2019
MIGRATORY GAME BIRD
JOB COMPLETION

PHOTO: Nate Huck

September 1, 2018 – August 31, 2019

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Introduction

In cooperation with the U.S. Fish and Wildlife Service (USFWS), the Wyoming Game and Fish Department (Department) Migratory Game Bird Section (MGBS) conducted the following annual surveys to derive population indices for management: March crane survey, September crane survey, December Canada goose classifications, mid-winter waterfowl survey, and spring Canada goose population survey. The MGBS also participated in dove banding in the State, and Flyway membership dues helped support the Central Flyway pre-season duck banding project in North Dakota. The MGBS remains strongly committed to Central Flyway management efforts including development and revision of management plans for the various migratory game bird populations and annual season setting. These processes were historically accomplished through participation on the Flyway Technical Committees at the December, March, and July Flyway meetings. In 2018, Wyoming reengaged the Pacific Flyway and now sends both a Technical and a Council Member to all meetings.

Currently, the USFWS Division of Migratory Bird Management (DMBM) establishes migratory game bird regulatory frameworks during a single annual meeting held during September. Proposed regulations are developed for the subsequent year hunting seasons based on data and analyses available at the time of the September technical committee meetings. Experience gained through the Adaptive Harvest Management (AHM) process, which began in 1995, indicates the most appropriate regulatory package can be reliably selected a year in advance based on current year harvest, breeding population, and wetland condition data. The Central and Pacific Flyway Technical Committee and Council meets in August or September each year to formalize regulation selection, and the Technical Committee will meet again in February to address management plans and other technical issues.

The MGBS is directly or indirectly involved in the management of all migratory game birds in the Central and Pacific Flyway portions of Wyoming. The MGBS also coordinates the maintenance of goose hunting pits located on the Springer Wildlife Habitat Management Area (WHMA).

During the past year, substantial personnel time was devoted to wetland and habitat management projects across the state. Local involvement was maintained in the Intermountain West Joint Venture (IWJV). The migratory game bird biologist participated in the Wyoming Bird Habitat Conservation Partnership, which serves both the IWJV and Northern Great Plains Joint Venture (NGPJV) in the state. The IWJV administrative boundary encompasses the majority of Wyoming and the NGPJV encompasses seven counties in northeast Wyoming.

Ducks and Mergansers

Population Surveys

The annual duck breeding ground survey historically flown by the WGFD was suspended after 1999. Forecasts of fall duck flights are based on trends in duck breeding populations and water conditions on breeding grounds throughout the traditional survey areas in the Northern US and Canada. The traditional survey area does not include Wyoming and survey data historically collected from within Wyoming were not used in developing fall flight predictions.

In 2019, conditions throughout much of the traditional survey areas were described as fair to good, with a slight overall decline in habitat quality from 2018. This distribution was uneven, with average to above-average precipitation improving conditions in the southern areas of the survey, while dry areas in the northern prairies and parkland expanded. The estimated number of ponds in all of the traditional survey area was 5% lower than both 2018 and the long term average (LTA). The population of breeding ducks was 6% lower in 2019 compared to 2018, but remained 10% above the LTA (Table 1). The breeding population of mallards in the traditional survey area increased 2% from the 2018 level and was 19% above the LTA (Table 2). The 2019 fall flight of mid-continent population (MCP) mallards was forecast to be 10.7 million, similar to the 2018 estimate. Short and long-term changes in breeding populations of the 5 duck species most commonly harvested in Wyoming are shown in Table 2.

A midwinter waterfowl survey is conducted during early January. The number of ducks present in Wyoming is highly influenced by weather conditions and varies substantially from year to year. The mid-winter duck count in the Central Flyway portion of Wyoming was 41% below the long-term average in 2019 (Table 3).

2018-19 Harvest

In the 2018 season, the Department estimated 47,526 ducks were harvested in Wyoming (Table 4). Since the early 2000s, trends in Wyoming duck harvest have not correlated well with the increasing duck population, possibly due to severe drought that prevailed throughout much of that period. In the Central Flyway portion of Wyoming, 33,618 ducks were harvested in 2018 (Tables 4 and 5). In the Pacific Flyway portion of Wyoming, 13,906 ducks were harvested in 2018 (Tables 4 and 6). Waterfowl management areas in Wyoming are depicted in Fig. 1.

Mallards are the most prevalent species harvested in Wyoming (Table 7). American wigeon, blue-winged teal, green-winged teal, and gadwall are also well represented. Harvest estimates derived from the USFWS's Harvest Information Program (HIP) (Table 7) have consistently deviated from the Department's estimates. Presently, HIP estimates do not distinguish flyway-specific duck harvest in Wyoming. Current and historic season dates are summarized in Table 29.

Banding

The Department began an operational banding station at Springer and Table Mountain WHMAs during 2016. In 2019, a total of 246 ducks were banded July through September. Of the 246 banded, 163 were hatch-year birds (66%). Blue-winged teal were the most commonly banded duck. Only 57 mallards were banded, and canon netting will be explored in future years to increase numbers. Wood ducks accounted for 70 of the ducks banded and redheads numbered 17. The Department has also contributed funding through annual flyway assessments to support the Central Flyway's cooperative duck banding operation in 2019 and prior years.

Because banding operations extend from mid-July to mid-September, the end dates fall outside of the date range covered by this JCR. However, to maintain continuity, results from the entire 2018 banding operations are included.

Recommendations

1. Continue to support and participate in the flyway system of waterfowl management.
2. Continue to support objectives of the Adaptive Harvest Management (AHM) program and the North American Waterfowl Management Plan.
3. Work with Department personnel, joint ventures, the Wyoming Bird Habitat Conservation Partnership, Ducks Unlimited, and other interests to identify and develop wetland habitat projects designed to increase local duck production, hold more birds in the spring and fall, and provide additional harvest opportunity.
4. Increase public access within key waterfowl harvest areas statewide.
5. Provide technical consultation to recommend and implement wetland management practices that attract and hold additional waterfowl on Commission-owned WHMAs.
6. Continue to support acquisition and development of the Cokeville Meadows National Wildlife Refuge. Provide biological information when requested and make recommendations to the U.S. Fish and Wildlife Service regarding the development and eventual management of refuge lands.
7. Support duck banding efforts in both the Central and Pacific Flyways.
8. Increase duck banding efforts in Wyoming.
9. Review and critique federal policies and regulations affecting waterfowl management in Wyoming.

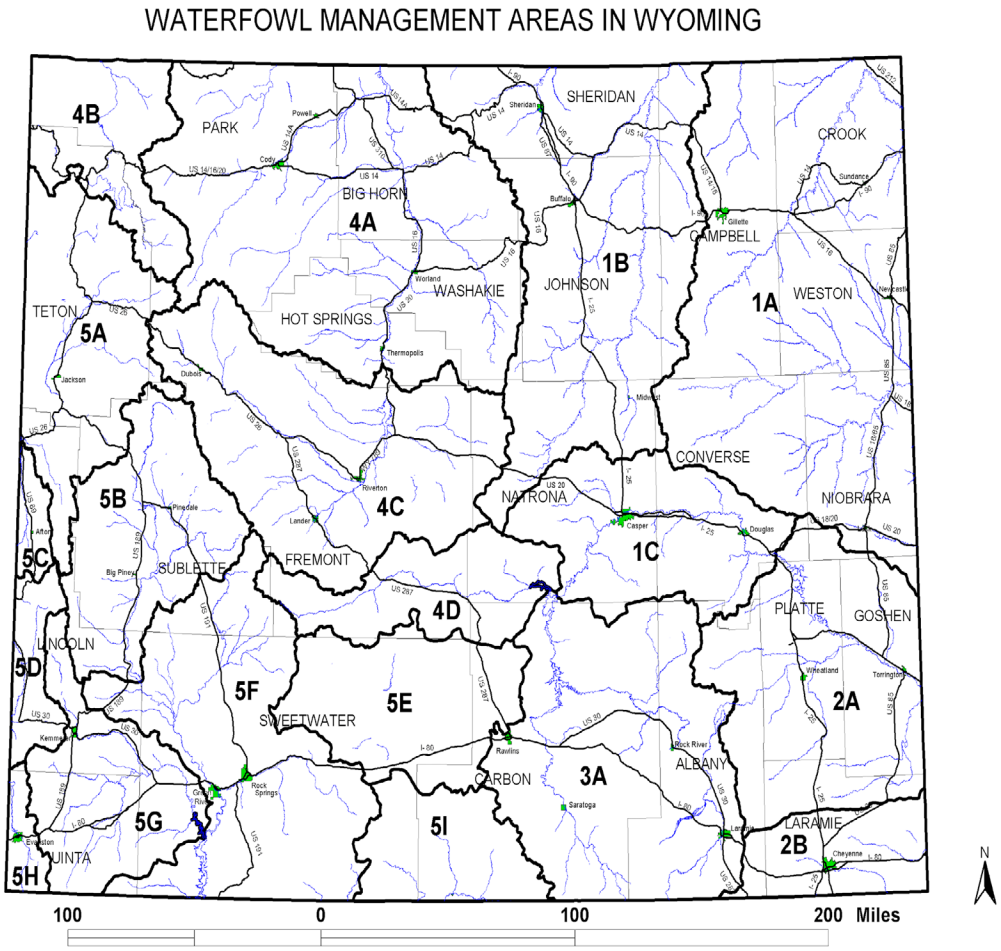

Fig. 1. Waterfowl management areas in Wyoming.

Table 1. Total duck[a] breeding population estimates (in thousands) for the traditional survey area

Region	2019	2018	Percent Change from 2018	LTA[a]	Percent Change from LTA
Alaska-Yukon Territory-Old Crow Flats	2,612	3,381	-23	3,698	-29
C. & N. Alberta-N.E. Bristish Columbia-NWT	10,377	9,916	+5	7,496	+38
N. Saskatchewan-N. Manitoba-W. Ontario	2,460	3,167	-22	3,440	-29
S. Alberta	4,575	5,546	-18	4,367	+5
S. Saskatchewan	6,479	8,492	-24	7,997	-19
S. Manitoba	1,222	1,665	-27	1,556	-22
Montana & Western Dakotas	2,404	2,239	+7	1,745	+38
Eastern Dakotas	8,771	6,787	+29	5,147	+70
Total	38,899	41,193	-6	35,446	+10

[a]Includes mallard, gadwall, American wigeon, green-winged teal, blue-winged teal, northern shoveler, northern pintail, redhead, canvasback, scaup, American black duck, ring-neck duck, goldeneyes, bufflehead, and ruddy duck.

[b] Long term average, 1955-2018

Source: USFWS 2019

Table 2. Changes in breeding population estimates (in thousands) in the traditional survey area for the 5 most commonly harvested ducks in Wyoming.

Species	2019	2018	Percent Change from 2018	LTA[a]	Percent Change from LTA
Mallard	9,423	9,255	+2	7,918	+19
American Wigeon	2,832	2,820	0	2,622	+8
Green-winged teal	3,178	3,043	+4	2,164	+47
Gadwall	3,259	2,886	+13	2,029	+61
Blue-winged teal	5,428	6,450	-16	5,102	+6
Total	24,120	24,454	-1	19,835	+22

[a]Long-term average, 1955-2018

Source: USFWS 2019

Table 3. Changes in ducks and mergansers counted during the mid-winter survey in Wyoming, 2018 to 2019.

Species	2019	2018	Percent Change from 2018	LTA[a]	Percent Change from LTA
Mallard	35,332	16,210	+118	53,545	-34
Gadwall	45	32	+41	863	-95
American wigeon	121	107	+13	976	-88
Green-winged teal	35	80	-56	433	-92
Northern shoveler	0	0	-	13	-
Northern pintail	21	6	+250	171	-88
Wood duck	0	0	-	19	-
Redhead	2	0	-	13	-84
Canvasback	0	0	-	0	-
Scaup	0	0	-	25	-
Ringneck	20	0	-	93	-79
Goldeneye	2,495	2,513	-1	7,769	-68
Bufflehead	0	0	-	111	-
Ruddy duck	2	0	-	7	+71
Mergansers	812	878	-8	2,373	-66
TOTAL	38,885	19,826	+96	66,411	-41

[a]Long-Term Average from 1992-2018

Table 4. Duck harvest and hunter activity by flyway 2014-2018.

	2018	2017	2016	2015	2014
Central Flyway					
No. Hunters	4,490	4,227	4,368	4,575	4,854
No. Days	22,744	21,019	21,591	21,286	23,322
Harvest	33,618	35,712	40,941	37,271	35,810
Pacific Flyway					
No. Hunters	1,568	1,398	1,679	1,571	1,421
No. Days	7,303	6,911	7,045	7,007	6,707
Harvest	13,906	11,380	13,485	12,473	11,179
Total					
No. Hunters	5,592	5,625	6,047	6,146	6,275
No. Days	30,047	27,930	28,636	28,293	30,029
Harvest	47,526	47,092	54,426	49,744	46,989

Source: WGFD 2015-2019

Table 5. Duck harvest and hunter activity within waterfowl management areas in the Central Flyway of Wyoming.

Management Area			2018	2017	2016	2015	2014
Missouri/Chevenne/ Little Powder Rivers	1A	No. Hunters	149	167	201	332	215
		No. Days	434	797	708	1,671	914
		Harvest	609	1,513	1,164	3,265	1,497
Tongue/Little Big Horn /Powder Rivers	1B	No. Hunters	286	243	264	337	270
		No. Days	1,250	1,339	827	894	992
		Harvest	1,978	1,836	1,391	1,597	1,279
Central North Platte River	1C	No. Hunters	769	670	796	823	852
		No. Days	4,790	3,445	4,517	4,514	4,019
		Harvest	6,906	5,906	7,117	7,019	4,485
Lower North Platte River	2A	No. Hunters	1,005	1,065	946	981	1,211
		No. Days	4,538	4,280	4,611	4,417	5,086
		Harvest	5,191	6,867	8,250	7,654	8,987
South Platte River	2B	No. Hunters	110	55	110	84	106
		No. Days	594	236	620	281	266
		Harvest	996	380	1,404	733	373
Upper North Platte River	3A	No. Hunters	468	301	354	347	404
		No. Days	2,207	1,399	1,830	1,764	1,537
		Harvest	3,838	3,220	2,729	3,087	2,920
Big Horn River	4A	No. Hunters	1,155	1,061	1,133	1,048	1,220
		No. Days	7,047	6,057	6,058	5,039	7,620
		Harvest	10,316	10,165	14,291	8,797	11,726
Yellowstone River	4B	No. Hunters	8	2	20	26	11
		No. Days	28	7	20	39	21
		Harvest	20	7	25	80	95
Wind River	4C	No. Hunters	501	632	489	579	537
		No. Days	1,697	3,185	2,211	2,561	2,737
		Harvest	3,268	5,528	4,305	4,989	4,359
Sweetwater River	4D	No. Hunters	39	31	55	18	28
		No. Days	159	274	189	106	130
		Harvest	496	290	265	50	89

Source: WGFD 2015-2019

Table 6. Duck harvest and hunter activity within waterfowl management areas in the Pacific Flyway of Wyoming.

Management Area		2018	2017	2016	2015	2014	2013
Snake River 5A	No. Hunters	341	248	255	260	229	215
	No. Days	1,626	1,552	1,045	1,243	1,012	985
	Harvest	2,482	2,217	2,116	2,542	1,300	1,539
Upper Green 5B Basin	No. Hunters	280	197	297	271	242	162
	No. Days	1,070	598	1,042	1,362	1,012	537
	Harvest	1,485	850	1,948	2,297	1,681	1,375
Salt River 5C	No. Hunters	194	224	224	243	213	221
	No. Days	1,594	1,705	1,317	1,582	1,495	1,378
	Harvest	3,425	2,776	1,829	2,435	3,006	2,558
Lower Bear 5D	No. Hunters	104	101	175	50	80	148
	No. Days	395	692	998	140	473	718
	Harvest	917	1,104	2,228	320	628	1,085
Great Divide 5E	No. Hunters	25	13	6	21	4	34
	No. Days	108	35	19	156	18	180
	Harvest	201	51	28	101	18	266
Lower Green 5F Basin	No. Hunters	311	309	301	344	325	446
	No. Days	1,406	1,204	992	1,150	1,114	2,337
	Harvest	2,494	2,039	1,695	2,326	2,203	4,494
Ham's/Black 5G	No. Hunters	140	150	272	235	181	250
	No. Days	469	509	1,076	968	999	1,041
	Harvest	1,249	1,096	2,539	1,524	1,413	2,176
Upper Bear 5H	No. Hunters	122	115	104	123	121	109
	No. Days	542	465	348	334	530	335
	Harvest	1,373	995	834	818	828	717
Little Snake 5I	No. Hunters	51	41	45	24	26	31
	No. Days	93	151	208	72	54	61
	Harvest	280	252	268	110	102	66

Source: WGFD 2015-2019

Table 7. HIP estimates of duck harvest and hunter activity in Wyoming during the 2016-2018 hunting seasons.

Duck Species Composition	2018	%	2017	%	2016	%
Mallard	19,371	58.6	20,411	49.2	16,245	61.7
Gadwall	2,636	8.0	4,795	11.6	1,509	5.7
American Wigeon	3,065	9.3	5,617	13.5	2,013	7.6
Green-winged teal	2,391	7.2	4,521	10.9	3,199	12.1
Blue-winged Teal/Cinnamon teal	2,268	6.9	2,192	5.3	1,294	4.9
Northern shoveler	368	1.1	411	1.0	180	0.7
Northern pintail	429	1.3	411	1.0	395	1.5
Wood duck	245	0.7	342	0.8	539	2.0
Redhead	184	0.6	411	1.0	180	0.7
Canvasback	0	0.0	68	0.2	0	0.0
Lesser scaup	61	0.2	137	0.3	0	0.0
Ring-necked duck	245	0.7	0	0.0	144	0.5
Goldeneyes	1,410	4.3	1,507	3.6	611	2.3
Bufflehead	184	0.6	137	0.3	0	0.0
Ruddy duck	61	0.2	137	0.3	0	0.0
Hooded merganser	0	0.0	0	0.0	0	0.0
Other mergansers	123	0.4	411	1.0	36	0.1
Total Duck Harvest	33,000		41,500		26,400	
Total Active Duck hunters	3,700		4,100		3,100	
Total Duck Hunter Days a Field	15,600		21,800		13,100	
Seasonal Harvest Per Hunter	9.0		10.1		8.5	
Sample Sizes	606		606		734	

Source: Raftovich et al. 2018-19

Geese

Hi-Line Population of Canada Geese

Population Surveys

The range wide count of HLP Canada geese was 375,000 during spring of 2019, down 8% from the 2018 count. Wetland conditions were generally drier across the range, particularly in the Canadian portion. The HLP range in southern Alberta and western Montana was variable, from "excellent" to "poor". The portion of the HLP range in southern Saskatchewan and eastern Montana was generally "good" to "poor".

State and federal agencies conduct the MWS throughout the US during the first full week in January. The purpose is to estimate the continental population and distribution of wintering waterfowl. Numbers of geese present in Wyoming during the winter period can fluctuate markedly from year to year and within a year dependent on seasonal weather and water conditions. The 2019 count was 40% higher than that of 2018, and 72% above the 5-year average.

2018-19 Harvest

During the 2018-19 hunting season, harvest of Hi-Line and CFAN geese decreased by 10% from 2017. Harvest fluctuations from year to year tend to be more related to weather influences on goose distribution rather than to actual changes in the total population. Current and historical season dates are summarized in Table 30.

During 2018-19, the standard shooting hours for dark geese were ½ hour before sunrise until sunset except within the following areas: Goshen County north of Wyoming Highway 313 and County Road 28; the portion of Platte County west of Interstate Highway 25; and the portion of Platte County south of Wyoming Highway 160 (Gray Rocks Road) and Riverview Road (Platte County Road 271). Within these defined areas, the shooting hours were ½ hour before sunrise until 1:00 p.m., except when all-day hunting was allowed September 28 through October 9, on all Saturdays and Wednesdays from November 16 through December 31, and on all Saturdays, Sundays, and Wednesdays from January 1 through the close of the dark goose season.

Rocky Mountain Population of Canada Geese

Population Surveys

Spring population surveys of the Rocky Mountain Population (RMP) of Canada geese are based off the spring waterfowl breeding survey, as well as several state surveys. Range-wide, the total population index was 176,000 geese in 2019. Breeding habitat conditions in 2019 were generally "good" or "excellent" across the range.

In January 2019, 7,653 geese were counted in the Central Flyway portion of the RMP range compared to 14,988 geese in 2018. The 2019 goose count was the highest among counts conducted the previous 5 years (Table 8). Again, these counts vary markedly from year–to-year depending on weather conditions.

2018-19 Harvest

Early Season

Regulations governing Wyoming's early Canada goose season are summarized in Table 30. Wyoming does not offer an early Canada goose season in the Central Flyway portion of the RMP range. The justification for a September hunting season is to reduce damage problems by moving birds off private irrigated hay meadows and croplands while providing additional recreational hunting opportunity. In 2018, the early season harvest comprised 71% (1560/2191) of the total goose harvest in the Pacific Flyway (Tables 9, 11, and 12). The average harvest was 2.1 geese per hunter.

Regular Season

Canada goose harvests during the regular waterfowl hunting season are summarized in Tables 9, 10, 11, and 12. RMP (Western) Canada geese comprise most of the harvest in the management areas that constitute the Central Flyway portion of their range, and almost all geese harvested in the Pacific Flyway.

The estimated harvest in the Central Flyway portion of the RMP range was 8,516 in 2018, a 36% decrease from the 2017 estimate (Table 9). Harvest in the Bighorn Basin contributes over half the total annual harvest in the Central Flyway portion of the RMP range (Tables 9 and 10). The total number of hunter days decreased 36% and hunters decreased 15% in the Central Flyway portion of the RMP range in 2018 (Table 9).

Central Flyway Arctic Nesting Canada Geese

Population Surveys

The West-tier CFAN nests on Victoria and Jenny Lind Islands and on the Canadian mainland from Queen Maud Gulf west and south to the Mackenzie River and northern Alberta. Conditions on the breeding grounds in 2019 were average to below average. West-tier CFAN geese migrate through Wyoming each fall and spring and a small number winter in Wyoming. The 2019 MWS index across the Central Flyway was 382,814. During the 2019 MWS in Wyoming, 8,521 CFAN geese were counted, 86% more than in 2018, the highest count in the last 5 years (Table 8). Since 1999, ground surveys have been conducted as an alternative means to classify large and small Canada geese present in Carbon, Converse, Goshen, Natrona, and Platte counties in conjunction with the MWS.

Western Central Flyway Population of Light Geese

Population Surveys

The Western Central Flyway Population is comprised of over two-thirds lesser snow geese and nearly one third Ross' geese. These geese breed in the central and western Canadian Arctic. Large colonies are present at Queen Maude Gulf and Banks Island. In 2019, breeding conditions were generally average to below average.

State and federal agencies conduct the mid-winter waterfowl survey during the first two weeks of January to estimate continental populations of wintering waterfowl. In January 2019, 171,453 light geese were counted throughout the U.S. portion of the Western Central Flyway population's winter range. Generally, very few light geese are present in Wyoming during December and January.

2018-19 Harvest

The most recent light goose hunting regulations are summarized in Table 29. In 2018, the Department implemented the 18th consecutive year of the Light Goose Conservation Order (Table 30). Participants were required to purchase a Conservation Order Special Management Permit and complete a survey card provided with the permit. Use of electronic callers and hunting one-half hour after sunset were allowed. Light goose harvest during the Conservation Order is summarized in Table 14. Regular season harvest is summarized in Table 15. Very few light geese are harvested during the regular hunting season. Based on the LGCO survey response, 65 hunters harvested 169 light geese. This was the lowest harvest in the most recent 5 years.

Recommendations

1. Continue to maintain liberal hunting seasons and bag limits.
2. Continue harvest surveys.
3. Continue the mid-winter waterfowl survey.
4. Continue ground classifications during the mid-winter waterfowl survey to estimate proportions of HLP and CFAN (large and small) Canada geese that are present.
5. Support management based on a single population of arctic-nesting, white-cheeked geese.
6. Continue the general, early Canada goose hunt in the Pacific Flyway portion of Wyoming to address local damage problems.
7. Continue to implement the Light Goose Conservation Order in Wyoming.

Table 8. Central Flyway mid-winter surveys of white-cheeked geese in Wyoming, 2015 - 2019.

Population	2019	2018	2017	2016	2015	Average
Hi-line	63,932	45,426	38,851	14,253	22,856	37,064
CFAN	8,521	4,560	2,511	1,950	1,537	3,816
RMP	7,653	14,988	13,695	9,172	13,384	11,778
Total White-Cheeked Geese	80,121	64,974	55,057	25,375	36,240	52,353

Source: WGFD Unpublished Data

Table 9. Hunter activity and Harvest of Hi-Line, RMP, and CFAN geese in Wyoming.

Population		2018	2017	Percent Change 2017-2018	Average 2007-2017	Percent Above/Below Average
Hi-Line & CFAN						
	No. Hunters	2,951	2,705	+9	2,864	+3
	No. Rec. Days	15,141	13,397	+13	14,964	+1
	Harvest	16,954	18,864	-10	17,760	-5
RMP Central Flyway						
	No. Hunters	1,218	1,439	-15	1,254	-3
	No. Rec. Days	5,548	8,683	-36	6,653	-17
	Harvest	8,516	13,241	-36	8,029	+6
RMP Pacific Flyway						
	No. Hunters	813	933	-13	1,223	-34
	No. Rec. Days	4,094	3,993	+3	4,545	-10
	Harvest	2,191	2,775	-21	2,535	-14
Total Harvest						
	No. Hunters	4,982	5,077	-2	5,341	-7
	No. Rec. Days	24,783	26,073	-5	26,163	-5
	Harvest	27,661	34,880	-21	28,324	-2
	Birds/Hunter	5.6	6.9	-19	5.3	+5

Source: WGFD 2008-2019

Table 10. White-cheeked goose harvest in the Central Flyway of Wyoming.

Management Area			2018	2017	Percent Change 2017-2018	Average 2007-2017	Percent Above/Below Average
Missouri/Cheyenne/ Little Powder Rivers	1A	No. Hunters	154	155	-1	189	-18
		No. Rec. Days	394	485	-19	706	-44
		Harvest	972	658	+48	1,040	-7
Tongue/Little Big Horn /Powder Rivers	1B	No. Hunters	165	135	+22	164	+1
		No. Rec. Days	646	605	+7	587	+10
		Harvest	643	452	+42	463	+39
Central North Platte River	1C	No. Hunters	516	546	-5	527	-2
		No. Rec. Days	3,192	2,741	+16	2,898	+10
		Harvest	2,906	2,630	+10	2,014	+44
Lower North Platte River	2A	No. Hunters	1,826	1,697	+8	1,772	+3
		No. Rec. Days	9,689	8,961	+8	9,758	-1
		Harvest	10,957	14,595	-25	13,452	-19
South Platte River	2B	No. Hunters	84	74	+14	77	+9
		No. Rec. Days	384	280	+37	332	+16
		Harvest	703	286	+146	344	+104
Upper North Platte River	3A	No. Hunters	206	98	+110	137	+51
		No. Rec. Days	836	325	+157	683	+22
		Harvest	773	243	+218	448	+73
Big Horn River	4A	No. Hunters	929	982	-5	844	+10
		No. Rec. Days	4,653	6,324	-26	4,897	-5
		Harvest	6,848	11,039	-38	6,018	+14
Yellowstone River	4B	No. Hunters	-	3	-	20	-
		No. Rec. Days	-	3	-	65	-
		Harvest	-	7	-	41	-
Wind River	4C	No. Hunters	278	446	-38	377	-26
		No. Rec. Days	884	2,340	-62	1,659	-47
		Harvest	1,646	2,180	-24	1,910	-14
Sweetwater River	4D	No. Hunters	11	8	+38	12	-10
		No. Rec. Days	11	16	-31	32	-66
		Harvest	22	15	+47	60	-63

Source: WGFD 2008-2019

Table 11. Hunter activity and Harvest of white-cheeked geese during the early season in the Pacific Flyway of Wyoming.

Population			2018	2017	Percent Change 2017-2018	Average 2007-2017	Above/Below Average
Snake River	5A	No. Hunters	104	43	-142	77	-35
		Hunter Days	200	108	-85	168	-19
		Harvest	426	121	-252	200	-113
			0				
Upper Green River	5B	No. Hunters	71	27	-163	42	-68
		Hunter Days	153	100	-53	87	-75
		Harvest	194	59	-229	59	-229
			0				
Salt River	5C	No. Hunters	74	66	-12	69	-7
		Hunter Days	188	117	-61	164	-15
		Harvest	223	148	-51	162	-37
			0				
Lower Bear River	5D	No. Hunters	37	29	-28	51	+28
		Hunter Days	82	51	-61	110	+26
		Harvest	41	47	+13	108	+62
			0				
Great Divide Basin	5E	No. Hunters	-	3	-	2	-
		Hunter Days	-	6	-	4	-
		Harvest	-	11	-	3	-
Lower Green River	5F	No. Hunters	158	121	-31	137	-15
		Hunter Days	298	238	-25	286	-4
		Harvest	381	357	-7	261	-46
Ham's Fork-Black's For	5G	No. Hunters	47	20	-135	75	+38
		Hunter Days	113	48	-135	160	+30
		Harvest	211	44	-380	132	-60
Upper Bear River	5H	No. Hunters	32	19	-68	26	-22
		Hunter Days	49	33	-48	49	-0
		Harvest	84	59	-42	37	-124
Little Snake River	5I	No. Hunters	-	15	-	10	-
		Hunter Days	-	15	-	16	-
		Harvest	-	8	-	17	-
Total		No. Hunters	523	343	-52	491	-7
		Hunter Days	1083	716	-51	1045	-4
		Harvest	1560	854	-83	979	-59
		Birds/Hunter	2.1	2.1	+1	2.0	-3

Source: WGFD 2008-2019

Table 12. White-cheeked goose harvest in the Pacific Flyway of Wyoming.

Management Area			2018	2017	Percent Change 2017-2018	Average 2007-2017	Percent Above/Below Average
Snake River	5A	No. Hunters	117	124	-6	162	-28
		No. Rec. Days	637	674	-5	543	+17
		Harvest	486	438	+11	390	+25
Upper Green River Basin	5B	No. Hunters	141	98	+44	127	+11
		No. Rec. Days	582	399	+46	421	+38
		Harvest	219	266	-18	218	+0
Salt River	5C	No. Hunters	81	178	-54	163	-50
		No. Rec. Days	734	832	-12	746	-2
		Harvest	272	519	-48	394	-31
Lower Bear River	5D	No. Hunters	46	87	-47	113	-59
		No. Rec. Days	130	476	-73	417	-69
		Harvest	170	239	-29	275	-38
Great Divide Basin	5E	No. Hunters	4	6	-33	7	-41
		No. Rec. Days	9	12	-25	21	-57
		Harvest	17	19	-11	10	+70
Lower Green River Basin	5F	No. Hunters	243	285	-15	353	-31
		No. Rec. Days	1,215	1,011	+20	1368	-11
		Harvest	605	890	-32	711	-15
Ham's/Black's Fork	5G	No. Hunters	82	63	+30	178	-54
		No. Rec. Days	329	259	+27	665	-51
		Harvest	267	151	+77	344	-22
Upper Bear River	5H	No. Hunters	81	67	+21	99	-18
		No. Rec. Days	409	245	+67	323	+27
		Harvest	127	206	-38	147	-13
Little Snake River	5I	No. Hunters	18	25	-28	21	-13
		No. Rec. Days	49	85	-42	41	+19
		Harvest	28	47	-40	47	-40

Source: WGFD 2008-2019

Table 13. Proportions of Hi-Line and CFAN geese counted during the mid-winter waterfowl survey.

Year	Total Geese	Percent Hi-Line	Total Hi-Line	Percent CFAN	Total CFAN
1995	27,750	84	23,310	16	4,440
1996	44,238	83	36,718	17	7,520
1997	72,439	95	68,817	5	3,622
1998	37,927	82	31,100	18	6,827
1999	29,432	87	25,606	13	3,826
2000	39,689	90	35,720	10	3,969
2001	50,219	98	49,214	2	1,005
2002	23,427	93	21,764	7	1,663
2003	21,992	90	19,812	10	2,180
2004	40,379	89	35,877	11	4,502
2005	40,448	94	38,022	6	2,426
2006	63,844	88	56,184	12	7,660
2007	16,472	94	15,418	6	1,054
2008	10,482	94	9,876	6	606
2009	46,324	91	42,154	9	4,170
2010	44,248	96	42,477	4	1,771
2011	75,083	92	69,375	8	5,708
2012	42,500	91	38,762	9	3,738
2013	52,239	92	47,799	9	4,440
2014	87,577	91	79,259	10	8,318
2015	24,393	94	22,856	6	1,537
2016	16,203	88	14,253	12	1,950
2017	41,362	94	38,851	6	2,511
2018	49,986	91	45,426	9	4,560
2019	72,453	88	63,932	12	8,521
Averages	42,844	91	37,860	9	3,750

*Ocular estimate

Source: WGFD unpublished data.

Table 14. Harvest and hunter activity for the Wyoming light goose conservation order 2015-2019.

	2019	2018	2017	2016	2015	Average
Permits Sold	98	211	178	156	139	156
Total Survey Respondents	44	111	94	82	95	85
% Responded	45.0	53.0	53.0	53.0	68.4	54.5
Active Hunters	65	169	135	123	90	116
Total Days Hunted	189	527	438	514	352	404
Days/Hunter	7	6	3.2	4.2	3.9	4.9
Geese Harvested	149	1023	1066	671	534	689
Geese Knocked Down, but not retrieved	20	17	42	21	27	25
Total Harvest	169	1040	1108	692	561	714
Harvest/Hunter	3	6	8.2	5.6	6.2	5.8

Source: 2015-2019

Table 15. HIP estimates of goose harvest and hunter activity in Wyoming during the 2016-2018 regular hunting seasons.

Goose Species	2018	% of Bag	2017	% of Bag	2016	% of Bag
Canada Goose	20,311	100.00	35,396	99.39	25,018	99.51
Snow Goose	0	0.00	218	0.61	62	0.25
Blue Goose	0	0.00	0	0.00	0	0.00
Ross's Goose	0	0.00	0	0.00	0	0.00
White-fronted Goose	0	0.00	0	0.00	62	0.14
Total Goose Harvest	20,300		35,600		25,100	
Total Active Goose Hunters	3,700		4,200		3,900	
Total Goose Hunter Days Afield	14,800		23,200		16,800	
Goose Harvest Per Hunter	5.4		8.5		6.5	
Sample Sizes	539		653		407	

Source: Raftovich et al. 2018-19

Sandhill Cranes

Rocky Mountain Population of Sandhill Cranes

Population Surveys

The principal index used to monitor Rocky Mountain Population (RMP) sandhill cranes is derived from a multi-state cooperative survey of pre-migration staging areas conducted during September. September counts are summarized in Table 16. The 2018 count totaled 21,801 cranes.

Annual production is estimated by classifying the proportion of juveniles within the crane population staging in the San Luis Valley, Colorado in October. The recruitment rate during the 2018 survey was 7.9%.

Crane surveys conducted on established and experimental survey areas in Wyoming are summarized in Table 18. In 2018, 5,101 cranes were counted in RMP staging areas of central and western Wyoming. This was higher than the number observed in 2017 of 3,725.

In the Pacific Flyway portion of Wyoming, crane counts are conducted in mid-September after the crane hunting season has ended. Informal, late August counts of cranes flying off roosts suggest crane numbers may be higher just prior to hunts in the upper Salt River and the Big Sandy/Eden Reservoirs. Therefore, the number of cranes counted during pre-migration staging surveys in the Salt River, Bear River, Uinta, and Farson hunt areas may not be representative of cranes actually present at the start of the crane hunt.

Early hunting seasons are designed to reduce crop depredation by shifting the distribution of cranes away from agricultural fields. The limited harvest has minimal impact on the breeding population of cranes in Wyoming, but crane and concurrent early goose hunts in the Pacific Flyway portion of Wyoming may account for some changes in distribution (Rod Drewien, pers. com., Lockman et al. 1987).

The distribution of staging cranes has expanded in recent years. An area near Worland was added to the Bighorn Basin survey area in 2007. There is also a substantial influx of cranes, presumably from Montana, after surveys are completed in both the Wind River Basin and Bighorn Basin.

2018 Harvest

The Pacific and Central Flyway Management Plan for the Rocky Mountain Population of Sandhill Cranes allows regulated harvest of cranes when the population index exceeds 15,000 based on an average of the 3 most recent reliable surveys conducted on the fall pre-migration staging areas. A prescriptive model is used to allocate annual harvest among states. Wyoming's 2018 harvest allocation decreased to 169 cranes due to continued decreases in recruitment and population count. The number of permits issued has been twice the allowable harvest allocation based on our experience that on average, 50% of permit holders will harvest a crane. The Department has received requests to extend the season length, and has advised that anticipated increase in permit success will necessitate a reduction in available permits.

During 2018, 142 cranes were harvested in the 7 Wyoming hunt areas (Table 19). Permit success ranged from 30% in Area 5 (Uinta) to 53% in Areas 4 (Riverton) and 8 (Natrona, Johnson, and Sheridan counties). The harvest rate for active hunters ranged from 0.47 cranes per hunter in Area 2 (Salt River) to 0.73 cranes per hunter in Area 8 (Natrona, Johnson, and Sheridan counties). Hunter success averaged 61% across all hunt areas. Harvest rates fluctuate from year to year in all 7 hunt areas. Changes in harvest rates appear to be influenced by permit numbers and crane availability in any given year. Shifts in crane distribution are likely responsible for some fluctuations in harvest and hunter success. Land use changes including conversions from agriculture to subdivisions, changes in grain crop type and distribution, and reduced hunter access also appear to impact hunter success in some hunt areas, particularly in the Bear River and Star Valley hunt areas. The management plan was revised, and included a new hunt area in Natrona, Johnson, and Sheridan Counties proposed for 2016. RMP crane hunting seasons are summarized in Table 28.

Mid-Continent Population of Sandhill Cranes

Population Surveys

The Mid-Continent Population (MCP) of sandhill cranes is comprised predominantly of lesser sandhill cranes (Grus canadensis canadensis), and includes components of the greater subspecies (G. c. tabida). Since 1982, the MCP remained comparatively stable for many years, but has increased in recent years. The photo-corrected, 3-year average for 2017-19 was 839,992 cranes, which is above the established population-objective range of 350,000- 475,000 cranes.

Cranes affiliated with the Mid-Continent Population do not nest in Wyoming. Most of the migration bypasses Wyoming to the east. Significant spring and fall staging has been documented in Wyoming in recent years. The past few years, 7,000-15,000 cranes have stopped to rest during daylight hours at Keyhole Reservoir around the 10th to 30th of October. In 2014, the Department initiated the first coordinated spring survey of mid-continent sandhill cranes in Goshen County. In March of 2019, 4,140 cranes were counted flying onto or leaving roost sites on Table Mountain WHMA (Table 20).

2018 Harvest

Recent harvest statistics for mid-continent sandhill cranes are summarized in Table 21. During the 2018 season, 33 MCP sandhill cranes were harvested in Wyoming. As mentioned above, most MCP cranes pass east of Wyoming. Those that migrate through Wyoming do so over the course of a few days and do not stage in predictable concentrations. The timing of migration also varies from year to year. Consequently, most hunting is opportunistic.

Recommendations

1. Continue the RMP harvest survey to estimate harvest and hunter activity.

2. Continue the coordinated spring survey of mid-continent sandhill cranes staging at Table Mountain WHMA.
3. Continue to monitor changes in RMP crane distribution.
4. Continue to monitor the success rate of RMP crane hunters to assure Wyoming's harvest allocation is not exceeded.
5. Continue to survey cranes on fall pre-migration staging areas.

Table 16. September premigration staging area counts by state of the Rocky Mountain Population of greater sandhill cranes.

Year	Colorado[a]	Idaho	Montana	Utah	Wyoming	Total
1987	1,443	10,686	1,447	1,578	2,327	17,481
1992	3,181	5,801	5,264	2,810	2,248	19,304
1995	2,284	6,864	3,681	1,528	1,671	16,028
1996	1,255	8,334	2,974	1,849	2,526	16,938
1997	1,604	8,132	3,595	2,450	2,255	18,036
1998	1,273	8,067	3,415	2,185	3,162	18,102
1999	1,102	8,761	3,141	2,292	4,205	19,501
2000	749	9,337	3,598	2,416	3,890	19,990
2001	666	7,160	4,585	1,522	2,626	16,559
2002	1,355	7,698	4,843	1,869	3,038	18,803
2003	745	7,822	4,964	2,546	3,446	19,523
2004	1,410	7,152	4,637	2,239	3,072	18,510
2005	1,052	7,668	5,588	2,646	3,911	20,865
2007	1,743	8,262	6,509	2,401	3,907	22,822
2008	1,080	6,123	6,419	3,708	3,826	21,156
2009	1,162	6,934	6,329	2,283	3,613	20,321
2010	985	5,776	7,335	3,242	3,726	21,064
2011	1,347	5,029	6,642	1,498	2,978	17,494
2012	413	3,432	5,876	2,109	3,587	15,417
2013	1,594	5,228	7,218	2,732	3,588	20,360
2014	1,258	6,064	6,555	2,783	3,003	19,663
2015	1,089	6,454	9,493	3,698	3,596	24,330
2016	1,135	5,445	7,507	3,298	4,879	22,264
2017	1,658	4,066	7,149	2,994	3,725	19,592
2018	1,908	4,469	7,553	2,770	5,101	21,801
Mean	1,340	6,831	5,453	2,458	3,356	19,437

[a] Colorado counts include migrants that had arrived at the staging areas in the San Luis

Source: Sanders, 2019

Table 17. Population and allowable harvest of RMP Cranes.

Year	September Total	3 Year Population Average	Recruitment Rate	3 Year Recruitment Average	Total Allowable Harvest	Wyoming Allowable Harvest
1999	19,501	18,546	8.4	9.8	1,128	118
2000	19,990	19,198	6.7	8.8	1,163	116
2001	16,559	18,683	5.8	7.0	829	92
2002	18,803	18,451	5.2	5.9	668	78
2003	19,523	18,295	7.1	6.0	660	82
2004	18,510	18,945	9.4	7.2	910	122
2005	20,865	19,633	10.8	9.1	1,320	190
2006	Cancelled	19,633	9.9	10.0	1,456	209
2007	22,822	20,732	8.3	9.7	1,744	165
2008	21,156	21,614	9.1	9.1	1,940	188
2009	20,321	21,433	11.5	9.6	1,985	193
2010	21,064	20,847	8.4	9.6	1,780	175
2011	17,494	19,626	6.6	8.8	1,275	123
2012	15,417	17,992	7.8	7.6	774	80
2013	20,360	17,757	6.6	7.0	677	70
2014	19,668	18,482	10.3	8.2	937	94
2015	24,330	21,453	11.3	9.4	1,946	188
2016	22,264	22,087	8.8	10.2	2,362	240
2017	19,592	22,062	7.9	9.4	2,168	211
2018	21,801	21,219	7.9	8.2	1,628	169

Table 18. Pre-migration staging areas and associated September estimates.

Survey Area	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
(1) Baggs	6	21	4	0	0	5	0	0	0	2	0	2	NS	5	0	4	3
(2) Bear River Valley	1046	148	909	692	163	379	490	539	488	153	264	510	NS	96	149	233	246
(3) Greybull River/Otto	58	77	6	109	99	197	166	185	454	283	481	374	NS	437	179	439	286
(4) Shosone river/Ralston	228	294	303	109	384	366	446	341	470	389	196	386	NS	938	680	742	414
(5) Worland	28	50	85	134	174	113	31	96	322	215	201	24					
(6) Big Piney-Daniel	2	167	57	114	19	239	117	14	76	91	138	46	NS	3	58	174	40
(7) Bridger Valley	150	90	32	28	18	22	103	105	75	51	42	116	NS	273	43	125	33
(8) Lonetree	0	2	3	0	4	0	0	0	0	NS	NS	50					
(9) Farson	1506	1578	1864	2087	1295	1354	1665	988	1297	1463	1957	1431	NS	1382	1256	813	1051
(10) Hams Fork	0	35	0	2	0	35	15	101	18	90	51	149	NS	161	24	4	0
(11) Pinedale-Cora-Boulder	0	0	0	0	0	0	3	0	2	45	0	8	NS	35	2	2	2
(12)Seedskadee NWR	NS	NS	NS	NS	NS	NS	0	6	4	4	0	0	NS	0	3	2	6
(13) Saratoga	62	2	2	3	0	12	69	60	26	5	11	0	NS	2	85	193	0
(14) Jackson Hole (Elk	78	72	68	33	150	279	23	69	132	220	118	64	NS	40	84	117	121
(15) Star Valley	579	166	329	192	467	223	182	198	127	257	234	314	NS	191	234	316	304
(16) Hidden Valley	40	11	25	0	122	56	112	88	40	19	3	0	NS	43	119	39	58
(17) Ocean Lake	101	22	35	0	48	228	67	73	14	200	25	391	NS	96	113	229	433
(18) Riverview Valley	56	66	153	93	60	80	98	115	181	126	105	42	NS	209	43	14	41
Natrona County	238	104	479	359	452	139											
Johnson County	359	440	150	35	518	235											
Sheridan County	564	380	375	83	430	150											
Total	5101	3725	4879	3596	3003	3588	3587	2978	3726	3613	3826	3907	0	3911	3072	3446	3038

* Natrona, Johnson, and Sheridan Counties not included in the total count until 2016.

Source: WGFD Unpublished Data

Table 19. Harvest statistics from RMP sandhill crane hunts in Wyoming 2004-2018.

	Year														
Hunt Area	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
1 Bear River															
No. Hunters	12	16	19	16	7	12	23	25	20	24	27	21	18	24	15
Hunter Days	25	34	58	36	13	30	48	46	33	46	51	44	27	47	29
Days/Hunter	2.1	2.1	3.1	2.3	2	2.5	2.1	2.1	1.7	1.9	1.9	2.1	1.5	2	1.9
Harvest	7	7	4	10	5	5	13	9	11	18	17	9	12	14	12
Cranes/Hunter	0.58	0.44	0.21	0.63	0.72	0.42	0.57	0.41	0.55	0.75	0.63	0.43	0.67	0.58	0.76
2 Salt River															
No. Hunters	17	27	20	16	10	7	13	25	26	22	22	11	30	23	15
Hunter Days	37	53	50	37	20	21	36	61	109	54	45	29	87	59	48
Days/Hunter	2.2	2	2.5	2.4	2	3	2.8	2.4	4.2	2.5	2.1	2.6	3	2.6	3.3
Harvest	8	17	12	11	7	3	10	13	6	8	10	8	12	10	7
Cranes/Hunter	0.47	0.63	0.60	0.69	0.7	0.43	0.77	0.52	0.23	0.36	0.45	0.7	0.42	0.43	0.46
3 Eden/Farson															
No. Hunters	65	85	60	33	30	38	49	86	85	83	69	54	73	43	35
Hunter Days	114	186	99	51	54	64	76	171	151	152	137	103	135	82	65
Days/Hunter	1.8	2.2	1.7	1.5	1.8	1.7	1.5	2	1.8	1.8	2	1.9	1.9	1.9	1.9
Harvest	42	52	48	29	19	20	39	48	63	46	37	42	58	31	24
Cranes/Hunter	0.65	0.61	0.80	0.88	0.63	0.53	0.8	0.56	0.74	0.55	0.54	0.77	0.79	0.72	0.68
4 Riverton															
No. Hunters	57	75	83	36	47	41	59	71	91	73	70	65	83	48	55
Hunter Days	132	187	192	104	106	98	149	166	196	133	121	118	155	90	91
Days/Hunter	2.3	2.5	2.3	2.9	2.2	2.4	2.5	2.3	2.2	1.8	1.7	1.8	1.9	1.9	1.6
Harvest	35	57	48	20	35	16	30	42	46	58	45	45	55	28	37
Cranes/Hunter	0.61	0.76	0.58	0.56	0.73	0.39	0.51	0.59	0.,51	0.79	0.64	0.69	0.66	0.58	0.66
5 Uinta															
No. Hunters	5	15	11	6	6	3	10	11	10	8	10				
Hunter Days	8	39	26	22	11	9	47	37	13	22	20				
Days/Hunter	1.6	2.6	2.3	4	1.8	3	4.7	3.4	1.3	2.8	2				
Harvest	3	11	9	2	4	0	0	7	3	2	3				
Cranes/Hunter	0.6	0.73	0.82	0.33	0.67	0	0	0.64	0.3	0.25	0.3				
6 Big Horn															
No. Hunters	67	75	78	57	44	46	62	82	96	93	83	62	101	58	54
Hunter Days	164	238	214	125	73	119	165	228	192	217	191	124	276	152	110
Days/Hunter	2.4	3.2	2.8	2.2	1.7	2.6	2.7	2.8	2	2.3	2.3	2	2.6	2.6	2.1
Harvest	39	34	34	31	33	31	42	42	53	6.3	50	35	57	33	44
Cranes/Hunter	0.58	0.45	0.44	0.54	0.75	0.67	0.68	0.51	0.55	0.68	0.6	0.56	0.56	0.57	0.82
8 N/J/S															
No. Hunters	11	25	13												
Hunter Days	50	77	27												
Days/Hunter	4.5	3.1	2.2												
Harvest	8	15	4												
Cranes/Hunter	0.73	0.60	0.31												
Total															
Harvest Allocation	169	240	188	94	74	87	135	165	197	192	165	131	209	144	104
Permits Issued	306	460	381	216	163	180	270	352	395	387	330	266	401	254	206
No. Hunters	234	318	283	164	144	147	216	297	328	303	281	213	305	196	174
Hunter Days	530	814	666	375	276	342	521	709	695	624	562	418	687	430	343
Days/Hunter	2.3	2.6	2.4	2.3	1.9	2.3	2.4	2.4	2.1	2.1	2	2	2.3	2.2	2
Harvest	142	193	158	104	101	74	134	161	182	195	162	138	194	116	124
Cranes/Hunter	0.61	0.61	0.56	0.63	0.7	0.41	0.62	0.54	0.55	0.64	0.58	0.65	0.64	0.59	0.71

Source: WGFD 2005-2019

Table 20. Coordinated spring Mid-continent sandhill crane survey counts, WY.

	2019	2018	2017	2016	2015	Average
Table Mountain WHMA	4,140	3,475	3,255	4,200	2,918	3,598

Source: WGFD Unpublished Data

Table 21. Harvest Statistics of Mid-continent sandhill cranes 1975-2018.

Year	Permits Issued	Active Hunters	Retrieved Harvest	Birds / Hunter
1975-1979 Mean	47	20	8	0.4
1980-1989 Mean	39	11	6	0.5
1990-1999 Mean	38	8	5	0.6
2000	58	11	10	0.9
2001	72	13	7	0.5
2002	54	15	22	1.5
2003	50	10	7	0.7
2004	61	16	4	0.3
2005	68	24	16	0.7
2006	78	25	20	0.8
2007	58	19	20	1.1
2008	73	24	24	1.0
2009	62	67	8	0.1
2010	86	29	25	0.9
2011	86	41	20	0.5
2012	102	39	41	1.1
2013	106	35	41	1.2
2014	433	70	37	0.5
2015	454	78	28	0.4
2016	569	96	83	0.9
2017	646	305	263	0.9
2018	392	94	33	0.4

Source: Dubovsky 2018

Other Webless Migratory Game Birds

Mourning Doves

2018-19 Harvest

Dove harvest increased in 2018, but was still below the LTA (Table 22). Harvest success (birds/per hunter) and effort (days/hunter) both increased and were also below the LTA. Harvest estimates derived from HIP are presented in Table 23. We continue to rely on harvest estimates derived from the Department-run harvest survey, as HIP-derived estimates continue to have excessively wide confidence intervals. Recent dove hunting seasons are listed in Table 28.

Banding

In 2008, the National Mourning Dove Task Force recommended that all states not currently banding mourning doves begin a banding program. Regional banding data from within each management unit provides specific population information to support implementation of both the Mourning Dove National Strategic Harvest Management Plan and relevant interim harvest strategies. In 2004, the USFWS Service Regulations Committee (SRC) required that a mourning dove harvest management strategy be developed for each management unit. Combined banding goals for the Wyoming portions of 4 Bird Conservation Regions (BCRs) are 191 after hatch year (AHY) and 202 hatch year (HY) (393 total) mourning doves each year beginning in 2009.

In 2019, mourning doves were trapped and banded at thirteen locations across the state. Personnel banded 741 mourning doves (Table 24).

Wilson's Snipe

2018 Harvest

Snipe hunting and harvest in Wyoming have varied slightly over the past 12 years (Table 25). Confidence intervals about HIP-derived estimates continue to be excessively wide. Recent snipe hunting seasons are listed in Table 28.

Sora and Virginia Rail

2018 Harvest

Rail harvest and hunting in Wyoming remained low during the past 11 years (Table 26). Confidence intervals around HIP-derived estimates continue to be excessively wide. Recent rail hunting seasons are listed in Table 28.

American Coot

2018-2019 Harvest

For the most part, American coots are not actively hunted in Wyoming. Harvest has been nominal over the past 11 years (Table 27). Confidence intervals around HIP-derived estimates also continue to be excessively wide. Recent American coot hunting seasons are listed in Table 29.

Recommendations

1. Maintain hunting opportunity for all species of webless migratory game birds.
2. Continue to participate in dove banding statewide, focus on meeting banding goals while not banding excessively at any specific location.
3. Continue to support wetlands projects that provide habitat for rails and common snipe.

Table 22. Statewide mourning dove harvest in Wyoming.

Year	Hunters	Days	Days / Hunter	Harvest	Birds / Hunter
2004	2,471	7,645	3.09	32,142	13.01
2005	3,194	9,080	2.84	44,280	13.86
2006	2,461	7,141	2.90	32,807	13.33
2007	2,351	8,256	3.51	36,670	15.60
2008	2,315	7,482	3.23	29,994	12.96
2009	1,949	5,598	2.87	22,278	11.43
2010	2,528	8,096	3.20	28,906	11.43
2011	2,291	6,735	2.94	23,607	10.30
2012	2,263	7,260	3.21	28,402	12.55
2013	2,310	6,730	2.91	23,485	10.17
2014	2,235	6,857	3.07	27,791	12.43
2015	2,095	6,931	3.31	24,873	11.87
2016	2,255	6,758	3.00	23,920	10.61
2017	1,903	5,201	2.73	18,242	9.59
2018	2,119	6,637	3.13	20,420	9.64
Average	2,316	7,094	3.06	27,854	11.92

Source: WGFD 2005-2019

Table 23. HIP estimates of mourning dove harvest and hunter activity in Wyoming.

YEAR	Hunters	Days	Days / Hunter	Harvest	Birds / Hunter
2004	3,200	8,700	2.72	43,700	13.66
2005	2,500	6,600	2.64	34,100	13.64
2006	2,300	6,500	2.83	29,500	12.83
2007	4,000	8,800	2.20	42,600	10.65
2008	2,500	5,900	2.36	30,100	12.04
2009	2,300	5,800	2.52	20,600	8.96
2010	2,700	7,100	2.63	32,100	11.89
2011	2,700	5,100	1.89	25,000	9.26
2012	2,700	6,300	2.33	25,300	9.37
2013	3,100	7,200	2.32	34,200	11.03
2014	1,500	3,500	2.33	21,100	14.07
2015	1,700	3,300	1.94	14,900	8.76
2016	1,700	3,700	2.18	20,100	11.82
2017	700	2,200	3.14	9,400	13.43
2018	1,400	3,200	2.29	14,800	10.57
Average	2,333	5,593	2.42	26,500	11.46

Source: Raftovich et al. 2019, Raftovich et al. 2018, Raftovich et al. 2017, Raftovich et al. 2015, Raftovich and Wilkins 2013, Raftovich et al. 2011, Raftovich et al. 2009, Richkus et al. 2007, Padding et al. 2005

Table 24. Mourning doves banded by Department personnel to date.

		Age			
Band Date	Location	UNK	HY	AHY	TOTAL
2007	Casper	0	1	4	5
2008	Casper	1	21	24	46
2012	Cheyenne	0	11	25	36
2012	Downar	1	15	17	33
2013	Casper	0	1	2	3
2013	Cheyenne	57	34	35	126
2013	Downar	1	0	3	4
2013	Speas	3	4	9	16
2014	Casper	0	90	89	179
2014	Cheyenne	1	27	87	115
2014	Downar	3	14	34	51
2015	Casper	0	27	117	144
2015	Cheyenne	3	29	55	87
2016	Savery	0	1	18	19
2016	Casper	0	67	127	194
2016	Springer WHMA	0	1	13	14
2016	Cheyenne	6	57	176	239
2017	Rawlins	0	17	39	56
2017	Seedskadee NWR	0	32	129	161
2017	Casper	1	22	86	109
2017	Springer WHMA	0	2	15	17
2017	Cheyenne	13	63	181	257
2018	Baggs	0	7	16	23
2018	Cody	0	30	42	72
2018	Lander	0	0	1	1
2018	Rawlins	0	12	47	59
2018	Casper	0	71	146	217
2018	Glenrock	0	0	1	1
2018	Newcastle	0	10	67	77
2018	Wheatland	0	29	27	56
2018	Springer WHMA	0	8	22	30
2018	Cheyenne	18	39	179	236
2019	Cody	0	8	18	26
2019	Greybull	0	0	10	10
2019	Lander	0	7	16	23
2019	Opal	0	0	4	4
2019	Saratoga	0	10	40	50
2019	Seedskadee NWR	1	13	66	80
2019	Casper	0	115	227	342
2019	Dayton	0	1	19	20
2019	Glenrock	0	4	5	9
2019	Newcastle	0	9	53	62
2019	Wheatland	0	6	12	18
2019	Springer WHMA	1	3	1	5
2019	Cheyenne	1	45	46	92
Total Banded		111	963	2350	3424

Table 25. HIP estimates of snipe harvest and hunter activity in Wyoming.

Year	Hunters	Days	Days / Hunter	Harvest	Birds/ Hunter
2004	300	500	1.67	400	1.33
2005	100	300	3.00	400	4.00
2006	100	300	3.00	100	1.00
2007	100	100	1.00	200	2.00
2008	100	200	2.00	300	3.00
2009	50	50	1.00	100	2.00
2010	400	600	1.50	1,200	3.00
2011	100	200	2.00	400	4.00
2012	300	600	2.00	600	2.00
2013	50	100	2.00	100	2.00
2014	100	200	2.00	100	1.00
2015	50	100	2.00	100	2.00
2016	50	100	2.00	100	2.00
2017	200	800	4.00	300	1.50
2018	200	400	2.00	300	1.50
Average	147	303	2.08	313	2.16

Source: Raftovich et al. 2019, Raftovich et al. 2018, Raftovich et al. 2017, Raftovich et al. 2015, Raftovich and Wilkins 2013, Raftovich et al. 2011, Raftovich et al. 2009, Richkus et al. 2007, Padding et al. 2005

Table 26. HIP estimates of rail harvest and hunter activity in Wyoming.

Year	Hunters	Days	Days / Hunter	Harvest	Birds/ Hunter
2004	50	50	1.00	50	1
2005	0	0	0.00	0	0
2006	0	0	0.00	0	0
2007	0	0	0.00	0	0
2008	50	50	1.00	50	1
2009	0	0	0.00	0	0
2010	50	50	1.00	0	0
2011	0	0	0.00	0	0
2012	50	50	1.00	0	0
2013	50	50	1.00	50	1
2014	50	50	1.00	0	0
2015	100	300	3.00	500	5
2016	0	0	0.00	0	0
2017	0	0	0.00	0	0
2018	50	50	1.00	0	0
Average	30.00	43.33	0.67	43.33	0.53

Source: Raftovich et al. 2019, Raftovich et al. 2018, Raftovich et al. 2017, Raftovich et al. 2015, Raftovich and Wilkins 2013, Raftovich et al. 2011, Raftovich et al. 2009, Richkus et al. 2007, Padding et al. 2005

Table 27. HIP estimates of American coot harvest and hunter activity in Wyoming.

Year	Hunters	Days	Days/ Hunter	Harvest	Birds / Hunter
2004	100	100	1.00	200	2.00
2005	100	100	1.00	100	1.00
2006	100	500	5.00	900	9.00
2007	50	50	1.00	50	1.00
2008	200	200	1.00	200	1.00
2009	50	50	1.00	50	1.00
2010	200	200	1.00	600	3.00
2011	200	500	2.50	100	0.50
2012	400	1,800	4.50	3,200	8.00
2013	100	300	3.00	600	6.00
2014	100	400	4.00	300	3.00
2015	50	100	2.00	200	4.00
2016	50	100	2.00	400	8.00
2017	200	300	1.50	300	1.50
2018	300	500	1.67	300	1.00
Average	147	347	2.14	500	3.33

Source: Raftovich et al. 2019, Raftovich et al. 2018, Raftovich et al. 2017, Raftovich et al. 2015, Raftovich and Wilkins 2013, Raftovich et al. 2011, Raftovich et al. 2009, Richkus et al. 2007, Padding et al. 2005

American Crow

Population Survey

Based on the North American breeding bird survey, crows have increased from 1996-2013 throughout the United States, but decreased in Canada and Wyoming.

Harvest

Recent crow seasons are summarized in Table 31. The crow harvest and hunter activity are unknown in Wyoming. Since a license is not required to hunt crows, there is no means to identify a sample frame in order to conduct a harvest survey. The very limited hunting that takes place has had essentially no impact on crow populations.

Recommendations

1. Maintain hunting opportunity for recreation and to assist with depredation control.

Trumpeter and Tundra Swans

Discussion:

Swans are federally defined as migratory game birds [50 CFR 20.11(a)] and hunted in several states. Small resident and restored populations of breeding trumpeter swans inhabit portions of western Wyoming. Comparatively, few tundra swans migrate through the State. Wyoming's resident population of trumpeter swans has increased and expanded its distribution in recent years, particularly in the Upper Green River Basin. Additional restoration efforts are ongoing. The Migratory Game Bird Section addresses certain aspects of swan management through the Flyway process. However, the Nongame Section oversees the trumpeter swan program in Wyoming. There is no open hunting season on swans in Wyoming. Refer to Nongame completion reports for swan monitoring data and more detailed information about the restoration program.

Table 28. Wilson's snipe, sandhill crane, mourning dove, and rail hunting seasons in Wyoming, 1996-2018

			RMP Sandhill Crane								
Year	Common Snipe	MCP Sandhill Crane Area 7	Area 1 Bear/Ham's Fork	Area 2 Salt River	Area 3 Farson/Eden	Area 4 Riverton Area	Area 5 Uinta	Area 6 Big Horn Basin	Area 8 Natrona, Johnson, Sheridan	Mourning Dove	Sora and Virginia Rail
1996	Sep. 14 - Dec. 15	Sept. 14 - Nov. 10	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 21 - Sep. 27	-	Sep. 21 - Sep. 23		Sep. 1 - Oct. 20	Sep. 13 - Nov. 16
1997	Sep. 13 - Dec. 14	Sep. 13 - Nov. 9	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 20 - Sep. 28	-	Sep. 20 - Sep. 22		Sep. 1 - Oct. 19	Sep. 14 - Nov. 17
1998	Sep. 12 - Dec. 13	Sep. 12 - Nov. 8	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 19 - Sep. 30	-	Sep. 19 - Sep. 30		Sep. 1 - Oct. 30	Sep. 15 - Nov. 15
1999	Sep. 1 - Dec. 2	Sep. 11 - Nov. 7	Sep. 1 - Sep. 14	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 18 - Sep. 29	-	Sep. 18 - Sep. 29		Sep. 1 - Oct. 30	Sep. 1 - Nov. 4
2000	Sep. 1 - Dec. 16	Sep. 9 - Nov. 5	Sep. 1 - Sep. 14	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 16 - Oct. 6	-	Sep. 16 - Oct. 1		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2001	Sep. 1 - Dec. 16	Sep. 15 - Nov. 11	Sep. 1 - Sep. 14	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 15 - Oct. 5	-	Sep. 15 - Sep. 30		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2002	Sep. 1 - Dec. 16	Sep. 14 - Nov. 10	Sep. 1 - Sep. 14	Sep. 1 - Sep. 7	Sep. 1 - Sep. 7	Sep. 21 - Oct. 11	-	Sep. 21 - Oct. 6		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2003	Sep. 1 - Dec. 16	Sep. 13 - Nov. 9	Sep. 1 - Sep. 14	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep 20 - Oct. 20	-	Sep. 20 - Oct. 5		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2004	Sep. 1 - Dec. 16	Sep. 18 - Nov. 14	Sep. 1 - Sep. 14	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 18 - Oct. 8	-	Sep. 18 - Oct. 8		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2005	Sep. 1 - Dec. 16	Sep. 17 - Nov. 13	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 17 - Oct. 7	-	Sep. 17 - Oct. 2		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2006	Sep. 1 - Dec. 16	Sep. 16 - Nov. 12	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 16 - Oct. 6	-	Sep. 16 - Oct. 1		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2007	Sep. 1 - Dec. 16	Sep. 15 - Nov. 11	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 15 - Oct. 5	-	Sep. 15 - Sep. 30		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2008	Sep. 1 - Dec. 16	Sep. 13 - Nov. 9	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 13 - Oct. 3	Sep. 1 - Sep. 8	Sep. 13 - Sep. 28		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2009	Sep. 1 - Dec. 16	Sep. 19 - Nov. 15	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 19 - Oct. 9	Sep. 1 - Sep. 8	Sep. 19 - Oct. 4		Sep. 1 - Oct. 30	Sep. 1 - Nov. 9
2010	Sep. 1 - Dec. 16	Sep. 18 - Nov. 14	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep 18 - Oct 10	Sep. 1 - Sep. 8	Sep. 18 - Oct. 3		Sep. 1 - Nov. 9	Sep. 1 - Nov. 9
2011	Sep. 1 - Dec. 16	Sep. 17 - Nov. 13	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 17 - Oct 9	Sep. 1 - Sep. 8	Sep. 17 - Oct 2		Sep. 1 - Nov. 9	Sep. 1 - Nov. 9
2012	Sep. 1 - Dec. 16	Sep. 15 - Nov. 11	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 15 - Oct. 7	Sep. 1 - Sep. 8	Sep. 15 - Oct. 7		Sep. 1 - Nov. 9	Sep. 1 - Nov. 9
2013	Sep. 1 - Dec. 16	Sep. 14 - Nov. 10	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 14 - Oct. 6	Sep. 1 - Sep. 8	Sep. 14 - Oct. 6		Sep. 1 - Nov. 9	Sep. 1 - Nov. 9
2014	Sep. 1 - Dec. 16	Sep. 13 - Nov. 9	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 13 - Oct. 5	Sep. 1 - Sep. 8	Sep. 13 - Oct. 5		Sep. 1 - Nov. 9	Sep. 1 - Nov. 9
2015	Sep. 1 - Dec. 16	Sep. 19 - Nov. 15	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 19 - Oct. 11	Sep. 1 - Sep. 8	Sep. 19 - Oct. 11		Sep. 1 - Nov. 9	Sep. 1 - Nov. 9
2016	Sep. 1 - Dec. 16	Sep. 17 - Nov. 13	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 17 - Oct. 9	Sep. 1 - Sep. 8	Sep. 17 - Oct. 9	Sep. 17 - Oct. 9	Sep. 1 - Nov. 29	Sep. 1 - Nov. 9
2017	Sep. 1 - Dec. 16	Sep. 16 - Nov. 12	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 16 - Oct. 8	Sep. 1 - Sep. 8	Sep. 16 - Oct. 8	Sep. 16 - Oct. 8	Sep. 1 - Nov. 29	Sep. 1 - Nov. 9
2018	Sep. 1 - Dec. 16	Sep. 14 - Nov. 10	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 1 - Sep. 8	Sep. 28 - Oct. 20	Sep. 1 - Sep. 8	Sep. 14 - Oct. 6	Sep. 1 - Sep. 30	Sep. 1 - Nov. 29	Sep. 1 - Nov. 9

Table 29. Duck, merganser, American coot, and light goose seasons, 1996-2018

	Ducks, Mergansers, and Coots				Light Geese		
Year	C1	C1A	C2	Pacific Flyway	Central Flyway	Pacific Flyway	Conservation Order
1996	Oct 5-Oct 20 Nov 2-Dec 15 Dec 21-Jan 12		Sep 28-Oct 27 Nov 2-Dec 1 Dec 14-Jan 5	Sep 28-Dec 29	Oct 5-Dec 19 Feb 14-Mar 10		
1997	Oct 4-Oct 26 Nov 1-Dec 21 Dec 22-Jan 13		Oct 4-Jan 8	Oct 4-Jan 17	Oct 4-Dec 24 Feb 14-Mar 10		
1998	Oct 3-Oct 25 Oct 31-Jan 11		Oct 3-Jan 7	Oct 3-Jan 16	Oct 3-Dec 22 Feb 13-Mar 10		
1999	Oct 2-Oct 24 Oct 30-Jan 11		Oct 2-Jan 6	Oct 2-Jan 15	Oct 2-Dec 26 Feb 13-Mar 10		
2000	Oct 7-Oct 22 Oct 28-Jan 16		Sep 30-Oct 22 Nov 4-Jan 16	Sep 30-Jan 13	Oct 7-Dec 31 Jan 19-Feb 8		Mar 1-Mar 31
2001	Oct 6-Oct 21 Oct 27-Jan 15		Sep 29-Oct 21 Oct 27-Jan 8	Sep 29-Jan 12	Oct 6-Dec 31 Jan 27-Feb 14		Mar 1-Mar 31
2002	Oct 5-Oct 20 Oct 26-Jan 14		Sep 21-Oct 20 Oct 26-Dec 8 Dec 14-Jan 5	Sep 21-Jan 4	Oct 5-Dec 31 Jan 27-Feb 13		Mar 1-Apr 6
2003	Oct 4-Oct 19 Oct 25-Jan 13		Sep 27-Oct 19 Oct 25-Dec 14	Sep 27-Jan 10	Oct 4-Dec 31 Jan 27-Feb 12		Mar 1-Apr 6
2004	Oct 2-Oct 17 Oct 23-Jan 11		Sep 25-Oct 17 Oct 23-Dec 12 Dec 18-Jan 9	Sep 25-Jan 8	Oct 2-Dec 31 Jan 27-Feb 10		Feb 21-Apr 3
2005	Oct 1-Oct 16 Oct 29-Jan 17		Oct 1-Oct 23 Nov 5-Jan 17	Sep 24-Jan 7	Oct 1-Dec 31 Jan 27-Feb 9		Feb 20-Apr 2
2006	Oct 7-Oct 24 Nov 4-Jan 21		Sep 30-Oct 22 Nov 4-Jan 16	Sep 23-Jan 6	Oct 7-Jan 7 Jan 27-Feb 8		Feb 19-Apr 8
2007	Oct 6-Oct 23 Nov 3-Jan 20		Sept 29-Oct 21 Nov 3-Jan 15	Sep 22-Jan 5	Oct 6-Jan 1 Jan 26-Feb 12		Feb 25-Apr 13
2008	Oct 4-Oct 21 Nov 1-Jan 18		Sep 27-Oct 9 Nov 1-Jan 13	Sep 27-Jan 9	Oct 4-Jan 1 Jan 26-Feb 9		Feb 23-Apr 12
2009	Oct 3-Oct 20 Oct 31-Jan 17		Sep 26-Oct 20 Oct 31-Jan 10	Sept 26-Jan 8	Oct 3-Dec 27 Jan 21-Feb 8		Feb 22-Apr 11
2010	Oct 2-Oct 19 Oct 30-Jan 16		Sep 25-Nov 28 Dec 11-Jan 11	Sep 25-Jan 7	Oct 2-Dec 26 Jan 20-Feb 7		Feb 21-Apr 10
2011	Oct 1-Oct 16 Oct 29-Jan 17		Sep 24-Nov 27 Dec 10-Jan 10	Sep 24-Jan 6	Oct 1-Dec 25 Jan 28-Feb 15		Feb 20-Apr 8
2012	Oct 6-Oct 21 Nov 3-Jan 22		Sep 22-Nov 25	Sep 22-Jan 4	Oct 6-Dec 30 Jan 30-Feb 17		Feb 25-Apr 7
2013	Oct 5-Oct 22 Nov 2-Jan 19		Sep 21-Dec 1 Dec 14-Jan 7	Sep 21-Jan 3	Oct 5-Dec 30 Jan 30-Feb 16		Feb 24-Apr 6
2014	Oct 4-Oct 22 Nov 1-Jan 17		Sep 27-Dec 7 Dec 13-Jan 6	Sep 27-Jan 9	Oct 4-Dec 31 Jan 31-Feb 15		Feb 23-Apr 12
2015	Oct 3-Oct 21 Oct 31-Jan 16		Sep 26-Dec 6 Dec 12-Jan 5	Sep 26-Jan 8	Oct 3-Dec 31 Jan 31-Feb 14		Feb 22-Apr 10
2016	Oct 1-Oct 18 Oct 29-Jan 15		Sep 24-Dec 4 Dec 10-Jan 3	Sep 24-Jan 6	Oct 1-Dec 29 Jan 29-Feb 12		Feb 13-Apr 9
2017	Sep 30-Oct 17 Oct 28-Jan 14		Sep 23-Dec 3 Dec 9-Jan 2	Sep 23-Jan 5	Oct 1-Dec 29 Jan 29-Feb 12	Sep. 23 - Dec. 28	Feb 19-Apr 8
2018	Sep 28 -Oct 15 Oct 26-Jan 12	Sep 28 -Oct 15 Oct 26-Jan 12	Sep 21-Dec 1 Dec 14-Jan 7	Sep 21-Jan 3	Sep 28-Dec 29 Feb 5-Feb 16	Sep. 21 - Dec. 26	Feb 17-Apr 30

Table 30. Dark goose hunting seasons, 1996-2018.

	Dark Geese									
Year	C1	C1A	Goshen and Platte	Converse and Platte	Converse	Goshen	C2	Bighorn and Fremont	Pacific Flyway Early Season	Pacific Flyway
1996	Oct 5-Jan 19	-	-	Oct 19-Jan 31	-	Nov 16-Jan 31	Sep 28-Jan 12	-	Sep 1-Sep 8	Sep 28-Jan 5
1997	Oct 4-Jan 17	-	-	Oct 18-Jan 31	-	Nov 14-Jan 31	Oct 4-Jan 18	-	Sep 1-Sep 7	Oct 4-Jan 11
1998	Oct 3-Jan 16	-	-	Oct 18-Jan 31	-	Nov 14-Jan 31	Oct 3-Jan 16	-	Sep 1-Sep 7	Oct 3-Jan 9
1999	Oct 2-Jan 5	-	-	Oct 18-Jan 31	-	Nov 13-Jan 31	Oct 2-Jan 15	-	Sep 1-Sep 7	Oct 2-Jan 8
2000	Oct 7-Jan 20	-	Oct 7-Oct 22 Nov 11-Feb 8	-	Oct 18-Jan 31	-	Sep 30-Oct 22 Nov 4-Jan 25	-	Sep 1-Sep 7	Sep 30-Jan 6
2001	Oct 6-Oct 19	-	Oct 6-Oct 21 Nov 17-Feb 14	-	Oct 18-Jan 31	-	Sep 29-Oct 21 Oct 27-Jan 17	-	Sep 1-Sep 7	Sep 29-Jan 5
2002	Oct 5-Jan 18	-	Oct 5-Oct 20 Nov 16-Feb 13	-	Oct 18-Jan 31	-	Sep 28-Oct 20 Oct 26-Jan 16	-	Sep 1-Sep 7	Sep 28-Jan 4
2003	Oct 4-Oct 19 Nov 1-Dec 14 Dec 20-Feb 3	-	Oct 4-Oct 19 Nov 15-Feb 12	-	-	-	Sep 27-Oct 12 Nov 1-Dec 14	-	Sep 1-Sep 8	Sep 27-Jan 2
2004	Oct 2-Oct 17 Oct 30-Dec 12 Dec 18-Feb 1	-	Oct 2-Oct 17 Nov 13-Feb 10	-	-	-	Sep 25-Jan 8	Sep 25-Oct 10 Oct 30-Dec 12 Dec 18-Feb 1	Sep 1-Sep 8	Sep 25-Dec 31
2005	Oct 1-Oct 16 Oct 29-Dec 11 Dec 17-Jan 31	-	Oct 1-Oct 16 Nov 12-Feb 9	-	-	-	Oct 1-Jan 14	Oct 1-Oct 23 Nov 5-Dec 11 Dec 17-Jan 31	Sep 1-Sep 8	Sep 24-Dec 30
2006	Oct 7-Oct 22 Nov 4-Dec 10 Dec 16-Feb 6	-	Oct 7-Oct 22 Nov 4-Dec 10 Dec 16-Feb 6	-	-	-	Oct 1-Jan 14	Sep 30-Oct 22 Nov 4-Dec 10 Dec 16-Jan 30	Sep 1-Sep 8	Sep 23-Dec 29
2007	Oct 6-Oct 23 Nov 3-Dec 9 Dec 15-Feb 3	-	Oct 6-Oct 23 Nov 17-Feb 12	-	-	-	Sep 29-Dec 2 Dec 15-Jan 24	Sep 29-Oct 21 Nov 3-Dec 9 Dec 15-Jan 29	Sep 1-Sep 8	Sep 22-Dec 28
2008	Oct 4-Oct 21 Nov 1-Dec 7 Dec 13-Jan 31	-	Oct 4-Oct 21 Nov 15-Feb 9	-	-	-	Sep 27-Nov 30 Dec 13-Jan 21	Sep 27-Oct 19 Nov 1-Dec 7 Dec 13-Jan 26	Sep 1-Sep 8	Sep 27-Jan 1
2009	Oct 3-Oct 20 Oct 31-Dec 6 Dec 12-Jan 30	-	Oct 3-Oct 20 Nov 14-Feb 8	-	-	-	Sep 26-Nov 29 Dec 12-Jan 20	Sep 26-Oct 20 Oct 31-Dec 6 Dec 12-Jan 23	Sep 1-Sep 8	Sep 26-Dec 31
2010	Oct 2-Oct 19 Nov 6-Dec 5 Dec 11-Feb 5	-	Oct 2-Oct 19 Nov 13-Feb 7	-	-	-	Sep 25-Nov 28 Dec 11-Jan 19	Sep 25-Oct 19 Oct 30-Dec 5 Dec 11-Jan 22	Sep 1-Sep 8	Sep 25-Dec 30
2011	Oct 1-Oct 16 Nov 5-Dec 4 Dec 10-Jan 28	-	Oct 1-Oct 16 Nov 19-Feb 12	-	-	-	Sep 24-Nov 27 Dec 10-Jan 18	Sep 24-Oct 18 Nov 5-Dec 4 Dec 10-Jan 28	Sep 1-Sep 8	Sep 24-Jan 6
2012	Oct 6-Oct 21 Nov 3-Dec 2 Dec 8-Feb 4	-	Oct 6-Oct 21 Nov 21-Feb 17	-	-	-	Sep 22-Nov 25 Dec 8-Jan 16	-	Sep 1-Sep 8	Sep 22-Dec 27
2013	Oct 5-Oct 22 Nov 2-Dec 1 Dec 7-Feb 1	-	Oct 5-Oct 22 Nov 22-Feb 16	-	-	-	Sep 21-Dec 1 Dec 14-Jan 15	-	Sep 1-Sep 8	Sep 21-Dec 26
2014	Oct 4-Oct 22 Nov 1-Nov 30 Dec 6-Jan 30	-	Oct 4-Oct 22 Nov 22-Feb 15	-	-	-	Sep 27-Dec 7 Dec 13-Jan 14	-	Sep 1-Sep 8	Sep 27-Jan 1
2015	Oct 3-Oct 21 Oct 31-Nov 29 Dec 5-Jan 29	-	Oct 3-Oct 21 Nov 21-Feb 14	-	-	-	Sep 26-Dec 6 Dec 12-Jan 13	-	Sep 1-Sep 8	Sep 26-Dec 31
2016	Oct 1-Oct 18 Oct 29-Nov 27 Dec 3-Jan 28	-	Oct 1-Oct 18 Nov 18-Feb 12	-	-	-	Sep 24-Dec 4 Dec 10-Jan 11	-	Sep 1-Sep 8	Sep 24-Dec 29
2017	Sep 30-Oct 17 Oct 28-Nov 26 Dec 2-Jan 27	-	Sep 30-Oct 11 Nov 18-Feb 18	-	-	-	Sep 23-Dec 3 Dec 9-Jan 10	-	Sep 1-Sep 8	Sep 23-Dec 28
2018	Sep 28-Oct 6 Nov 9-Dec 1 Dec 6-Feb 16	Sep 28-Oct 9 Nov 16-Feb 16	-	-	-	-	Sep 21-Dec 1 Dec 14-Jan 15	-	Sep 1-Sep 8	Sep 21-Dec 26

Table 31. Recent crow hunting seasons in Wyoming.

Year	Season Dates	Bag/Possession Limits
2004	November 1 - February 28	None/None
2005	November 1 - February 28	None/None
2006	November 1 - February 28	None/None
2007	November 1 - February 28	None/None
2008	November 1 – February 28	None/None
2009	November 1 - February 28	None/None
2010	November 1 - February 28	None/None
2011	November 1 - February 28	None/None
2012	November 1 - February 28	None/None
2013	November 1 - February 28	None/None
2014	November 1 - February 28	None/None
2015	November 1 - February 28	None/None
2016	November 1 - February 28	None/None
2017	November 1 - February 28	None/None
2018	November 1 - February 28	None/None

Bump-Sullivan Managed Goose Hunt

Introduction

Springer/Bump-Sullivan Reservoir and Table Mountain Wildlife Habitat Management Areas (WHMAs) are the principal public goose hunting areas in Goshen County. Bump-Sullivan Reservoir has been a popular goose hunting area for over 50 years. A managed goose hunt was initiated there during the 1993-94 hunting season to reduce competition among parties and improve hunting quality. Twelve blinds were erected around the reservoir and 4 pass shooting pits were established in a field at the northwest corner of Springer WHMA. An additional property was acquired at the south end of Springer WHMA which opened 3 field hunting pits to include in the managed goose hunt. Hunters were required to check in at the Springer Check Station and a drawing was conducted before shooting hours each morning to assign hunting blinds or pits. A goose special management permit was also instituted to help offset the cost of blind maintenance and operation of the check station.

Due to drought conditions and low reservoir levels prevalent from 2002-2010, goose hunting opportunities and interest declined within the managed hunt boundaries. For the 2011-12 dark goose hunting season and thereafter, the Department decided not to require persons participating in the hunt to purchase a special management permit and the check station was not operated. Pits and blinds are occupied on a first-come, first-served basis. The hunt will continue to be managed in this manner until such time as demand may increase to the point that access needs to be controlled through a permitting system.

Recommendations

1. Support efforts to improve water supplies into Bump-Sullivan Reservoir.
2. Continue annual pit maintenance.
3. Replace lower section of pits as needed.
4. Monitor public use and demand for the pits/blinds

References

Dubovsky, J. A., compiler. 2017. Central Flyway mid-winter survey results, 2017. USFWS, Denver, Colorado.

Dubovsky, J. A., compiler. 2018. Central Flyway mid-winter survey results, 2018. USFWS, Denver, Colorado.

Dubovsky, J. A., compiler. 2019. Central Flyway mid-winter survey results, 2019. USFWS, Denver, Colorado.

Dubovsky, J. A.. 2019. Status and harvests of sandhill cranes: Mid-Continent, Rocky Mountain, Lower Colorado River Valley and Eastern Populations. Admin. Report. USFWS, Lakewood, Colorado. 44 pp.

Lockman, D. C., L. Serdiuk, and R. C. Drewin. 1987. An experimental Greater Sandhill Crane and Canada goose hunt in Wyoming. Proceedings 1985 Crane Workshop, Dr, J. C. Lewis editor. Platte River Whooping Crane Habitat Maintenance Trust and U. S. Fish and Wildlife Service. Grand Island, Nebraska.

Padding, P.I., K.D. Richkus, M.T. Moore, E.M. Martin, S.S. Williams, and H.L. Spriggs. 2005. Migratory bird hunting activity and harvest during the 2003 and 2004 hunting seasons. USFWS. Laurel, MD. 67 pp.

Raftovich, R.V., K.K. Fleming, S.C. Chandler, and C.M. Cain. 2019. Migratory bird hunting activity and harvest during the 2017-18 and 2018-19 hunting seasons. USFWS. Laurel, MD. 75 pp.

Raftovich, R.V., S.C. Chandler, and K.K. Fleming. 2018. Migratory bird hunting activity and harvest during the 2016-17 and 2017-18 hunting seasons. USFWS. Laurel, MD. 72 pp.

Raftovich, R.V., S. Chandler, and K.A. Wilkins. 2017. Migratory bird hunting activity and harvest during the 2015-16 and 2016-17 hunting seasons. USFWS. Laurel, MD. 70 pp.

Raftovich, R.V., S. Chandler, and K.A. Wilkins. 2016. Migratory bird hunting activity and harvest during the 2014-15 and 2015-16 hunting seasons. USFWS. Laurel, MD. 63 pp.

Raftovich, R.V., S. Chandler, and K.A. Wilkins. 2015. Migratory bird hunting activity and harvest during the 2013-14 and 2014-15 hunting seasons. USFWS. Laurel, MD. 63 pp.

Raftovich, R.V. and K.A. Wilkins. 2013. Migratory bird hunting activity and harvest during the 2011-12 and 2012-13 hunting seasons. USFWS. Laurel, MD. 64 pp.

Raftovich, R.V., K.A. Wilkins, K. D. Richkus, S.S. Williams, and H.L. Spriggs,. 2009. Migratory bird hunting activity and harvest during the 2007 and 2008 hunting seasons. USFWS. Laurel, MD. 64 pp.

Raftovich, R.V., K.A. Wilkins, S.S. Williams, H.L. Spriggs, and K. D. Richkus. 2011. Migratory bird hunting activity and harvest during the 2009 and 2010 hunting seasons. USFWS. Laurel, MD. 64 pp.

Richkus, K.D., M.T. Moore, P.I. Padding, S.S. Williams, H.L. Spriggs, and E.M. Martin.2007. Migratory bird hunting activity and harvest during the 2005 and 2006 hunting seasons. USFWS. Laurel, MD. 62 pp.

Thorpe, P.P., P. Donnelly, and D. Collins. 2018. September 2018 Survey of the Rocky Mountain Population of Greater Sandhill Cranes. Administrative Report, USFWS, Denver, Colorado. 7 pp.

USFWS. 2019. Waterfowl population status, 2019. DOI, Washington, D.C. 78 pp.

WGFD. 2005. Annual report of small game and upland game harvest 2004. Annual Report, WGFD, Cheyenne, Wyoming. 93 pp.

WGFD. 2006. Annual report of small game and upland game harvest 2005. Annual Report, WGFD, Cheyenne, Wyoming. 96 pp.

WGFD. 2007. Annual report of small game and upland game harvest 2006. Annual Report, WGFD, Cheyenne, Wyoming. 120 pp.

WGFD. 2008. Annual report of small game and upland game harvest 2007. Annual Report, WGFD, Cheyenne, Wyoming. 96 pp.

WGFD. 2009. Annual report of small game and upland game harvest 2008. Annual Report, WGFD, Cheyenne, Wyoming. 98 pp.

WGFD. 2010. Annual report of small game and upland game harvest 2009. Annual Report, WGFD, Cheyenne, Wyoming. 108 pp.

WGFD. 2011. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2010. Annual Report, WGFD, Cheyenne, Wyoming. 103 pp.

WGFD. 2012. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2011. Annual Report, WGFD, Cheyenne, Wyoming. 103 pp.

WGFD. 2013. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2012. Annual Report, WGFD, Cheyenne, Wyoming. 89 pp.

WGFD. 2014. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2013. Annual Report, WGFD, Cheyenne, Wyoming. 91 pp.

WGFD. 2015. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2014. Annual Report, WGFD, Cheyenne, Wyoming. 82 pp.

WGFD. 2016. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2015. Annual Report, WGFD, Cheyenne, Wyoming. 103 pp.

WGFD. 2017. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2016. Annual Report, WGFD, Cheyenne, Wyoming. 91 pp.

WGFD. 2018. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2017. Annual Report, WGFD, Cheyenne, Wyoming. 107 pp.

WGFD. 2019. Annual report of small game, upland game, waterfowl, furbearer, wild turkey, and falconry harvest 2018. Annual Report, WGFD, Cheyenne, Wyoming. 106 pp.