDRESS 4024 Arkansas Dr. Ames, IA 50014

SITE COOP YR (For office use only.)

DATE	5/17	5/20	5/22	5/23	5/27	5/31	6/12	6/13	6/16	6/18	6/28	7/3	7/5	7/7	7/11	7/18
Piping Plover									1	3	1			1	2	
Semipalmated Plover	5	7													1	2
Killdeer	25	25	14	23	30	11	16	20	40	25	60	22	18	63	47	44
Golden Plover																
Black-bellied Plover	7	4		18			1		1		1	1		1	1	
Ruddy Turnstone																
Whimbrel		7		1												
Spotted Sandpiper	3	4		4	2	4			4	4	4	2	3	10	2	12
Solitary Sandpiper																
Willet	35	40	20	40	35	15	30	35	50	30	75	223	237	146	265	176
Greater Yellowlegs											3	2	1	1	3	6
Lesser Yellowlegs	2			2							13	10	19	17	166	273
Red Knot																
Pectoral Sandpiper				2											1	15
White-rumped Sandpiper	2	4	3	5	1			3	1		2					
Baird's Sandpiper	3	3										3	12	7	21	33
Least Sandpiper	4	15	2	2										6	5	8
Short-billed Dowitcher																
Long-billed Dowitcher	57	76	5	14	7	5		5					5	17	67	85
Stilt Sandpiper	21	31	48	24	45	16		1			2	1		17	220	66
Semipalmated Sandpiper	110	175	65	145	4			1			5	34	31	841	735	1170
Western Sandpiper											1	1	2	1	3	
Marbled Godwit	10	15	10	11	9	4	20	20	60	60	142	592	459	175	327	83
Sanderling	21	42	12	3	13				1							3
Wilson's Phalarope	200	300	70	150	200	100	125	200	200	150	300	485	425	570	325	1600
Peep sp.												1	62			54
Black-necked Stilt	20	4		1	17	4	15	12	34	16	16	11	20	24	20	19
American Avocet	45	50	35	50	137	65	90	135	317	200	225	263	140	220	120	109
Upland Sandpiper	1				1		1	1		1				2		
Long-billed Curlew		3										6				
Buff-breasted Sandpiper																
Common Snipe	1	1			4	4		1	1		2			2		
Red-necked Phalarope	800	1100	33	730					1					2		12
dowitcher sp.																11
DISTURBANCE (see below)																
CENSUS TIME Start																
End																
TIDE (or water level)																

Write in additional species

HUMAN DISTURBANCE: During this census, shorebirds were: A = undisturbed; B = disturbed 1-2 times; C = 3-4 times; D = 6-10 times; E = > 10; X = unknown.

CENSUS TIME: Please give only your times at the shorebird areas, not your travel time.

TIDE (Coastal sites): 1 = high; 2 = almost high and rising; 3 = almost high and falling; 4 = half tide and rising; 5 = half tide and falling; 6 = almost low and rising; 7 = almost low and falling; 8 = low; 9 = not observed.

WATER LEVEL (inland; non-tidal sites): N = normal; H = higher than normal; L = lower than normal; X = not observed.

Please indicate how you derived

INTERNATIONAL SHOREBIRD SURVEYS
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Box 936, Manomet, MA 02345 U.S.A.

PAGE 2

YEAR 1996

NAME Stephen J. Dinsmore CENSUS AREA Bowdoin NWR, MT

ADDRESS 4024 Arkansas Dr. Ames, IA 50014

YR

COOP

SITE (For office use only.)

DATE	7/23	7/26	7/29													
Piping Plover	1	1	1													
Semipalmated Plover	8	1	1													
Killdeer	95	46	37													
Golden Plover																
Black-bellied Plover		1														
Ruddy Turnstone																
Whimbrel																
Spotted Sandpiper	9	12	4													
Solitary Sandpiper																
Willet	148	93	142													
Greater Yellowlegs	16	7	36													
Lesser Yellowlegs	230	106	128													
Red Knot																
Pectoral Sandpiper	30	27	19													
White-rumped Sandpiper																
Baird's Sandpiper	113	51	43													
Least Sandpiper	4	7	3													
Short-billed Dowitcher																
Long-billed Dowitcher	170	212	632													
Stilt Sandpiper	55	164	138													
Semipalmated Sandpiper	172	217	164													
Western Sandpiper																
Marbled Godwit	48	22	296													
Sanderling	27	19	7													
Wilson's Phalarope	1965	1550	2450													
Peep sp.	35															
Black-necked Stilt	33	11	19													
American Avocet	408	240	231													
Upland Sandpiper	2	7														
Long-billed Curlew		1	191													
Hudsonian Godwit			7													
Buff-breasted Sandpiper			1													
Red-necked Phalarope	285		2													
DISTURBANCE (see below)																
CENSUS TIME Start																
End																
TIDE (or water level)																

Write in additional species

HUMAN DISTURBANCE: During this census, shorebirds were: A = undisturbed; B = disturbed 1-2 times; C = 3-4 times; D = 6-10 times; E = > 10; X = unknown.

CENSUS TIME: Please give only your times at the shorebird areas, not your travel time.

TIDE (Coastal sites): 1 = high; 2 = almost high and rising; 3 = almost high and falling; 4 = half tide and rising; 5 = half tide and falling; 6 = almost low and rising; 7 = almost low and falling; 8 = low; 9 = not observed.

WATER LEVEL (inland; non-tidal sites): N = normal; H = higher than normal; L = lower than normal; X = not observed.

Please indicate how you [illegible]

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Page 1

Year 1997

Name: Lou Haneburg

Census Area Bowdoin NWR

Address HC 65 Box 5700 Malta, Montana 59538
(Please include state in census area if different from mailing address)

All actual counts unless marked * with Dinsmore

(Address needed only on pg. 1)

DATE (mm/dd)-->	5/6	5/14	5/24	5/29	6/5	6/19	6/27	7/3	7/18	7/22	7/28	8/14	8/12	8/19
Black-bellied Plover		47		2	2					1	1	2	1	-
Lr. Golden Plover														-
Snowy Plover														-
Wilson's Plover														-
Semipalmated Plover		10					7			1	12		4	9
Piping Plover	1								1	—				-
Killdeer	14	10			38	23	12	25		0	108	172	61	1
Am. Oystercatcher														
Black-necked Stilt	80	79		50	37	63	79	72		0	30	48	45	25
Am. Avocet	150	425		262	305	305	294	261		0	192	165	94	122
Greater Yellowlegs									2	0	8	2	—	6
Lesser Yellowlegs	23	2				2	29	89		0	133	34	25	9
Yellowlegs, unident.														
Solitary Sandpiper	1	1								1				-
Willet	43	41		50	21	80	108	64		0	55	24	2	3
Spotted Sandpiper	2	3		8	3	5	2	8		0	6	2	3	2
Upland Sandpiper	—	1									1	—	+	-
Whimbrel	1	+											—	-
Long-billed Curlew	1	2			2	1	1	1		0	106	166	—	-
Hudsonian Godwit										1			—	-
Marbled Godwit	142	25		27	28	42	349	504		0	168	109	15	17
Ruddy Turnstone			1										—	-
Black Turnstone													—	-
Surfbird													—	-
Red Knot											3		—	-
Sanderling	10		30							0	13		—	-
Semipalmated Sandp.	273	40		120				54		0	149	30	8	9
Western Sandpiper										0	14	2	12	23
Least Sandpiper	10									0	7		26	29
Wh.-rumped Sandp.				14		4							—	-
Baird's Sandpiper						2		2		0	284	114	21	58
Pectoral Sandpiper											71		1	1
Dunlin													—	1
Stilt Sandpiper		6		12						0	572	10	1	-
Buff-br. Sandpiper											1			-
Short-bill. Dowitcher	—			7										28
Long-bill. Dowitcher	166	51		13						0	484	178	25	—
Dowitcher, unident.														-
Common Snipe	2	2											—	-
Am. Woodcock														-
Wilson's Phalarope	154	916	*	117	50	1,020 *	1,418 *	695 *		0	2780 *	1160 *	246 *	405
Red-Neck. Phalar.		3840	6000+	17	0			—			1		-	115
Red Phalarope														-
add others below Peep	100	51					12	100				208	521	114
~~Black-necked Stilt~~														
~~American Avocet~~														
~~Upland Sandpiper~~														
~~Long-billed Curlew~~														
~~Buff-breasted Sandpiper~~														
~~Common Snipe~~														
~~Red-necked Phalarope~~														
Disturbance-see below	A	A		A	A	A	A	A	A	A	A	A	A	A
Census time, start	1030	1045		1130	0830	0930	0845	1020		0950		10:30	0845	1000
, end	1300	1545		1500	1130	1430	1315	1310		1310		1330	1315	1315
Tide (or water level)	Low	Low	Low	Low	Low	Low	Low	Low		Low	Low	Low	Low	

Human disturbance: During this census, shorebirds were:
A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, ?=unknown

TIDE (coastal sites): 1=High, 2=near high/RISING, 3=near high/FALLING, 4=mid/RISING

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Page 2
Year 1997

Name: Lou Haneburg
Census Area Bowdoin NWR
(Please include state in census area if different from mailing address)
Address HC 65 Box 5700 Malta, Montana 59538

All actual counts unless otherwise noted

(Address needed only on pg. 1)

DATE (mm/dd)-->	8/25	9/2	9/15	10/2	10/20									
Black-bellied Plover		3	2	23*	7*									
Lr. Golden Plover														
Snowy Plover														
Wilson's Plover														
Semipalmated Plover		17		2*										
Piping Plover														
Killdeer	5	4		4*										
Am. Oystercatcher														
Black-necked Stilt	11	2	6											
Am. Avocet	53	35	22	3*										
Greater Yellowlegs	6	2	11	28*	10*									
Lesser Yellowlegs	87	20	8	17*	5*									
Yellowlegs, unident.														
Solitary Sandpiper														
Willet	27													
Spotted Sandpiper	2	1												
Upland Sandpiper														
Whimbrel														
Long-billed Curlew														
Hudsonian Godwit														
Marbled Godwit	50		1											
Ruddy Turnstone														
Black Turnstone														
Surfbird														
Red Knot														
Sanderling		9												
Semipalmated Sandp.	12	16												
Western Sandpiper	49	24												
Least Sandpiper		8												
Wh.-rumped Sandp.	8	4												
Baird's Sandpiper	24	25		10*										
Pectoral Sandpiper														
Dunlin														
Stilt Sandpiper	13													
Buff-br. Sandpiper														
Short-bill. Dowitcher														
Long-bill. Dowitcher														
Dowitcher, unident.														
Common Snipe														
Am. Woodcock														
Wilson's Phalarope	896	174												
Red-Neck. Phalar.	70													
Red Phalarope														
add others below Peep	76	10	1											
Disturbance-see below	A	A	A	A	A									
Census time, start	0945	1005	11:15	1040	1015									
, end	1245	1305	1346	1240	1230									
Tide (or water level)	Low	Low	Low	Low	Low									

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TIDE (coastal sites): 1=High, 2=near High/RISING, 3=near High/FALLING, 4=half/RISING
5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown.

WATER LEVEL: (non-tidal sites): N=normal, H=higher than normal, L=lower than normal, X=not observed

30 SPECIES

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Page 1

Year 1998

Name: STEVE DINSMORE

Census Area BOWDOIN NWR

(Please include state in census area if different from mailing address)

Address FT. COLLINS, CO

TRANSFERRED TO DATA SHEET BY FRITZ PRELLWITZ ON 10 FEB 2000.

(Address needed only on pg. 1)

DATE (mn/dd)-->	5/20	5/22	5/25	6/02	6/05	6/07	6/08	6/14	6/16	6/17	6/20	6/25	6/28	7/03
✓ Black-bellied Plover	10	3	21	13	4	1	4	2	0	0	0	1	1	0
✓ Lr. Golden Plover	0	0	1	0	0	0	0	0	0	0	0	0	0	0
✓ Snowy Plover	0	0	0	0	1	0	0	2	0	0	0	0	0	0
Wilson's Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Semipalmated Plover	0	3	0	0	0	0	1	0	1	0	0	0	0	0
✓ Piping Plover	0	0	0	0	1	0	0	0	0	0	0	0	0	0
✓ Killdeer	16	19	38	27	33	20	27	24	29	18	36	23	36	40
Am. Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Black-necked Stilt	10	18	26	27	27	17	27	40	54	31	54	35	54	38
✓ Am. Avocet	316	372	251	252	220	199	245	211	285	140	157	266	337	109
✓ Greater Yellowlegs	0	0	0	0	0	0	0	1	2	0	1	2	4	6
✓ Lesser Yellowlegs	0	0	0	0	0	0	0	3	7	0	7	6	11	10
Yellowlegs, unident.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solitary Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Willet	48	28	22	28	39	15	23	39	42	44	42	227	122	108
✓ Spotted Sandpiper	6	8	2	7	4	9	8	3	6	1	4	2	5	13
✓ Upland Sandpiper	0	0	0	2	1	0	0	0	1	0	1	7	1	1
Whimbrel	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Long-billed Curlew	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Hudsonian Godwit	0	0	0	0	0	0	0	1	0	0	0	0	0	0
✓ Marbled Godwit	13	10	5	12	28	29	17	29	21	44	18	45	223	221
✓ Ruddy Turnstone	0	0	0	0	0	0	0	0	0	0	0	0	0	0
~~Black Turnstone~~	~~0~~													
~~Surfbird~~	~~0~~													
✓ Red Knot	0	1	0	0	0	0	0	0	0	0	0	0	0	0
✓ Sanderling	4	27	22	0	11	8	7	0	0	0	1	0	0	0
✓ Semipalmated Sandp.	3	37	48	13	11	8	0	0	1	6	2	0	10	35
✓ Western Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Least Sandpiper	2	0	1	0	0	0	0	0	0	0	2	0	0	2
✓ Wh.-rumped Sandp.	0	6	9	0	4	0	1	0	0	0	0	0	0	0
✓ Baird's Sandpiper	4	2	0	2	4	0	1	0	0	0	0	0	0	3
✓ Pectoral Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PUSA Dunlin	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Stilt Sandpiper	65	37	1	3	0	0	0	0	2	0	1	0	0	2
Buff-br. Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Short-bill. Dowitcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Long-bill. Dowitcher	9	0	0	0	0	0	0	0	0	0	0	0	0	0
Dowitcher, unident.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Common Snipe	0	1	0	0	2	1	2	1	1	0	0	2	1	2
Am. Woodcock	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Wilson's Phalarope	280	202	131	120	453	257	300	313	542	324	185	639	263	88
✓ Red-Neck. Phalar.	26	423	244	48	102	56	46	31	29	6	17	1	3	16
Red Phalarope	0	0	0	0	0	0	0	0	0	0	0	0	0	0
add others below MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEEP	2	0	5	2	0	0	1	0	0	0	0	0	0	2
Disturbance-see below														
Census time, start														
, end														
Tide (or water level)														

Human disturbance: During this census, shorebirds were:

A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, X=unknown

TIDE (coastal sites): 1=high, 2=near high/RISING, 3=near high/FALLING, 4=half/RISING

5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown.

WATER LEVEL: (non-tidal sites): N=normal, H=higher than normal, L=lower than normal, X=not observed

ACCURACY: Please indicate in each block whether your count is:

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Page 2

Year 1998

Name: S. DINSMORE

Census Area BOWDOIN, CONTINUED

(Please include state in census area if different from mailing address)

Address

(Address needed only on pg. 1)

DATE (mm/dd)-->	7/10	7/12	7/18	7/23	7/26	7/30	8/02	8/05
Black-bellied Plover	0	0	1	3	11	4	1	1
Lr. Golden Plover	0	0	0	0	0	0	1	0
Snowy Plover	0	0	0	0	0	0	0	0
Wilson's Plover	0	0	0	0	0	0	0	0
Semipalmated Plover	1	0	6	39	24	32	10	55
Piping Plover	0	0	3	0	0	1	1	0
Killdeer	67	75	188	101	87	150	74	54
Am. Oystercatcher	0	0	0	0	0	0	0	0
Black-necked Stilt	61	102	100	73	53	32	28	20
Am. Avocet	178	312	304	21	333	333	362	335
Greater Yellowlegs	16	9	20	12	17	17	7	16
Lesser Yellowlegs	644	301	209	97	218	78	108	109
Yellowlegs, unident.	0	0	0	0	0	0	0	0
Solitary Sandpiper	0	0	0	0	0	0	0	0
Willet	279	144	138	38	96	66	66	34
Spotted Sandpiper	6	13	18	2	24	5	6	6
Upland Sandpiper	0	0	2	0	1	1	3	0
Whimbrel	0	0	0	0	0	0	0	0
Long-billed Curlew	0	0	6	2	165	3	0	35
Hudsonian Godwit	0	0	0	0	1	0	1	0
Marbled Godwit	400	572	165	361	393	101	153	65
Ruddy Turnstone	0	0	0	1	0	2	2	0
Black Turnstone								
Surfbird								
Red Knot	0	0	3	1	0	0	0	0
Sanderling	0	1	21	6	45	32	15	4
Semipalmated Sandp.	109	401	531	179	1055	389	863	568
Western Sandpiper	0	0	8	4	3	2	10	2
Least Sandpiper	12	30	13	11	10	22	14	22
Wh.-rumped Sandp.	0	0	0	0	0	0	0	0
Baird's Sandpiper	3	31	65	18	177	244	110	76
Pectoral Sandpiper	1	1	6	4	28	1	0	3
Dunlin	0	0	0	0	0	0	0	0
Stilt Sandpiper	102	264	480	242	1482	67	418	317
Buff-br. Sandpiper	0	0	0	0	0	0	0	0
Short-bill. Dowitcher	0	0	0	0	0	0	0	0
Long-bill. Dowitcher	132	230	513	619	883	1081	904	408
Dowitcher, unident.	0	0	0	0	0	0	0	0
Common Snipe	3	0	0	0	0	0	0	0
Am. Woodcock	0	0	0	0	0	0	0	0
Wilson's Phalarope	388	438	920	166	2180	1871	2176	1070
Red-Neck. Phalar.	12	167	49	0	17	9	18	0
Red Phalarope	0	0	0	0	0	0	0	0
add others below MISC	0	0	0	0	0	0	0	0
PEEP	30	1	0	10	3	1	0	15
Disturbance-see below								
Census time, start								
, end								
Tide (or water level)								

POSS

Human disturbance: During this census, shorebirds were:

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5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Page 1

Year 1999

Name: STEVE DINSMORE

Census Area: BOWDOIN NWR
(Please include state in census area if different from mailing address)

Address: FT. COLLINS, CO

✓ WKEND
(Address needed only on pg. 1)

DATE (mm/dd)-->	5/19	5/20	5/27	5/29	5/30	5/31	6/4	6/22	7/3	7/10	7/12	7/14	7/20	7/22
✓ Black-bellied Plover	7	4	6	5	60	24	2	0	0	0	0	0	0	0
Lr. Golden Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Snowy Plover	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wilson's Plover														
✓ Semipalmated Plover	0	11	0	1	2	0	0	0	0	0	0	7	8	4
✓ Piping Plover	0	2	0	2	0	0	0	0	0	4	3	4	0	0
✓ Killdeer	21	23	28	46	32	41	41	49	45	36	63	44	25	53
Am. Oystercatcher	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Black-necked Stilt	28	56	63	37	69	57	47	64	60	53	41	50	20	45
✓ Am. Avocet	243	247	236	224	293	288	203	187	181	81	54	198	13	396
✓ Greater Yellowlegs	0	0	0	0	0	0	0	2	3	5	4	6	4	5
✓ Lesser Yellowlegs	0	0	0	0	1	3	0	28	119	126	163	191	117	156
Yellowlegs, unident.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Solitary Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	2	1
✓ Willet	52	33	30	31	52	49	15	130	280	288	220	197	152	237
✓ Spotted Sandpiper	2	1	1	1	5	5	5	1	3	5	3	2	2	2
✓ Upland Sandpiper	0	2	1	1	0	3	0	0	1	0	0	0	0	0
✓ Whimbrel	0	0	0	0	1	0	0	0	0	0	0	0	0	0
✓ Long-billed Curlew	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Hudsonian Godwit	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Marbled Godwit	8	10	11	8	16	27	13	94	167	492	482	92	661	254
✓ Ruddy Turnstone	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Black Turnstone														
Surfbird														
✓ Red Knot	0	0	0	0	0	0	0	0	0	0	0	0	1	0
✓ Sanderling	23	1	32	24	72	47	3	0	0	1	0	0	1	0
✓ Semipalmated Sandp.	73	68	16	37	18	37	8	0	4	1	77	307	421	94
✓ Western Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Least Sandpiper	0	0	0	7	3	2	0	0	1	4	1	7	6	2
✓ Wh.-rumped Sandp.	0	0	4	3	12	18	24	0	0	0	0	0	0	0
✓ Baird's Sandpiper	2	1	0	2	0	0	0	0	8	28	10	8	34	15
Pectoral Sandpiper	0	1	1	0	0	0	1	0	0	0	0	0	1	0
Dunlin	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Stilt Sandpiper	40	30	17	13	22	13	7	0	0	20	3	62	616	329
Buff-br. Sandpiper	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Short-bill. Dowitcher	0	0	0	0	0	0	0	0	0	0	0	1	0	0
✓ Long-bill. Dowitcher	180	184	2	0	0	0	0	0	0	17	12	161	160	87
Dowitcher, unident.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
✓ Common Snipe	0	7	1	0	6	0	1	1	2	2	0	2	0	0
Am. Woodcock														
✓ Wilson's Phalarope	1199	290	225	334	437	306	198	1089	1694	726	821	929	454	4744
✓ Red-Neck. Phalar.	804	609	9	15	21	32	3	0	7	8	19	11	0	2
Red Phalarope														
add others below MISC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERP	17	25	0	0	0	4	0	0	6	56	33	0	0	100
PURPLE SAND PIPER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Disturbance-see below														
Census time, start														
, end														
Tide (or water level)														

30 SPP

Human disturbance: During this census, shorebirds were:
A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, X=unknown

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5=mid/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown.

WATER LEVEL: (non-tidal sites): N=normal, H=higher than normal, L=lower than normal, X=not observed

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Page 2

Year 1999

Name: STEVE DINSMORE

Census Area BOWDOIN, CONTINUED

(Please include state in census area if different from mailing address)

Address

(Address needed only on pg. 1)	✓	✓		✓											
DATE (mm/dd)-->	7/24	8/1	8/3	8/7											
Black-bellied Plover	0	0	1	3											
Lr. Golden Plover	0	0	0	0											
Snowy Plover	0	0	0	0											
Wilson's Plover															
Semipalmated Plover	4	22	7	3											
Piping Plover	1	0	0	0											
Killdeer	37	38	33	57											
Am. Oystercatcher	0	0	0	0											
Black-necked Stilt	55	86	51	21											
Am. Avocet	699	636	189	61											
Greater Yellowlegs	12	9	14	6											
Lesser Yellowlegs	169	195	204	177											
Yellowlegs, unident.	0	0	0	0											
Solitary Sandpiper	0	0	1	0											
Willet	287	141	161	123											
Spotted Sandpiper	9	1	0	0											
Upland Sandpiper	1	0	1	0											
Whimbrel	0	0	0	0											
Long-billed Curlew	8	4	59	0											
Hudsonian Godwit	1	0	0	0											
Marbled Godwit	242	531	33	7											
Ruddy Turnstone	0	0	0	0											
Black Turnstone															
Surfbird															
Red Knot	0	0	0	2											
Sanderling	7	7	4	6											
Semipalmated Sandp.	788	462	40	51											
Western Sandpiper	1	0	1	0											
Least Sandpiper	2	10	6	7											
Wh.-rumped Sandp.	0	0	0	0											
Baird's Sandpiper	122	349	12	69											
Pectoral Sandpiper	0	1	28	3											
Dunlin	0	0	0	0											
Stilt Sandpiper	1803	930	3	2											
Buff-br. Sandpiper	0	0	0	0											
Short-bill. Dowitcher	0	0	0	0											
Long-bill. Dowitcher	282	554	221	334											
Dowitcher, unident.	0	0	0	0											
Common Snipe	0	2	1	0											
Am. Woodcock															
Wilson's Phalarope	10994	13826	1935	750											
Red-Neck. Phalar.	2	61	0	0											
Red Phalarope															
add others below MISC.	0	0	0	0											
PETP	115	225	0	0											
PURPLE SANDPIPER	0	0	0	0											
TOTAL		18090													
Disturbance-see below															
Census time, start															
, end															
Tide (or water level)															

Human disturbance: During this census, shorebirds were:

A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, X=unknown

TIDE (coastal sites): 1=high, 2=near high/RISING, 3=near high/FALLING, 4=half/RISING, 5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown.

WATER LEVEL: (non-tidal sites): N=normal, H=higher than normal, L=lower than normal, X=not observed

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Year 2000

Name: DWAIN M. PRELLWITZ

Census Area BOWDOIN NWR

(Please include state in census area if different from mailing address)

Address _____

(Address needed only on pg. 1)

DATE (mm/dd)-->	06/07	06/14	06/21	06/28	07/05	07/12	07/19	07/26	08/02	08/09	08/16	08/23	08/30	09/06
✓ Black-bellied Plover										8	3		2	
✓ Lr. Golden Plover														
Snowy Plover														
Wilson's Plover														
✓ Semipalmated Plover							2	1	2	7	1	6	16	4
Piping Plover														
✓ Killdeer	20	21	27	28	19	21	16	62	73	34	18	26	71	4
Am. Oystercatcher														
✓ Black-necked Stilt	75	57	49	57	51	48	39	45	66	46	10	8		
✓ Am. Avocet	193	210	191	106	166	142	91	36	84	63	21	44		41
✓ Greater Yellowlegs			1	1	5	3	11	6		1		11	10	
✓ Lesser Yellowlegs			2	17	40	111	259	137	134	80	82	261	260	404
Yellowlegs, unident.														
✓ Solitary Sandpiper											1			
✓ Willet	67	85	412	427	411	321	114	77	63	17	29	6	3	2
✓ Spotted Sandpiper			1	2	9	2	3		2	2	1			
✓ Upland Sandpiper	1	2	1		2	4	2	5						
Whimbrel														
✓ Long-billed Curlew							16	112	384	299	100	15		
Hudsonian Godwit														
✓ Marbled Godwit	28	34	64	377	417	146	200	30	46	11	3	52	9	8
Ruddy Turnstone														
Black Turnstone														
Surfbird														
Red Knot														
✓ Sanderling														
✓ Semipalmated Sandp.	4				47	90	366	49	444	258	381	831	701	152
✓ Western Sandpiper		1				2								
✓ Least Sandpiper												30	19	53
Wh.-rumped Sandp.														
✓ Baird's Sandpiper							17		4		3	189	244	127
✓ Pectoral Sandpiper								3	1					
✓ Dunlin							1							
✓ Stilt Sandpiper							6	4					237	129
✓ Buff-br. Sandpiper														
Short-bill. Dowitcher														
✓ Long-bill. Dowitcher						75	118	419	152	121	21	611	165	544
Dowitcher, unident.														
✓ Common Snipe			1	1									6	
Am. Woodcock														
✓ Wilson's Phalarope	777	780	500	316	692	894	1541	2191	2335	1408	1826	756	332	144
✓ Red-Neck. Phalar.								60					296	
Red Phalarope														
add others below														
TOTAL	1165	1140	1249	1332	1859	1859	2802	3237	3790	2355	2500	2846	2371	1612
TEMP °F	66-85	68-75	51-75	50-78	57-75	56-90	62-70	75-90	75-95	68-95	63-85	55-95	53	52-75
WIND	0	NW-18	WNW 8-20	0	NW-02	0	NE-08	0	W-12	W-02	NW-15	N-02	NW-10	0
% CLOUD COVER	10	70	0	30	15	0	30-90	35	15	0	95	95 smoke	100	70
Disturbance-see below	A	B	B	B	B	B	A	A	A	A	A	A	A	A
Census time, start	0940	0955	0955	1000	0905	0940	0930	0900	1030	1020	0745	1100	1010	1050
, end	1400	1435	1418	1430	1350	1440	1445	1425	1455	1415	1130	1425	1434	1435
Tide (or water level)		Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	V.Low	V.Low	V.Low

Human disturbance: During this census, shorebirds were: HAIL DAMAGE

A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, X=unknown

TIDE (coastal sites): 1=High, 2=near high/RISING, 3=near high/FALLING, 4=half/RISING

5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=Low, 9=unknown

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

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Year 2000

Name: DWAIN M. PRELWITZ

Census Area BOWDOIN NWR

(Please include state in census area if different from mailing address)

Address _____

(Address needed only on pg. 1)

DATE (mm/dd)-->	09/13	09/20	09/27	10/04	10/11	10/18	10/25	11/01						
Black-bellied Plover	20	5	28	34	8	29								
Lr. Golden Plover						2								
Snowy Plover														
Wilson's Plover														
Semipalmated Plover	18													
Piping Plover														
Killdeer	7	1	7	3	6									
Am. Oystercatcher														
Black-necked Stilt														
Am. Avocet	1			8										
Greater Yellowlegs	10	4	15	25	35	43	10							
Lesser Yellowlegs	263	124	115	44	10	7								
Yellowlegs, unident.														
Solitary Sandpiper														
Willet	1													
Spotted Sandpiper														
Upland Sandpiper														
Whimbrel														
Long-billed Curlew														
Hudsonian Godwit														
Marbled Godwit	21	2	6											
Ruddy Turnstone														
Black Turnstone														
Surfbird														
Red Knot														
Sanderling			28		10	9								
Semipalmated Sandp.														
Western Sandpiper														
Least Sandpiper			4	2										
Wh.-rumped Sandp.														
Baird's Sandpiper	114	56	43											
Pectoral Sandpiper		4	5	3		1								
Dunlin														
Stilt Sandpiper	3													
Buff-br. Sandpiper	1													
Short-bill. Dowitcher														
Long-bill. Dowitcher	484	67	66	103	115	31	17							
Dowitcher, unident.														
Common Snipe		1												
Am. Woodcock														
Wilson's Phalarope	6													
Red-Neck. Phalar.														
Red Phalarope														
add others below														
TOTAL	949	264	317	222	184	122	27	0						
Temp. °F	60-72	38	55-75	40-50	46-58	47-72	39-45	37						
WIND	0	NW-05	SW-03	NW-08	NW-18	0	NW-03	W-03						
% CLOUD COVER	85	10	0	70	65-85	10	95	85						
					HUNTING SEASON	HUNTING SEASON	HUNTING SEASON	HUNTING SEASON						
Disturbance-see below	A	A	A	A	B	B	B	B						
Census time, start	0940	1138	1112	0955	0958	1003	1015	1013						
, end	1355	1455-1430	1432	1408	1410	1408	1412	1358						
Tide (or water level)	V. Low	V. Low	Low	Low	Low	Low	Low	Low						

Human disturbance: During this census, shorebirds were:

A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, X=unknown

TIDE (coastal sites): 1=high, 2=near high/RISING, 3=near high/FALLING, 4=half/RISING

5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=at LOW, 9=no data

INTERNATIONAL SHOREBIRD SURVEYS
c/o Manomet Bird Observatory
Box 1770, Manomet, MA USA 02345

Year 2001

Name: OWAIN M. PRELLWITZ

Census Area BOWDOIN NWR

(Please include state in census area if different from mailing address)

Address _____

27 SPECIES

(Address needed only on pg. 1)

DATE (mm/dd)-->	04/11	04/18	04/25	05/02	05/09	05/16	05/23	05/30	06/06	06/13	06/20	06/27	07/03	07/11
✓ Black-bellied Plover									6	2	1	2		2
✓ Lr. Golden Plover (PACIFIC)														
Snowy Plover														
Wilson's Plover														
✓ Semipalmated Plover														
Piping Plover														
✓ Killdeer	4	12	10	6					17	18	15	22	6	13
Am. Oystercatcher														
✓ Black-necked Stilt		2	88	99					65	28	44	24	13	20
✓ Am. Avocet	2	94	350	602					311	383	478	333	218	224
✓ Greater Yellowlegs		2		1									2	3
✓ Lesser Yellowlegs		6		47							4	11	103	575
Yellowlegs, unident.														
✓ Solitary Sandpiper														
✓ Willet		7	50	200					146	28	328	168	1288	697
✓ Spotted Sandpiper									1	2	3	1		
✓ Upland Sandpiper										2				3
✓ Whimbrel				2									1	
✓ Long-billed Curlew									2					
Hudsonian Godwit														
✓ Marbled Godwit		1	83	71					43	35	320	200	1610	1564
Ruddy Turnstone														
Black Turnstone														
Surfbird														
✓ Red Knot														
✓ Sanderling									20					
✓ Semipalmated Sandp.				186					49	18	4			110
✓ Western Sandpiper														
✓ Least Sandpiper				4										
✓ Wh.-rumped Sandp.														
✓ Baird's Sandpiper									4					
✓ Pectoral Sandpiper														
Dunlin														
✓ Stilt Sandpiper														
Buff-br. Sandpiper														
Short-bill. Dowitcher														
✓ Long-bill. Dowitcher				6										9
Dowitcher, unident.														
Common Snipe														
Am. Woodcock														
✓ Wilson's Phalarope				170					193	621	3721	6206	763	2657
✓ Red-Neck. Phalar.														
Red Phalarope														
add others below														
TOTAL	6	124	581	1394					857	1137	4918	6967	4004	5877
Temp, °F	42	67	72	56					50	62	80	67	85	85
WIND	NW-10	W-02	WNW-19	NW-08					W-03	0	SW-03	E-03	E-05	W-03
Cloud cover %	30	10	30	25					100	100	70	100	10	100
									SPRINKLES LT. RN.			LATE RAIN		
Disturbance-see below	A	A	A	A					A	A	A	A	A	A
Census time, start	1055	1000	1058	1030					1005	1005	0955	0955	1002	0953
, end	1233/330	1346	1405	1348					1434	1440	1433	1422	1405	1453
Tide (or water level)	Low	Low	Low	Low					V. Low	V. low	V. Low	V. Low	V. Low	V. Low

Human disturbance: During this census, shorebirds were:

A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, X=unknown

TIDE (coastal sites):

1=high, 2=near high/RISING, 3=near high/FALLING, 4=half/RISING

5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown.

WATER LEVEL:

INTERNATIONAL SHOREBIRD SURVEYS
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DATE (mm/dd)-->	07/18	07/25	08/01	08/08	08/15	08/22	08/29	09/05	09/12	09/19	09/26	10/03	10/10	10/17	10/24	10/31
Black-bellied Plover	2		1	5	5	2			11	20	6	24	3		18	13
Lr. Golden Plover (Pacific)															1	1
Snowy Plover																
Wilson's Plover																
Semipalmated Plover		8	5		2	5	12		6							
Piping Plover																
Killdeer	11	34	22	45	23	33	19	4	18	5	22	26	19		14	
Am. Oystercatcher																
Black-necked Stilt	14	10	6	2	8	4										
Am. Avocet	229	96	41	69	37	22	26	33	9	18	23	3				
Greater Yellowlegs	4	4	3	2	4	5	5	4	19	13	19	28	83	103	35	60
Lesser Yellowlegs	701	480	387	436	325	246	207	397	359	513	308	290	79	55	47	
Yellowlegs, unident.																
Solitary Sandpiper			1	1	1											
Willet	485	156	94	99	18	14	2	9								
Spotted Sandpiper			1	2		1										
Upland Sandpiper		1	1													
Whimbrel																
Long-billed Curlew	4	2		3												
Hudsonian Godwit																
Marbled Godwit	1351	125	90	57	25	38	13	22	7	16	13	1				
Ruddy Turnstone																
Black Turnstone																
Surfbird																
Red Knot			3													
Sanderling									5	3	1	2	2			
Semipalmated Sandp.	442	173	516	726	941	1280	1256	2261	150			45	1			
Western Sandpiper	3															
Least Sandpiper		12	3	12	14	14	244	13				6	2			
Wh.-rumped Sandp.							1									
Baird's Sandpiper	152	371	669	61	259	840	920	915	386	165	227	1	96			
Pectoral Sandpiper			1	3	2			5	42	154	10	6	32	14	11	146
Dunlin																
Stilt Sandpiper		100	188	38	1	14	145	456	514	668	32	2	20			
Buff-br. Sandpiper																
Short-bill. Dowitcher																
Long-bill. Dowitcher	70	752	535	463	590	740	1727	1125	1068	1535	1050	754	934	471	152	131
Dowitcher, unident.																
Common Snipe																
Am. Woodcock																
Wilson's Phalarope	4366	5357	3718	3560	4341	2893	2218	1121	76							
Red-Neck. Phalar.	3															
Red Phalarope																
add others below																
TOTAL	7837	7681	6285	5584	6596	6151	6795	6365	2670	3110	1711	1188	1271	643	278	351
TEMP °F	80	85	80	73	60	73-95	64-78	62-86	53-70	77	64-84	44-60	55	54	30	63
WIND	SW-03	0	W-02	NW-28	0	SE-02	NW-03	NW-10	E-15	NW-20	SE-13	NNW-18	NW 03-10	NW 26-40	0	W 0-20
Cloud Cover %	20	0	15	0	20	10	95	70	90	20	15	80	0	60	100	30
	AIRBOAT															
Disturbance-see below	B	A	A	A	A	A	A	A	A	A	A	A	A	B	B	B
Census time, start	1000	0709	0918	1014	0611	1030	0821	1016	0843	1200	0955	1009	1200	0958	1003	1026
, end	1450	1140	1439	1420	1017	1440	1350	1417	1326	1539+1	1343	1345	1440+30	1329	1302+30	1400
Tide (or water level)	V. Low	V. Low	V. Low	V. Low	V. Low	V. Low	V. Low	V. Low	V. Low	V. Low	V. Low	V.V. Low	V.V. Low	V.V. Low	V. Low	V. Low

Human disturbance: During this census, shorebirds were:
A=undisturbed, B=disturbed 1-2 times, C=3-4 times, D=5-10 times, E=>10 times, X=unknown

TIDE (coastal sites):
1=high, 2=near high/RISING, 3=near high/FALLING, 4=half/RISING
5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown.

WATER LEVEL:

HUNTING SEASON HUNTING SEASON

INTERNATIONAL SHOREBIRD SURVEYS
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Year 2001

Name: DWAIN M. PRELLWITZ

Census Area BOWDOIN NWR

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DATE (mm/dd)-->	11/07	11/14	11/21	11/28	12/05									
Black-bellied Plover														
Lr. Golden Plover														
Snowy Plover														
Wilson's Plover														
Semipalmated Plover														
Piping Plover														
Killdeer														
Am. Oystercatcher														
Black-necked Stilt														
Am. Avocet														
Greater Yellowlegs	19	2												
Lesser Yellowlegs														
Yellowlegs, unident.														
Solitary Sandpiper														
Willet														
Spotted Sandpiper														
Upland Sandpiper														
Whimbrel														
Long-billed Curlew														
Hudsonian Godwit														
Marbled Godwit														
Ruddy Turnstone														
Black Turnstone														
Surfbird														
Red Knot														
Sanderling														
Semipalmated Sandp.														
Western Sandpiper														
Least Sandpiper														
Wh.-rumped Sandp.														
Baird's Sandpiper														
Pectoral Sandpiper														
Dunlin														
Stilt Sandpiper														
Buff-br. Sandpiper														
Short-bill. Dowitcher														
Long-bill. Dowitcher														
Dowitcher, unident.														
Common Snipe														
Am. Woodcock														
Wilson's Phalarope														
Red-Neck. Phalar.														
Red Phalarope														
add others below														
TOTAL	19	2												
TEMP °F	39-47	29-67												
WIND	NNW-18	N-10												
CLOUD Cover %	60	100												
Disturbance-see below	A	A												
Census time, start	1018	1037												
, end	1330	1345												
Tide (or water level)	V. LOW	V. LOW												

Human disturbance: During this census, shorebirds were:

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TIDE (coastal sites): 1=high, 2=near high/RISING, 3=near high/FALLING, 4=half/RISING

5=half/FALLING, 6=near low/RISING, 7=near low/FALLING, 8=LOW, 9=unknown.

WATER LEVEL: (non-tidal sites): Measured, Higher than normal, Lower than normal, Very low