

CENTRAL FLYWAY DUCK BANDING PROJECT

ANNUAL PROGRESS REPORT, 2000

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The Central Flyway Council (CFC) initiated a six year duck banding program in 1996 with emphasis on mallard banding in North Dakota, South Dakota, Montana, and Wyoming. Several banding reference areas in the Dakotas, Montana, and Wyoming have little or no banding data on which to base current and future management decisions. This banding program is designed to improve our knowledge of mallards and other duck species from these important production areas.

The objective is to band a minimum of 6,500 adult female mallards per year. Bandings of immatures and adult male mallards are expected to be adequate if the adult female objective is achieved.

Trapping and banding procedures in 2000 closely followed those of previous years, though fewer rocket netting attempts were made. Banding locations were also similar to previous years except that drought conditions curtailed banding in Montana in 2000. This banding station was moved to southwestern North Dakota (Bowman and Slope Counties).

A total of 12 banding crews were in the field this summer. Four banding crews were completely funded by the CFC and were located as follows: southwest North Dakota (Bowman and Slope Counties), central North Dakota (Long Lake NWR, Burleigh County), central South Dakota (Hand County), and northeast Wyoming (Carter County, Montana; Campbell and Crook Counties, Wyoming; Butte County, South Dakota). The crew funded by Ducks Unlimited, Inc. (DU) worked in west-central North Dakota (Lake Ilo NWR, Dunn County). The Northern Prairie Wildlife Research Center (NPWRC) crew was partially funded by the CFC and operated in east-central North Dakota (Stutsman County). The US Fish and Wildlife Service funded banding operations on the following national wildlife refuges (NWR) and one wetland management district (WMD): North Dakota - J. Clark Salyer NWR, Devils Lake WMD; South Dakota - Sand Lake NWR, Lake Andes NWR, LaCreek NWR; Montana - Medicine Lake NWR and Bowdoin NWR. Joel Bich at Lower Brule Tribe in South Dakota (Lyman County) provided banding data from that area until drought conditions prevented trapping. Members of the banding crews, and other contributing agencies and personnel, are listed in the APPENDIX.

ORIENTATION:

The orientation session was held August 1-3, 2000 in Bismarck. Topics covered at the orientation included trapping and banding techniques, data recording and reporting, equipment, vehicle safety and finances. Discussion and field demonstrations on the operation of swim-in traps and predator control techniques were conducted at Long Lake NWR. A presentation on

predator control methods by Morgan Johnson, North Dakota Game & Fish Department (NDGFD) predator control expert, was especially valuable.

B.H. Powell, wildlife biologist with the Bird Banding Lab - Patuxent WRC, outlined proper procedures for recording data using the new banding program "Band Manager". Banding personnel from several National Wildlife Refuges and Wetland Management Districts, as well as the Central Flyway banding crews, were asked to attend this seminar. B.H., assisted by Jerry Feist, installed the "Band Manager" program on the laptop computers used by the banding crews this year.

BANDING TECHNIQUES:

Swim-in traps and rocket netting were the two techniques used to capture ducks. Swim-in traps were effective in catching all species of ducks, especially blue-winged teal, mallards and pintails. Banding crews at all sites used swim-in traps. Rocket netting is more species specific, aimed primarily at mallards and pintails, but it is less discriminating in reference to the origin of specific ducks. Over one-half of the mallards and pintails captured in 2000 were from rocket netting.

WEATHER AND HABITAT:

The region east and north of the Missouri River in North Dakota was generally wet throughout the spring and into mid-summer. A similar, wet situation occurred in northeastern South Dakota. Warm weather dominated the Northern Great Plains from July - September causing many semi-permanent wetlands to go dry and water levels in permanent wetlands to be reduced in size.

Water levels were low in most wetlands in northeastern Wyoming, southeastern Montana, and the western Dakotas at the start of banding operations because of dry weather conditions. The situation became progressively worse as banding operations moved into September.

In eastern Montana, spring and summer water conditions were poor. Wetlands normally used for banding were not adequate for trapping when the project started. Consequently, banding operations were moved to southwestern North Dakota in 2000.

PREDATION:

U.S.D.A. Wildlife Services (WS) personnel initiated predator trapping at several predetermined trap sites prior to duck trapping operations. Even with prebanding predator removal, we estimated duck losses to predation at 250 birds, approximately the same as in 1999. As usual, mink and raccoons caused most of the predator problems; 45 raccoons, 23 mink, and 31 skunks were removed from duck banding sites. Prebanding predator removal also occurred at selected

sites in 1999.

Some crews had better luck limiting predation. The South Dakota crew, operating in Hand County, kept their predator losses to a minimum by opening the trap door at night. Duck traps went operational about 0500 each morning when the trap doors were closed. Predator losses were kept to a minimum in North Dakota because of the special efforts of WS and NDGFD personnel, who quickly responded to any predator problem around a duck trapping site. Predator trapping continued through most of the banding period with considerable success.

RESULTS:

This was the fifth consecutive year that duck banding occurred in North and South Dakota. It was only the third year of banding in Wyoming. We operated a banding station in Montana from 1996 - 1999, but not in 2000. Crews banded ducks for approximately seven weeks, beginning August 1 and ending September 19, 2000.

The six CFC banding crews (central ND, southwest ND, SD, WY, DU, and NPWRC) banded a total of 25,359 ducks, 56% of the total ducks banded in 2000 (Table 1, Figure 1). Of these, 16,804 (66.3%) were blue-winged teal, 1,481 (5.8%) were pintails, and 6,198 (24.4%) were mallards. The number of adult female mallards banded was 1,325. There was a 19% decrease in total ducks banded by CFC crews in 2000 compared to 1999 (Table 2). Number of birds banded decreased for mallards (-12.6%), blue-winged teal (-18.4%) and pintails (-47.4%). We believe the decrease in blue-wing teal catch resulted from reduced number of birds occupying the habitat at four primary banding locations in ND, namely Enockson Slough in southern Burleigh County, a portion of the Clear Lake complex in central Burleigh County, Lake Ilo in Dunn County, and some banding sites in eastern Stutsman County. Similarly, field reports from South Dakota indicated reduced numbers of mallards and pintails occurring on their banding sites in Hand County this year.

Six National Wildlife Refuges, one Wetland Management District, and Joel Bich also provided banding data for this final report. When these data are included, total ducks banded in 2000 increased to 45,228 (Table 3). This is a 11.6% decrease from 1999 (Table 4).

Mallards and blue-winged teal have been banded most frequently at banding sites the last five years (Figure 2). The 2000 total includes 19,028 mallards (5,174 adult females), 18,080 blue-winged teal, and 6,826 pintails. Fewer mallards (-3%) and blue-winged teal (-25%), but more pintails (+39%) were banded in 2000 than 1999. The number of mallards and blue-winged teal banded has increased each year since 1996, but declined in 2000 (Table 4). The number of pintails banded increased this year as the result of the large number of pintails banded at J. Clark Salyer NWR.

Number of birds banded by individual crews is shown in Tables 5-12. Table 13 shows the ratio of adult female mallards to immature and local females for 2000. We have not reached our goal of 6,500 adult female mallards per year in any of the five years of banding, 1996-2000 (Figure 3).

ACKNOWLEDGMENTS:

The CFC banding crews performed extremely well and are to be commended. All banding participants are extended a sincere note of gratitude for a job well done.

Several individuals and organizations were most helpful and supportive of this project. Ducks Unlimited, Inc. funded a banding crew in western ND and dispersed salaries for the CFC crews. We thank Bruce Batt and Rick Warhurst of DU, Inc. for their support. In addition, Bobby Cox and many staff members from NPWRC (ND) and Joel Bich and his folks at Lower Brule Sioux Tribe (SD) volunteered their time to run banding stations in their respective locations. We extend our thanks to them for their interest in this project and the many hours of hard work. We greatly appreciate the help of the Wildlife Management Institute, especially Carol Peddicord, for collecting, banking, and dispersing CFC money. We extend our gratitude to Ron Reynolds, Al Sapa, Dave Sharp and John Cornely, U.S. Fish and Wildlife Service, for providing financial assistance, technical assistance, vehicles and grain procurement. We thank all the personnel at the various state and federal wildlife resource agencies that provided help and support on this banding project. Special thanks are extended to Paul VanNingen, refuge manager, for assisting the banding crew at Long Lake NWR (ND) and providing them housing, and Tim Zachmeier, refuge manager, for assisting the crew at Lake Ilo NWR (ND). John Paulson (WS Supervisor), Joe Carpenter, Russell Schmidt, and Kirby Morgenstern (WS field personnel), and Morgan Johnson (NDGFD) provided valuable assistance helping our banding crews with predator problems. We wish to express our sincere thanks to the many landowners in all four states who graciously allowed our banding crews access to their land. Their cooperation provided a great boost to the success of this project. This project could not have been successful without the many hours of work by the state coordinators. We wish to thank Spencer Vaa and Paul Mammenga (SD), Jim Hansen (MT), and Larry Roberts (WY) for organizing this project in their respective states. Finally, we offer special thanks to Howard Funk for directing field operations in Wyoming.

CONSIDERATIONS FOR 2001:

As a result of our banding efforts over the past five years, we suggest the following actions for 2001:

- 1) Evaluate the capture data from 1996-00 to determine if present banding locations are adequate in meeting the needs of the CFC. Do we want to reduce the number of blue-winged teal captured and banded?
- 2) Continue prebanding predator control on selected sites in North Dakota. The prebanding effort proved successful in North Dakota in 1999 and 2000. We will work with WS personnel to continue predator control on particular banding sites 2 - 3 weeks prior to initiation of banding. We will make attempts to expand this program into the remaining banding areas where possible. Other state coordinators should be encouraged to contact their WS personnel for assistance.
- 3) Place more emphasis on rocket netting activities especially in those areas where teal are in abundance (ND & SD). Trapping effort using swim-in traps will be reduced in selected locations

by September 1 to allow more time for rocket netting activities. Potential rocket net sites will be located in August, prebaited and ready for rocket netting after September 1. Use of rocket netting equipment and procedures will be covered during the orientation session.

4) A strong request is made to the state coordinators to fulfill their obligations to secure specific items such as “reliable” cellular phones, fire suppression equipment, etc. The 2000 banding season did see improvements in making cellular phones available to field crews but fire suppression equipment remained scarce. State coordinators need to address this issue more aggressively in 2001.

5) Continue banding in northeastern Wyoming. This may include banding sites in southeastern Montana or northwestern South Dakota. This is an important area and Howard Funk’s involvement is crucial for the banding effort to be successful here. Also continue the banding effort in southwestern North Dakota (Bowman and Slope Counties) and/or return to Montana if water conditions improve in the area.

6) State coordinators must continue to require their banders to reconcile their completed banding schedules to their field data sheets **prior to** being released from the project.

7) Orientation is scheduled for August 1-3, 2001 in Bismarck . Banding will continue through September 20.

8) Banding coordinator will arrive in Bismarck on July 9, 2001.

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APPENDIX

Central Flyway Banding Personnel 2000

Project Leader - Arthur R. Brazda, USFWS (Ret.), Carencro, LA

North Dakota - Central

Anthony McCue, Limington, ME - Crew Leader

Nathan Jerstad, West Fargo, ND - Crew Member

North Dakota - West

Christina Devlin, Belcarra, BC, Canada, DU - Crew Leader

Larissa Miller, Paris, ON, Canada, DU - Crew Member

North Dakota- East central

Bobby Cox, Northern Prairie WRC, Jamestown, ND - Crew Leader

Personnel from Northern Prairie WRC, Jamestown, ND - Crew Members

North Dakota - Southwest

Bruce Davis, Glidden, IA - Crew Leader

Greg Cuthbert, Madrid, NY - Crew Member

South Dakota

Shona Lawson, Black Creek, BC, Canada - Crew Leader

Renette Prybylski, Calgary, AB, Canada - Crew Member

Project Leader - Howard Funk, CO Div. of Wildlife (Ret.), Ft. Collins, CO

Wyoming

Dean Tide, Saskatoon, SK, Canada - Crew Leader

Tony Lau, Regina, SK, Canada - Crew Member

Other Cooperators

Lower Brule Sioux Tribe, Lower Brule, SD

Lake Andes NWR, Lake Andes, SD

Sand Lake NWR, Columbia, SD

LaCreek NWR, Martin, SD

Long Lake NWR, Moffit, ND

Lake Ilo NWR, Dunn Center, ND

J. Clark Salyer NWR, Upham, ND

Devils Lake WMD, Devils Lake, ND

Medicine Lake NWR, Medicine Lake, MT

Bowdoin NWR, Malta, MT

ND Game and Fish Department

SD Department of Game, Fish & Parks

WY Game and Fish Department

MT Department of Fish, Wildlife & Parks

Northern Prairie Wildlife Research Center, Jamestown, ND

Wildlife Services personnel in SD, ND, MT, WY

U.S. Fish and Wildlife Service

-MBMO Office, Denver, CO

-Region VI, Denver, CO

-Area Office, Bismarck, ND

Table 1. Total ducks banded by species and age class by six crews funded by the Central Flyway, August - September, 2000. *

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	1,598	1,575	124	1,325	1,427	149	6,198
GADW	2	36	15	8	45	24	130
AMWI	6	46	11	21	30	9	123
AGWT	124	107	0	27	30	0	288
BWTE	5,217	5,021	9	2,882	3,651	24	16,804
NSHO	1	8	0	0	1	0	10
NOPI	308	361	3	353	453	3	1,481
WODU	77	19	3	23	13	6	141
REDH	64	18	5	49	26	7	169
LESC	0	0	0	0	0	0	0
CANV	2	2	0	4	3	0	11
RNDU	0	0	0	0	0	0	0
RUDU	0	0	0	0	0	0	0
CITE	2	1	0	0	0	0	3
ABDU	1	0	0	0	0	0	1
TOTAL	7,402	7,194	170	4,692	5,679	222	25,359

* Includes the four Central Flyway crews, Ducks Unlimited crew and Northern Prairie Wildlife Research Center crew.

Figure 1. Percent of Ducks Banded by Crews in 2000.

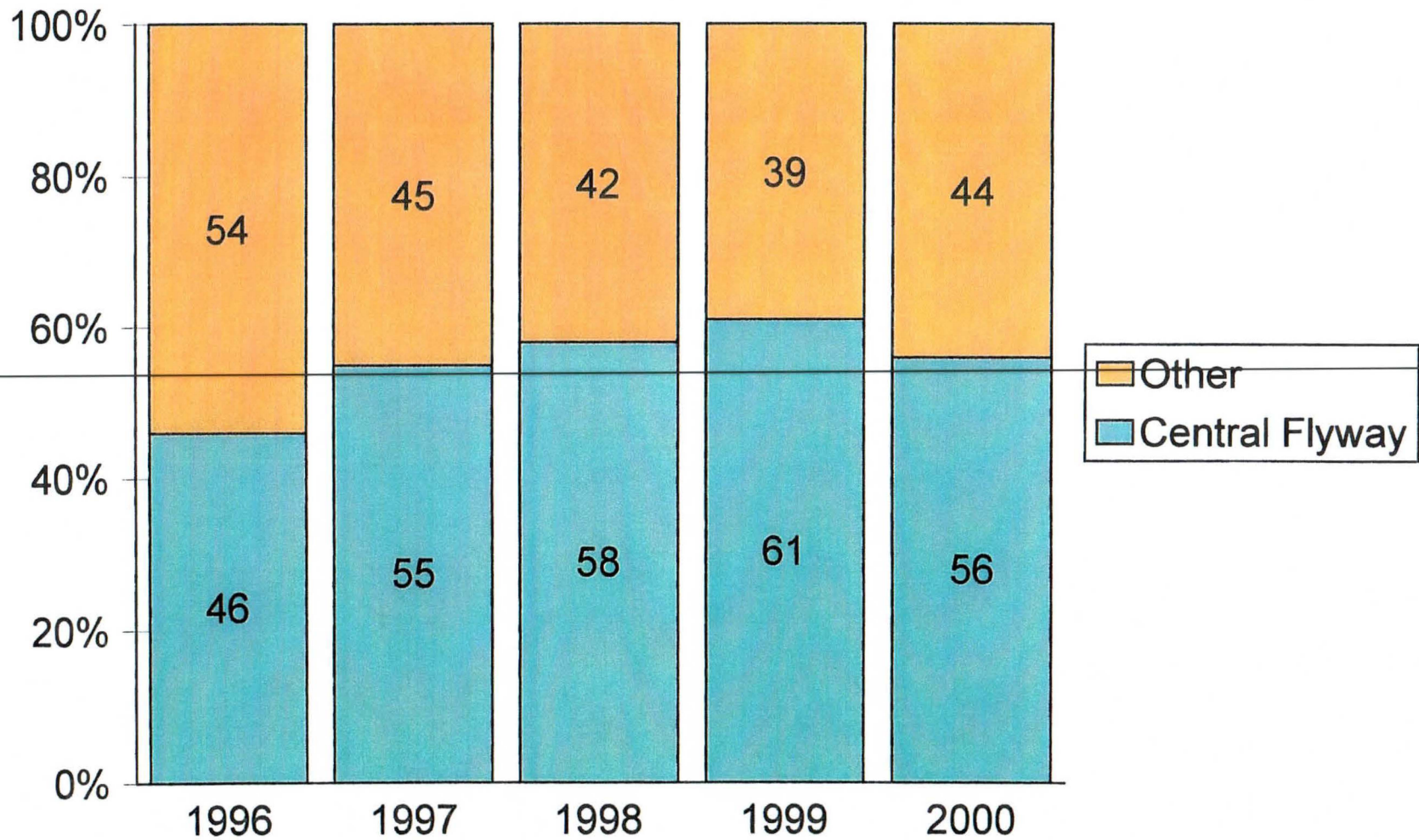


Table 2. Total ducks banded by species by six crews funded by the Central Flyway, 1996 - 2000.*

Species	1996	1997	1998	1999	2000	TOTAL
MALL	3,300	5,146	4,881	7,089	6,198	26,614
GADW	52	93	103	85	130	463
AMWI	8	24	127	176	123	458
AGWT	73	68	328	193	288	950
BWTE	10,008	12,079	17,258	20,585	16,804	76,734
NSHO	1	9	6	13	10	39
NOPI	487	2,207	2,435	2,818	1,481	9,428
WODU	96	205	109	88	141	639
REDH	28	26	68	232	169	523
LESC	12	20	3	3	0	38
CANV	4	0	3	20	11	38
ABDU	0	0	0	0	1	1
CITE	0	0	3	7	3	13
RUDU	7	0	4	4	0	15
RNDU	1	0	1	0	0	2
AMCO	0	0	1	0	0	1
TOTAL	14,077	19,877	25,330	31,313	25,359	115,956

* Includes the four Central Flyway crews, Ducks Unlimited crew and Northern Prairie Wildlife Research Center crew.

Table 3. Total ducks banded by species and age class by all cooperators in Central Flyway, August-September, 2000.

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	7,380	3,134	138	5,174	3,035	167	19,028
GADW	79	37	20	40	47	27	250
AMWI	34	50	12	102	35	9	242
AGWT	139	112	0	31	31	0	313
BWTE	5,547	5,385	16	3,154	3,953	25	18,080
NSHO	1	8	0	0	1	0	10
NOPI	1,945	884	6	2,789	1,199	3	6,826
WODU	111	21	3	30	18	6	189
REDH	92	19	16	86	26	14	253
LESC	1	0	0	3	0	1	5
CANV	3	2	1	6	3	1	16
ABDU	9	0	0	1	1	0	11
CITE	2	1	0	1	0	0	4
RUDU	0	0	0	0	0	0	0
RNDU	0	0	0	0	0	0	0
AMCO	0	0	0	0	0	0	0
OHDU *	0	0	0	1	0	0	1
TOTAL	15,343	9,653	212	11,418	8,349	253	45,228

* Suspected mallard x gadwall banded in 2000

Table 4. Total ducks banded by species by all cooperators in Central Flyway, 1996 - 2000.

Species	1996	1997	1998	1999	2000	TOTAL
MALL	14,368	16,578	16,579	19,570	19,028	86,123
GADW	214	513	148	224	250	1,349
AMWI	170	150	240	869	242	1,671
AGWT	138	139	1,192	259	313	2,041
BWTE	11,683	14,190	19,804	24,120	18,080	87,877
NSHO	12	104	11	163	10	300
NOPI	3,005	4,058	4,924	4,906	6,826	23,719
WODU	232	353	340	412	189	1,526
REDH	404	179	560	498	253	1,894
LESC	31	59	25	43	5	163
CANV	43	16	133	66	16	274
ABDU	2	3	6	6	11	28
CITE	2	12	11	19	4	48
RUDU	7	1	5	8	0	21
RNDU	5	0	5	1	0	11
MBDH	3	0	0	0	0	3
HOME	1	0	0	0	0	1
AMCO	0	0	1	1	0	2
OHDU *	0	2	0	1	1	4
UNK	184	0	0	0	0	184
TOTAL	30,504	36,357	43,984	51,166	45,228	207,239

* Suspected mallard x gadwall banded in 2000; suspected mallard x Am. wigeon banded in 1997 and 1999.

Figure 2. Percent of Ducks Banded by Species in 2000.

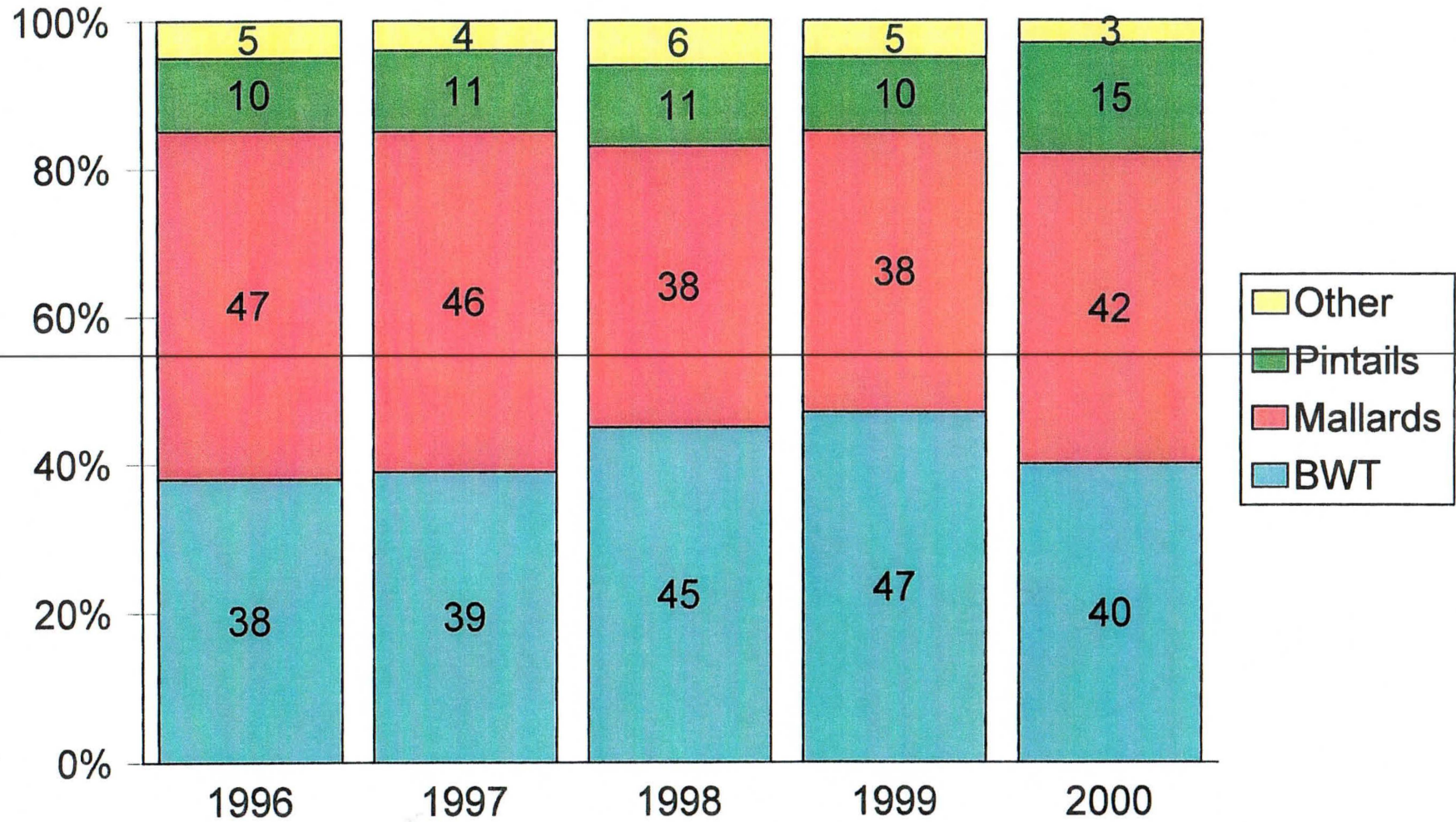


Table 5. Total ducks banded by species and age class by Central Flyway crew in Burleigh County, North Dakota, August-September, 2000.

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	275	246	6	213	198	9	947
GADW	0	18	3	1	14	6	42
AMWI	0	1	0	0	1	0	2
AGWT	13	46	0	4	15	0	78
BWTE	706	1,252	0	720	837	1	3,516
NSHO	0	3	0	0	0	0	3
NOPI	13	72	0	23	77	0	185
WODU	4	0	0	1	0	0	5
REDH	5	12	2	9	11	4	43
CITE	1	0	0	0	0	0	1
ABDU	1	0	0	0	0	0	1
TOTAL	1,018	1,650	11	971	1,153	20	4,823

Table 6. Total ducks banded by species and age class by Ducks Unlimited crew in Dunn County, North Dakota, August-September, 2000.

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	152	324	84	131	331	105	1,127
GADW	1	8	5	0	8	7	29
AMWI	2	23	0	5	9	1	40
AGWT	2	13	0	4	2	0	21
BWTE	956	757	1	538	618	4	2,874
CANV	0	0	0	0	2	0	2
NOPI	7	51	3	14	56	3	134
WODU	27	0	0	1	0	0	28
REDH	3	0	1	1	5	0	10
TOTAL	1,150	1,176	94	694	1,031	120	4,265

Table 7. Total ducks banded by species and age class by Central Flyway crew in Hand County, South Dakota, August-September, 2000.

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	304	403	1	267	365	1	1,341
GADW	1	1	0	2	3	0	7
AMWI	2	0	0	2	0	0	4
AGWT	53	5	0	8	1	0	67
BWTE	1,749	1,757	1	1,008	1,238	1	5,754
NSHO	1	2	0	0	0	0	3
NOPI	92	146	0	221	229	0	688
WODU	22	1	0	5	0	0	28
TOTAL	2,224	2,315	2	1,513	1,836	2	7,892

Table 8. Total ducks banded by species and age class by Central Flyway crew in Bowman and Slope Counties, North Dakota, August-September, 2000.

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	71	225	18	112	204	18	648
GADW	0	9	5	3	18	9	44
AMWI	0	6	0	0	7	1	14
AGWT	12	13	0	7	7	0	39
BWTE	305	157	3	146	178	1	790
NSHO	0	3	0	0	1	0	4
NOPI	8	5	0	8	21	0	42
WODU	0	0	0	0	0	0	0
REDH	5	2	0	1	1	0	9
CANV	2	1	0	3	1	0	7
TOTAL	403	421	26	280	438	29	1,597

Table 9. Total ducks banded by species and age class by Central Flyway crew stationed in Wyoming, August-September, 2000. *

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	796	377	15	600	326	14	2,128
GADW	0	0	2	2	1	2	7
AMWI	2	16	11	14	13	7	63
AGWT	44	27	0	4	5	0	80
BWTE	1,186	126	3	355	99	4	1,773
NSHO	0	0	0	0	0	0	0
NOPI	188	87	0	87	70	0	432
WODU	15	11	2	15	7	2	52
REDH	50	3	2	38	7	3	103
CITE	1	1	0	0	0	0	2
CANV	0	1	0	1	0	0	2
TOTAL	2,282	649	35	1,116	528	32	4,642

* In 2000, the Wyoming crew banded ducks in Carter County, Montana; Campbell and Crook Counties, Wyoming; Butte County, South Dakota.

Table 10. Total ducks banded by species and age class by Northern Prairie crew in Stutsman County, North Dakota, August-September, 2000.

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	0	0	0	2	3	2	7
GADW	0	0	0	0	1	0	1
AMWI	0	0	0	0	0	0	0
AGWT	0	3	0	0	0	0	3
BWTE	315	972	1	115	681	13	2,097
NSHO	0	0	0	0	0	0	0
NOPI	0	0	0	0	0	0	0
WODU	9	7	1	1	6	4	28
REDH	1	1	0	0	2	0	4
TOTAL	325	983	2	118	693	19	2,140

Table 11. Total ducks banded by species and age class by Joel Bich and crew in Lyman County, South Dakota, August - September, 2000.

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	0	0	1	0	4	0	5
GADW	0	0	0	0	0	0	0
AMWI	0	0	0	0	0	0	0
AGWT	0	0	0	0	0	0	0
BWTE	0	10	0	1	19	1	31
NSHO	0	0	0	0	0	0	0
NOPI	0	1	1	0	0	0	2
WODU	0	0	0	0	0	0	0
TOTAL	0	11	2	1	23	1	38

Table 12. Ducks banded by species and age class by Fish and Wildlife Service personnel, August- September, 2000.

South Dakota - - Lake Andes NWR

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	94	349	0	112	335	0	890
GADW	0	0	0	0	0	0	0
AMWI	0	0	0	0	0	0	0
AGWT	3	0	0	0	0	0	3
BWTE	1	1	0	0	0	0	2
NSHO	0	0	0	0	0	0	0
NOPI	205	166	0	151	138	0	660
WODU	7	0	0	1	4	0	12
ABDU	0	0	0	0	1	0	1
TOTAL	310	516	0	264	478	0	1,568

Table 12. Continued

South Dakota - - Sand Lake NWR

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	568	513	0	882	600	0	2,563
GADW	0	0	0	0	0	0	0
AMWI	2	0	0	5	0	0	7
AGWT	1	0	0	0	0	0	1
BWTE	103	49	0	70	32	0	254
NSHO	0	0	0	0	0	0	0
NOPI	104	60	0	236	98	0	498
WODU	12	1	0	4	1	0	18
ABDU	2	0	0	0	0	0	2
TOTAL	792	623	0	1,197	731	0	3,343

South Dakota - - LaCreek NWR

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	163	258	0	119	160	0	700
GADW	0	0	0	0	0	0	0
AMWI	0	0	0	0	0	0	0
AGWT	10	5	0	4	1	0	20
BWTE	30	168	0	59	127	0	384
NSHO	0	0	0	0	0	0	0
NOPI	0	0	0	0	0	0	0
WODU	1	1	0	0	0	0	2
TOTAL	204	432	0	182	288	0	1,106

Table 12. Continued

Montana - - Medicine Lake NWR

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	1,055	15	13	249	15	18	1,365
GADW	0	0	5	2	0	3	10
AMWI	0	0	1	0	0	0	1
AGWT	0	0	0	0	0	0	0
BWTE	3	3	5	1	3	0	15
NSHO	0	0	0	0	0	0	0
NOPI	16	2	2	11	0	0	31
WODU	5	0	0	1	0	0	6
REDH	28	0	9	36	0	5	78
LESC	1	0	0	1	0	1	3
CANV	1	0	1	2	0	1	5
ABDU	0	0	0	1	0	0	1
TOTAL	1,109	20	36	304	18	28	1,515

Montana - - Bowdoin NWR

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	539	26	0	308	14	0	887
GADW	0	0	0	0	0	0	0
AMWI	0	0	0	0	0	0	0
AGWT	0	0	0	0	0	0	0
BWTE	2	3	2	2	2	0	11
NSHO	0	0	0	0	0	0	0
NOPI	0	0	0	0	1	0	1
WODU	3	0	0	1	0	0	4
REDH	0	1	2	0	0	2	5
LESC	0	0	0	2	0	0	2
CITE	0	0	0	1	0	0	1
TOTAL	544	30	4	314	17	2	911

Table 12. Continued

North Dakota - - Devils Lake WMD

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	146	8	0	113	10	0	277
GADW	76	1	0	29	1	0	107
AMWI	3	0	0	0	0	0	3
AGWT	0	0	0	0	0	0	0
BWTE	191	130	0	139	119	0	579
NSHO	0	0	0	0	0	0	0
NOPI	4	2	0	3	0	0	9
WODU	0	0	0	0	0	0	0
REDH	0	0	0	1	0	0	1
ABDU	1	0	0	0	0	0	1
OHDU *	0	0	0	1	0	0	1
TOTAL	421	141	0	286	130	0	978

* Suspected mallard x gadwall

North Dakota - - J. Clark Salyer NWR

Species	Male			Female			TOTAL
	AHY	HY	L	AHY	HY	L	
MALL	3,217	390	0	2,066	470	0	6,143
GADW	1	0	0	1	1	0	3
AMWI	23	4	0	76	5	0	108
AGWT	1	0	0	0	0	0	1
BWTE	0	0	0	0	0	0	0
NSHO	0	0	0	0	0	0	0
NOPI	1,308	292	0	2,035	509	0	4,144
WODU	6	0	0	0	0	0	6
ABDU	5	0	0	0	0	0	5
TOTAL	4,561	686	0	4,178	985	0	10,410

Table 13. Female mallards banded by location by all cooperators in Central Flyway, August-September, 2000.

Species	Female			TOTAL
	AHY	HY	L	
Burleigh Co., ND *	213	198	9	420
Dunn Co., ND **	131	331	105	567
Hand Co., SD *	267	365	1	633
Bowman Co., ND *	112	204	18	334
Stutsman Co., ND ***	2	3	2	7
Carter Co., MT; Butte Co., SD; Campbell Co., WY *	600	326	14	940
Lyman Co., SD ****	0	4	0	4
Lake Andes NWR, SD	112	335	0	447
Sand Lake NWR, SD	882	600	0	1,482
LaCreek NWR, SD	119	160	0	279
Devils Lake WMD, ND	113	10	0	123
J. Clark Salyer NWR, ND	2,066	470	0	2,536
Medicine Lake NWR, MT	249	15	18	282
Bowdoin NWR, MT	308	14	0	322
TOTAL	5,174	3,035	167	8,376

- * Central Flyway crew
- ** Ducks Unlimited crew
- *** Northern Prairie crew
- **** Joel Bich crew

Figure 3. Adult female mallards banded in Central Flyway, 1996-00.

