

**2017  
MIGRATORY GAME BIRD  
JOB COMPLETION**



PHOTO: Nate Huck

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by

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## Introduction

The Migratory Game Bird Section (MGBS) has operated with reduced staffing since the mid-1990s. Accordingly, surveys and other job duties have been prioritized and in some cases, suspended. During the report period, 1.0 FTE was assigned to the section.

In cooperation with the U.S. Fish and Wildlife Service (USFWS), the 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.

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 will be 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 Flyway Technical Committee and Council meets in September each year to formalize regulation selection, and the Technical Committee will meet again in March 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 nesting structures statewide as well as 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 7 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 flown by USFWS. The traditional survey area does not include Wyoming and survey data historically collected from within Wyoming were not used in developing fall flight predictions.

Conditions throughout much of the traditional survey areas were described as fair to good and average conditions prevailed in many regions. The estimated number of ponds was 22% higher in 2017 compared to 2016, and 17% above the long term average (LTA). The population of breeding ducks was 2% lower 2017 compared to 2016, but remained 34% above the LTA (Table 1). The breeding population of mallards in the traditional survey area decreased 11% from the 2016 level and was 34% above the LTA (Table 2).

Short and long-term changes in breeding populations of the 5 duck species most commonly harvested in Wyoming are shown in Table 2. In 2016, American wigeon and American green-winged teal decreased compared to 2015 levels. Blue-winged teal and gadwall populations increased.

The 2017 fall flight of mid-continent population (MCP) mallards was forecast to be 12.9 million, similar to the 2016 estimate. In 2008, two revisions were made to the MCP boundary. Alaska was excluded and incorporated into a Western Population; Michigan, Minnesota, and Wisconsin were added. Population indices are based on MCP mallard population models revised in 2002 with model weights updated in 2008. Therefore, current indices are not comparable to historic indices previously published.

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 count of ducks in the Central Flyway portion of Wyoming was 83% below the long-term average in 2017 (Table 3).

### **2016-17 Harvest**

In 2016, the Department estimated 54,426 ducks were harvested in Wyoming (Table 4). The 2016 harvest was more than estimated in 2015, and 34% below the Department's objective. 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, 40,941 ducks were harvested in 2016 (Tables 4 and 5). This harvest was 10% more than recorded in 2015 and 23% below the Department's objective for the Central Flyway. Waterfowl management areas in Wyoming are depicted in Fig. 1.

In the Pacific Flyway portion of Wyoming, 13,485 ducks were harvested in 2016 (Tables 4 and 6). This was 8% above the 2015 harvest of 12,473 ducks and 54% below the Department's objective for Pacific Flyway duck harvest.

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. Estimating state-specific sales of duck stamps is also becoming increasingly problematic for the USFWS in part because persons can obtain electronic duck stamps online from wildlife agencies in other states. Current and historic season dates are summarized in Table 31.

## **Banding**

The Department began an operational banding station at Springer and Table Mountain WHMAs during 2016. In 2017, a total of 1,344 ducks were banded between 8/2/17 and 9/13/17. Blue-winged teal were the most commonly banded duck. Of the 833 banded, 675 were hatch-year birds (81%). A total of 307 mallards were banded and after hatch-year and hatch-year birds comprised approximately half. Wood ducks accounted for 166 of the ducks banded, and 128 (77%) were adults. Again, the majority of the wood ducks banded were male (121, 78.6%). Additional species banded included 24 American green-winged teal, 12 northern pintails, and two redheads.

The Department contributed funding through annual flyway assessment to support the Central Flyway's cooperative duck banding operation in 2017 and prior years. During 2017, a crew banded 951 ducks at Lake Ilo National Wildlife Refuge (NWR) in North Dakota. The 5 most common species banded at Lake Ilo, were mallard (476), gadwall (184), blue-winged teal (173), wood duck (73), and American green-winged teal (22).

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 2017 banding operations are reported.

## **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. Continue duck banding in Wyoming.
9. Review and critique federal policies and regulations affecting waterfowl management in Wyoming.
10. Reinstate a breeding duck survey in Wyoming to better inform wetland assessment and conservation efforts throughout the state.
11. Reevaluate Department objectives pertaining to hunter numbers, hunter days, and harvest objectives.

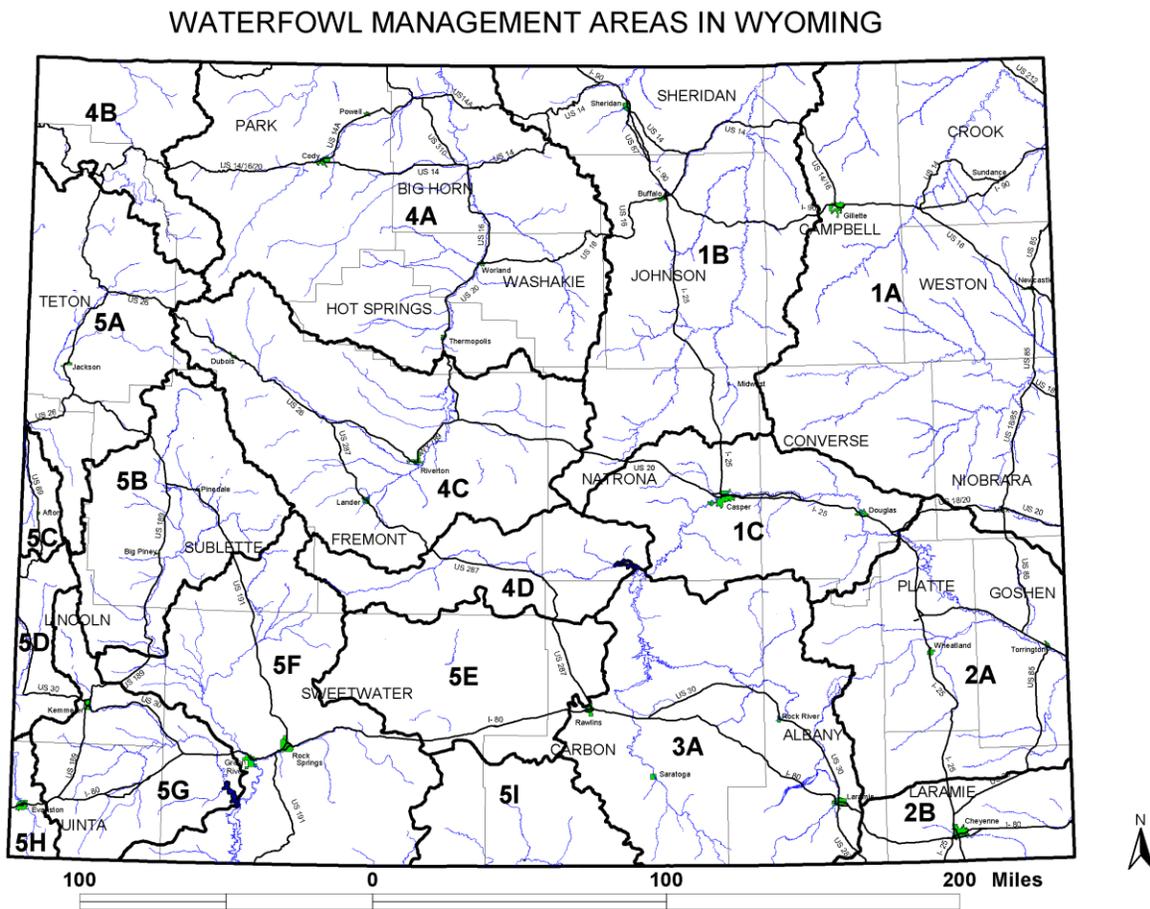


Fig. 1. Waterfowl management areas in Wyoming.

Table 1. Total duck<sup>a</sup> breeding population estimates (in thousands) for the traditional survey area.

| Region                                       | 2017   | 2016   | Percent Change<br>from 2016 | LTA <sup>a</sup> | Percent Change<br>from LTA |
|--|--------|--------|-----------------------------|------------------|----------------------------|
| Alaska-Yukon Territory-<br>Old Crow Flats    | 3,987  | 4,327  | -8                          | 3,698            | +8                         |
| C. & N. Alberta-N.E. British<br>Columbia-NWT | 11,423 | 14,041 | -19                         | 7,394            | +54                        |
| N. Saskatchewan-<br>N. Manitoba-W. Ontario   | 2,561  | 3,246  | -21                         | 3,459            | -26                        |
| S. Alberta                                   | 6,444  | 5,032  | +28                         | 4,314            | +49                        |
| S. Saskatchewan                              | 12,152 | 10,753 | +13                         | 7,922            | +53                        |
| S. Manitoba                                  | 1,748  | 1,777  | -2                          | 1,551            | +13                        |
| Montana & Western Dakotas                    | 2,207  | 2,229  | -1                          | 1,729            | +28                        |
| Eastern Dakotas                              | 6,744  | 6,957  | -3                          | 5,095            | +32                        |
| Total  | 47,266 | 48,363 | -2                          | 35,163           | +34                        |

<sup>a</sup>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.

<sup>b</sup>Long-term average, 1955-2016

Source: USFWS 2017

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

| Species           | 2017   | 2016   | Percent Change<br>from 2016 | LTA <sup>a</sup> | Percent Change<br>from LTA |
|-------------------|--------|--------|-----------------------------|------------------|----------------------------|
| Mallard           | 10,488 | 11,793 | -11                         | 7,855            | +34                        |
| American Wigeon   | 2,777  | 3,411  | -19                         | 2,617            | +6                         |
| Green-winged teal | 3,605  | 4,275  | -16                         | 2,126            | +70                        |
| Gadwall           | 4,180  | 3,712  | +13                         | 1,981            | +111                       |
| Blue-winged teal  | 7,889  | 6,689  | +22                         | 5,035            | +57                        |
| Total             | 28,939 | 29,880 | -4                          | 19,614           | +54                        |

<sup>a</sup>Long-term average, 1955-2016

Source: USFWS 2017

Table 3. Changes in ducks and mergansers counted during the mid-winter survey in Wyoming, 2016 to 2017.

| Species           | 2017          | 2016          | Percent Change<br>from 2016 | LTA <sup>a</sup> | Percent Change<br>from LTA |
|-------------------|---------------|---------------|-----------------------------|------------------|----------------------------|
| Mallard           | 9,407         | 40,209        | -77                         | 56,804           | -83                        |
| Gadwall           | 25            | 74            | -66                         | 930              | -92                        |
| American wigeon   | 52            | 51            | +2                          | 1,047            | -95                        |
| Green-winged teal | 7             | 39            | -82                         | 465              | -98                        |
| Northern shoveler | 0             | 0             | -                           | 14               | -                          |
| Northern pintail  | 19            | 4             | +375                        | 183              | -90                        |
| Wood duck         | 0             | 0             | -                           | 21               | -                          |
| Redhead           | 0             | 4             | -                           | 13               | -                          |
| Canvasback        | 0             | 4             | -                           | 0                | -                          |
| Scaup             | 0             | 13            | -                           | 27               | -                          |
| Ringneck          | 20            | 69            | -71                         | 100              | -80                        |
| Goldeneye         | 2,547         | 3,630         | -30                         | 8,188            | -69                        |
| Bufflehead        | 0             | 10            | -                           | 120              | -                          |
| Ruddy duck        | 0             | 0             | -                           | 7                | -                          |
| Mergansers        | 229           | 196           | +17                         | 2,519            | -91                        |
| <b>TOTAL</b>      | <b>12,306</b> | <b>44,303</b> | <b>-72</b>                  | <b>70,438</b>    | <b>-83</b>                 |

<sup>a</sup>Long-Term Average from 1992-2016

Source: Dubovsky 2016, 2017

Table 4. Duck harvest and hunter activity by flyway, 2012-2016.

|                       | 2016   | 2015   | 2014   | 2013   | 2012   | Objective |
|-----------------------|--------|--------|--------|--------|--------|-----------|
| <b>Central Flyway</b> |        |        |        |        |        |           |
| No. Hunters           | 4,368  | 4,575  | 4,854  | 4,867  | 4,512  | 9,016     |
| No. Days              | 21,591 | 21,286 | 23,322 | 22,814 | 24,623 | 44,295    |
| Harvest               | 40,941 | 37,271 | 35,810 | 39,020 | 38,529 | 53,124    |
| <b>Pacific Flyway</b> |        |        |        |        |        |           |
| No. Hunters           | 1,679  | 1,571  | 1,421  | 1,616  | 1,552  | 3,970     |
| No. Days              | 7,045  | 7,007  | 6,707  | 7,572  | 6,508  | 19,148    |
| Harvest               | 13,485 | 12,473 | 11,179 | 14,276 | 11,704 | 29,294    |
| <b>Total</b>          |        |        |        |        |        |           |
| No. Hunters           | 6,047  | 6,146  | 6,275  | 6,483  | 6,064  | 12,986    |
| No. Days              | 21,591 | 21,286 | 23,322 | 22,814 | 24,623 | 63,443    |
| Harvest               | 54,426 | 49,744 | 46,989 | 53,296 | 50,233 | 82,418    |

Source: WGFD 2013-2017

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

| Management Area                            |                | 2016   | 2015  | 2014   | 2013   | 2012   | Objective |
|--|----------------|--------|-------|--------|--------|--------|-----------|
| Missouri/Cheyenne/<br>Little Powder Rivers | 1A No. Hunters | 201    | 332   | 215    | 188    | 179    | 398       |
|  | No. Days       | 708    | 1,671 | 914    | 1,739  | 542    | 1,791     |
|  | Harvest        | 1,164  | 3,265 | 1,497  | 2,017  | 1,134  | 1,393     |
| Tongue/Little Big Horn<br>/Powder Rivers   | 1B No. Hunters | 264    | 337   | 270    | 306    | 260    | 547       |
|  | No. Days       | 827    | 894   | 992    | 763    | 944    | 2,461     |
|  | Harvest        | 1,391  | 1,597 | 1,279  | 1,735  | 1,603  | 3,063     |
| Central North Platte<br>River              | 1C No. Hunters | 796    | 823   | 852    | 939    | 990    | 1,603     |
|  | No. Days       | 4,517  | 4,514 | 4,019  | 4,742  | 5,997  | 8,015     |
|  | Harvest        | 7,117  | 7,019 | 4,485  | 8,765  | 8,957  | 7,214     |
| Lower North Platte<br>River                | 2A No. Hunters | 946    | 981   | 1,211  | 1,222  | 1,048  | 2,050     |
|  | No. Days       | 4,611  | 4,417 | 5,086  | 4,768  | 5,338  | 9,225     |
|  | Harvest        | 8,250  | 7,654 | 8,987  | 6,438  | 7,330  | 9,225     |
| South Platte River                         | 2B No. Hunters | 110    | 84    | 106    | 78     | 101    | 193       |
|  | No. Days       | 620    | 281   | 266    | 180    | 448    | 965       |
|  | Harvest        | 1,404  | 733   | 373    | 348    | 815    | 869       |
| Upper North Platte<br>River                | 3A No. Hunters | 354    | 347   | 404    | 401    | 338    | 1,075     |
|  | No. Days       | 1,830  | 1,764 | 1,537  | 1,901  | 1,880  | 4,838     |
|  | Harvest        | 2,729  | 3,087 | 2,920  | 2,536  | 1,875  | 5,160     |
| Big Horn River                             | 4A No. Hunters | 1,133  | 1,048 | 1,220  | 1,174  | 1,104  | 2,200     |
|  | No. Days       | 6,058  | 5,039 | 7,620  | 6,661  | 6,971  | 12,000    |
|  | Harvest        | 14,291 | 8,797 | 11,726 | 13,202 | 13,819 | 20,000    |
| Yellowstone River                          | 4B No. Hunters | 20     | 26    | 11     | 0      | 5      | 100       |
|  | No. Days       | 20     | 39    | 21     | 0      | 28     | 400       |
|  | Harvest        | 25     | 80    | 95     | 0      | 32     | 500       |
| Wind River                                 | 4C No. Hunters | 489    | 579   | 537    | 552    | 456    | 950       |
|  | No. Days       | 2,211  | 2,561 | 2,737  | 2,051  | 2,290  | 5,000     |
|  | Harvest        | 4,305  | 4,989 | 4,359  | 3,962  | 2,658  | 6,200     |
| Sweetwater River                           | 4D No. Hunters | 55     | 18    | 28     | 7      | 31     | 100       |
|  | No. Days       | 189    | 106   | 130    | 9      | 185    | 540       |
|  | Harvest        | 265    | 50    | 89     | 17     | 306    | 770       |

Source: WGFD 2013-2017

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

| Management Area         |             | 2016  | 2015  | 2014  | 2013  | 2012  | Objective |
|-------------------------|-------------|-------|-------|-------|-------|-------|-----------|
| Snake River 5A          | No. Hunters | 255   | 260   | 229   | 215   | 161   | 440       |
|                         | No. Days    | 1,045 | 1,243 | 1,012 | 985   | 1,004 | 2,200     |
|                         | Harvest     | 2,116 | 2,542 | 1,300 | 1,539 | 1,289 | 2,800     |
| Upper Greer 5B<br>Basin | No. Hunters | 297   | 271   | 242   | 162   | 184   | 500       |
|                         | No. Days    | 1,042 | 1,362 | 1,012 | 537   | 396   | 2,000     |
|                         | Harvest     | 1,948 | 2,297 | 1,681 | 1,375 | 638   | 3,000     |
| Salt River 5C           | No. Hunters | 224   | 243   | 213   | 221   | 119   | 750       |
|                         | No. Days    | 1,317 | 1,582 | 1,495 | 1,378 | 746   | 4,000     |
|                         | Harvest     | 1,829 | 2,435 | 3,006 | 2,558 | 1,711 | 7,500     |
| Lower Bear 15D          | No. Hunters | 175   | 50    | 80    | 148   | 98    | 450       |
|                         | No. Days    | 998   | 140   | 473   | 718   | 536   | 2,048     |
|                         | Harvest     | 2,228 | 320   | 628   | 1,085 | 927   | 3,294     |
| Great Divide 5E         | No. Hunters | 6     | 21    | 4     | 34    | 15    | 100       |
|                         | No. Days    | 19    | 156   | 18    | 180   | 34    | 400       |
|                         | Harvest     | 28    | 101   | 18    | 266   | 88    | 600       |
| Lower Green 5F<br>Basin | No. Hunters | 301   | 344   | 325   | 446   | 563   | 700       |
|                         | No. Days    | 992   | 1,150 | 1,114 | 2,337 | 2,458 | 3,000     |
|                         | Harvest     | 1,695 | 2,326 | 2,203 | 4,494 | 3,934 | 4,200     |
| Ham's/Black' 5G         | No. Hunters | 272   | 235   | 181   | 250   | 237   | 600       |
|                         | No. Days    | 1,076 | 968   | 999   | 1,041 | 758   | 3,000     |
|                         | Harvest     | 2,539 | 1,524 | 1,413 | 2,176 | 1,358 | 3,600     |
| Upper Bear 15H          | No. Hunters | 104   | 123   | 121   | 109   | 162   | 330       |
|                         | No. Days    | 348   | 334   | 530   | 335   | 554   | 1,900     |
|                         | Harvest     | 834   | 818   | 828   | 717   | 1,685 | 3,500     |
| Little Snake 15I        | No. Hunters | 45    | 24    | 26    | 31    | 13    | 100       |
|                         | No. Days    | 208   | 72    | 54    | 61    | 22    | 600       |
|                         | Harvest     | 268   | 110   | 102   | 66    | 74    | 800       |

Source: WGFD 2013-2017

Table 7. HIP estimates of duck harvest and hunter activity in Wyoming during the 2014-2016 hunting seasons.

| Duck Species Composition       | 2016   | %    | 2015   | %    | 2014   | %    |
|--------------------------------|--------|------|--------|------|--------|------|
| Mallard                        | 16,245 | 61.7 | 21,477 | 69.2 | 25,886 | 68.5 |
| Gadwall                        | 1,509  | 5.7  | 1,658  | 5.3  | 1,600  | 4.2  |
| American Wigeon                | 2,013  | 7.6  | 2,239  | 7.2  | 1,842  | 4.9  |
| Green-winged teal              | 3,199  | 12.1 | 2,488  | 8.0  | 3,102  | 8.2  |
| Blue-winged Teal/Cinnamon teal | 1,294  | 4.9  | 705    | 2.3  | 2,036  | 5.4  |
| Northern shoveler              | 180    | 0.7  | 373    | 1.2  | 339    | 0.9  |
| Northern pintail               | 395    | 1.5  | 249    | 0.8  | 679    | 1.8  |
| Wood duck                      | 539    | 2.0  | 207    | 0.7  | 388    | 1.0  |
| Redhead                        | 180    | 0.7  | 124    | 0.4  | 436    | 1.2  |
| Lesser scaup                   | 0      | 0.0  | 166    | 0.5  | 436    | 1.2  |
| Ring-necked duck               | 144    | 0.5  | 539    | 1.7  | 388    | 1.0  |
| Goldeneyes                     | 611    | 2.3  | 663    | 2.1  | 242    | 0.6  |
| Bufflehead                     | 0      | 0.0  | 124    | 0.4  | 145    | 0.4  |
| Ruddy duck                     | 0      | 0.0  | 0      | 0.0  | 145    | 0.4  |
| Hooded merganser               | 0      | 0.0  | 0      | 0.0  | 0      | 0.0  |
| Other mergansers               | 36     | 0.1  | 41     | 0.1  | 145    | 0.4  |
| Total Duck Harvest             | 26,400 |      | 31,100 |      | 37,900 |      |
| Total Active Duck hunters      | 3,100  |      | 3,200  |      | 3,500  |      |
| Total Duck Hunter Days a Field | 13,100 |      | 15,900 |      | 18,400 |      |
| Seasonal Harvest Per Hunter    | 8.5    |      | 9.7    |      | 10.9   |      |
| Sample Sizes                   | 734    |      | 750    |      | 782    |      |

Source: Raftovich et al. 2016-17

## Geese

### **Hi-Line Population of Canada Geese**

#### **Population Surveys**

Prior to 2010, the population index used to manage the Hi-Line Population (HLP) of Canada Geese was derived from the Mid-winter Waterfowl Survey (MWS). In 2010, the Central Flyway Subcommittee for the HLP Canada Geese adopted the Spring Breeding Population Survey as the primary index replacing the MWS. In 2016, the Department flew the last breeding Canada goose survey. The last survey within the Hi-Line range was flown in 2015.

The range wide count of HLP Canada geese was 374,600 during spring of 2017, a 17% decrease from the 2016 count. Wetland conditions were generally drier across the range. Most of the HLP range in Montana was rated “poor” in central and southern portions of the HLP range. The portions of the HLP range in Montana near the Rocky Mountains and Canadian border were rated “good to excellent.” The Canadian portions of the range were rated “good to excellent”.

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. Midwinter counts of HLP Canada geese in Wyoming are summarized in Table 8. The 2016 count was 173% higher than that of 2016, and 18% above the 5-year average.

#### **2016-17 Harvest**

During the 2016-17 hunting season, numbers of hunters and recreation days were below the objectives the Department has established for the HLP and Central Flyway Arctic Nesting (CFAN) populations of Canada geese (Tables 9 and 10). However, harvest continues to be higher than the objective. The disparity between effort and harvest objectives may be an artifact of a much higher goose population and daily limits in recent years by comparison to the time frame in which these harvest objectives were originally set. With a higher daily bag limit, fewer hunters are able to harvest more geese with less effort (days of hunting). These harvest objectives should be revisited in light of current population status and regulatory frameworks. Overall, harvest increased 67% from 2015 to 2016. 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 32.

During 2016-17, the standard shooting hours for dark geese were ½ hour before sunrise to sunset except within the following areas: Goshen County north of Wyoming Highway 313 and County Road 28; and those portions of Platte County west of Interstate Highway 25 or south of Wyoming Highway 160 (Gray Rocks Road) and Platte County Road 271 (Riverview Road). Within these defined areas, the shooting hours were ½ hour before sunrise until 1:00 p.m., except all-day hunting was allowed September 30- October 11, on all Saturdays and Wednesdays from

November 18 through December 31, and on all Saturdays, Sundays, and Wednesdays from January 1 through the close of the dark goose season. The shortened (half day) shooting hours were adopted years ago in response to concerns expressed by local hunters who believed excessive hunting pressure could displace geese and/or cause them to become more decoy shy.

## **Banding**

No HLP Canada geese were trapped and banded during 2016. The most recent banding effort was in 2004. The most recent reported recovery of a Wyoming-banded HLP goose was in January 2016 near Longmont, CO. It was banded in 1993 near Casper. A goose banded near Farson (outside of the HLP range) was found dead in New Mexico in December 2015. It is likely this bird was a molt migrant when it was banded.

## **Rocky Mountain Population of Canada Geese**

### **Population Surveys**

Spring population surveys of the Rocky Mountain Population (RMP) of Canada geese are derived from the spring waterfowl breeding survey, as well as several state surveys. Range-wide, the total population index was 187,700 geese in 2017, a 27% decrease from that of 2016. Breeding habitat conditions in 2017 were generally “fair to good” across the range. The RMP range includes the entire Pacific Flyway portion of Wyoming as well as management areas 4A, 4B, 4C, 4D, and Western portions of 3A within the Central Flyway (Fig. 1). The Wyoming portion of the breeding goose survey was discontinued after 2016, as the data from Wyoming are no longer included in the abundance index for this population.

The Pacific Flyway Study Committee (PFSC) is currently revising the RMP Canada Goose Management Plan. The RMP & Pacific Population may be combined into a single population of Western Canada Geese. Key changes will be outlined in this JCR when the plan is completed.

The Pacific Flyway mid-winter survey was not flown in 2017 and it will not be surveyed again in the foreseeable future. In January 2017, 13,695 geese were counted in the Central Flyway portion of the RMP range compared to 9,172 geese in 2016. The 2017 goose count was the second lowest of counts conducted the previous 5 years (Table 8). Again, these counts vary markedly from year to year dependent on weather conditions.

### **2016-17 Harvest**

#### **Early Season**

Regulations governing Wyoming’s early Canada goose season are summarized in Table 32. 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 cropland while providing additional recreational hunting opportunity.

The early September hunt only accounted for a small portion of the overall goose harvest in the Pacific Flyway when the hunt was permit-based and restricted to defined hunt areas prior to 2004. From 1997-2003 goose harvest in the early season averaged 310 birds. In 2003, the early harvest was about 15% of the regular season harvest. Some shifts in goose distribution were noted following the early hunts, suggesting the early season may be successfully addressing damage problems. Lockman et al. (1987) conclude that hunting pressure displaced geese out of Star Valley and Bear River/Cokeville Meadows during initial years of the early goose and crane limited quota permit hunt. Presumably the displaced geese moved into adjacent areas in Wyoming, Utah or Idaho where no early goose season was held at the time. This displacement effect addressed goose depredation issues in two management areas (Lockman et al. 1987). However, some hunters were concerned that the early hunts also impacted hunting opportunity at the start of the regular season.

Beginning in 2004, the early September goose hunt was expanded to include the entire Pacific Flyway portion of Wyoming and was converted to a general season hunt with no limit on participation. Predictably, number of hunters and harvest increased greatly. From 2006 through 2015, the early season harvest comprised 35% to 50% of the total goose harvest in the Pacific Flyway. The number of hunters participating has declined since 2007, however, harvest and hunter effort have remained comparatively stable. In 2016, the early season harvest comprised 33% (1,026/3,141) of the total goose harvest in the Pacific Flyway (Tables 9, 11, and 12). Average harvest was 2.1 geese per hunter. The early season hunt accounts for a large proportion of the annual harvest in just 8 days. Geese are particularly vulnerable to hunting in early September, when family groups decoy readily. Later in the season, geese are in larger flocks that have been subjected to some hunting pressure, and tend to be more difficult to decoy.

## **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.

Whether the early Canada goose season is affecting regular season harvest opportunities in the Pacific Flyway is unclear. Hunter participation and harvest declined in both the early and regular seasons from 2008-2016, possibly reflecting poor or declining access in some areas. However, only a few complaints were registered by early or regular season hunters.

The estimated harvest in the Central Flyway portion of the RMP range was 9,271 in 2016, a 6% increase from the 2015 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 number of hunter days and hunters in the Central Flyway portion of the RMP range decreased 37% and 2%, respectively, in 2016 (Table 9).

The harvest objective for RMP Canada geese in Wyoming is 3,520 in the Central Flyway portion of the range and 4,447 in the Pacific Flyway (Table 10). Estimated harvest has exceeded the

established objective in the Central Flyway over the period of record whereas Pacific Flyway harvest has fallen well below the objective.

## **Banding**

No geese were banded in Wyoming during 2009-2017. Past banding efforts are summarized in the 2005-2010 migratory game bird annual reports. Eight RMP geese harvested in 2016-17 were banded in Wyoming in 2006 and 2008. Five were harvested in Wyoming, two in Colorado, and one in Idaho.

## **Central Flyway Arctic Nesting Canada Geese**

### **Population Surveys**

In 2013, the Central Flyway Waterfowl Technical Committee (CFWTC) combined the Short Grass Prairie (SGPP) and Tall Grass Prairie (TGPP) goose populations and management plans into a single Central Flyway Arctic Nesting (CFAN) goose population and consolidated the respective management plans.

The West-tier CFAN (formerly SGPP) 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. West-tier CFAN geese migrate through Wyoming each fall and spring and a small number winter in Wyoming. The 2017 MWS index was 468,094, 3% higher than the 2016 index. During the 2017 MWS, 2,511 CFAN geese were counted in Wyoming, 29% more than in 2016 and the median count in the last 5 years (Table 13). In 2017, the spring population estimate in Northwest Territories was 152,600, a 40% decrease compared to the 2016 estimate. Conditions on the breeding grounds were average to above average. Production was expected to be average to above-average and the 2017 fall flight similar to that of 2016.

Prior to 1999, hunter-submitted samples consisting of at least 100 tail fans were used to estimate the percent of large and small Canada geese in the harvest and waterfowl surveys. This method was appropriate for estimating harvest composition. However, tail fan data are not representative of the composition of "snapshot" waterfowl surveys in part, because selection bias by hunters may favor larger geese. 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 (Table 14).

## **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 2017, breeding conditions were generally average to above-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 2017, 214,200 light geese were counted throughout the U.S. portion of the Western Central Flyway population's winter range. This reflected a 9% decrease from the number counted in 2016. Generally, very few light geese are present in Wyoming during December and January.

## **2016-17 Harvest**

The most recent light goose hunting regulations are summarized in Table 31. The light goose season was closed in the Pacific Flyway portion of Wyoming through 2016. However, the season was opened in 2017 for the first time in 35 years.

In 2016, the Department implemented the 16<sup>th</sup> consecutive year of the Light Goose Conservation Order (Table 31). 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. Although federal regulations allow use of unplugged shotguns capable of holding more than 3 shells, this was prohibited by Wyoming Statute through the 2016 LGCO. However, the statute governing legal was changed and unplugged shotguns were allowed during the 2017 LGCO.

Light goose harvest during the Conservation Order is summarized in Table 15. Regular season harvest is summarized in Table 16. Very few light geese are harvested during the regular hunting season. Based on the LGCO survey response, 135 hunters harvested 1,108 light geese. This was the highest 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 in the Central Flyway portion of Wyoming.
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.
8. Consider revising hunter number, hunter days, and harvest objectives to levels that are normally attainable under existing conditions.

Table 8. Central Flyway mid-winter surveys of white-cheeked geese in Wyoming, 2013-2017.

| Population                          | 2017          | 2016          | 2015          | 2014           | 2013          | Average       |
|-------------------------------------|---------------|---------------|---------------|----------------|---------------|---------------|
| <b>Hi-line</b>                      |               |               |               |                |               |               |
| Goshen and Platte County            | 32,462        | 12,038        | 14,107        | 68,424         | 35,313        | 25,976        |
| Carbon, Converse and Natrona County | 6,389         | 2,215         | 8,749         | 10,835         | 12,486        | 6,857         |
| <b>Total Hi-Line</b>                | <b>38,851</b> | <b>14,253</b> | <b>22,856</b> | <b>79,259</b>  | <b>47,799</b> | <b>32,833</b> |
|                                     | 2017          | 2016          | 2015          | 2014           | 2013          | Average       |
| <b>CFAN</b>                         |               |               |               |                |               |               |
| Goshen and Platte County            | 1,766         | 1,800         | 949           | 7,181          | 3,281         | 2,642         |
| Carbon, Converse and Natrona County | 745           | 150           | 588           | 1,137          | 1,159         | 607           |
| <b>Total CFAN</b>                   | <b>2,511</b>  | <b>1,950</b>  | <b>1,537</b>  | <b>8,318</b>   | <b>4,440</b>  | <b>3,249</b>  |
|                                     | 2017          | 2016          | 2015          | 2014           | 2013          | Average       |
| <b>RMP</b>                          |               |               |               |                |               |               |
| Wind River                          | 962           | 549           | 1,321         | 10,733         | 2,030         | 2,927         |
| Big Horn River                      | 12,733        | 8,587         | 12,063        | 27,161         | 21,587        | 13,880        |
| Upper North Platte River            | 0             | 36            | 0             | 0              | 0             | 7             |
| <b>Total RMP Central Flyway</b>     | <b>13,695</b> | <b>9,172</b>  | <b>13,384</b> | <b>37,894</b>  | <b>23,617</b> | <b>16,813</b> |
| <b>Total White-Cheeked Geese</b>    | <b>55,057</b> | <b>25,375</b> | <b>36,240</b> | <b>125,471</b> | <b>75,856</b> | <b>52,896</b> |

Source: WGFD Unpublished Data

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

| Population                | 2016   | 2015   | Percent<br>Change 2014-<br>2015 | Objective | Percent<br>Above/Below<br>Objective | Average 2007-2014 |
|---------------------------|--------|--------|---------------------------------|-----------|-------------------------------------|-------------------|
| <b>Hi-Line &amp; CFAN</b> |        |        |                                 |           |                                     |                   |
| No. Hunters               | 2,788  | 2,498  | +12                             | 4,696     | -41                                 | 2,933             |
| No. Rec. Days             | 14,805 | 12,851 | +15                             | 24,715    | -40                                 | 15,596            |
| Harvest                   | 23,516 | 14,101 | +67                             | 15,322    | +53                                 | 17,339            |
| <b>RMP Central Flyway</b> |        |        |                                 |           |                                     |                   |
| No. Hunters               | 1,143  | 1,170  | -2                              | 2,830     | -60                                 | 1,263             |
| No. Rec. Days             | 5,242  | 8,343  | -37                             | 11,735    | -55                                 | 6,820             |
| Harvest                   | 9,271  | 8,716  | +6                              | 3,520     | +163                                | 7,389             |
| <b>RMP Pacific Flyway</b> |        |        |                                 |           |                                     |                   |
| No. Hunters               | 1,284  | 1,035  | +24                             | 4,465     | -71                                 | 1,276             |
| No. Rec. Days             | 4,321  | 4,397  | -2                              | 21,744    | -80                                 | 4,658             |
| Harvest                   | 3,141  | 2,677  | +17                             | 4,397     | -29                                 | 2,413             |
| <b>Total Harvest</b>      |        |        |                                 |           |                                     |                   |
| No. Hunters               | 5,215  | 4,702  | +11                             | 11,991    | -57                                 | 5,472             |
| No. Rec. Days             | 24,368 | 25,591 | -5                              | 58,194    | -58                                 | 27,074            |
| Harvest                   | 35,928 | 25,494 | +41                             | 23,239    | +55                                 | 27,141            |
| Birds/Hunter              | 6.9    | 5.4    | +27                             | 1.9       | +255                                | 5.0               |

Source: WGFD 2008-2017

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

| Management Area                            |                | 2016  | 2015  | Percent<br>Change 2015-<br>2016 | Objective | Percent<br>Above/B<br>elow | Average 2007-2014 |
|--|----------------|-------|-------|---------------------------------|-----------|----------------------------|-------------------|
| Missouri/Cheyenne/<br>Little Powder Rivers | 1A No. Hunters | 186   | 199   | -7                              | 299       | -38                        | 192               |
|  | No. Rec. Days  | 565   | 996   | -43                             | 1,495     | -62                        | 715               |
|  | Harvest        | 1101  | 712   | +55                             | 598       | +84                        | 1,121             |
| Tongue/Little Big Horn<br>/Powder Rivers   | 1B No. Hunters | 114   | 135   | -16                             | 286       | -60                        | 177               |
|  | No. Rec. Days  | 595   | 385   | +55                             | 1,430     | -58                        | 609               |
|  | Harvest        | 287   | 322   | -11                             | 715       | -60                        | 504               |
| Central North Platte<br>River              | 1C No. Hunters | 512   | 418   | +22                             | 1,106     | -54                        | 540               |
|  | No. Rec. Days  | 2911  | 1975  | +47                             | 5,530     | -47                        | 3,032             |
|  | Harvest        | 2499  | 1380  | +81                             | 1,465     | +71                        | 1,955             |
| Lower North Platte<br>River                | 2A No. Hunters | 1710  | 1619  | +6                              | 2,772     | -38                        | 1,808             |
|  | No. Rec. Days  | 9434  | 7186  | +31                             | 15,246    | -38                        | 10,220            |
|  | Harvest        | 18389 | 11041 | +67                             | 12,044    | +53                        | 12,993            |
| South Platte River                         | 2B No. Hunters | 102   | 101   | +1                              | 68        | +50                        | 72                |
|  | No. Rec. Days  | 424   | 393   | +8                              | 272       | +56                        | 319               |
|  | Harvest        | 738   | 561   | +32                             | 170       | +334                       | 275               |
| Upper North Platte<br>River                | 3A No. Hunters | 164   | 77    | +113                            | 495       | -67                        | 145               |
|  | No. Rec. Days  | 876   | 699   | +25                             | 2,227     | -61                        | 701               |
|  | Harvest        | 502   | 256   | +96                             | 330       | +52                        | 491               |
| Big Horn River                             | 4A No. Hunters | 793   | 717   | +11                             | 1,200     | -34                        | 849               |
|  | No. Rec. Days  | 3691  | 3196  | +15                             | 5,600     | -34                        | 5,082             |
|  | Harvest        | 6561  | 4433  | +48                             | 1,200     | +447                       | 5,520             |
| Yellowstone River                          | 4B No. Hunters | 19    | 16    | +19                             | -         | -                          | 24                |
|  | No. Rec. Days  | 57    | 30    | +90                             | -         | -                          | 82                |
|  | Harvest        | 172   | 22    | +682                            | -         | -                          | 29                |
| Wind River                                 | 4C No. Hunters | 314   | 376   | -16                             | 1,200     | -74                        | 377               |
|  | No. Rec. Days  | 1409  | 1466  | -4                              | 4,200     | -66                        | 1,630             |
|  | Harvest        | 2526  | 2126  | +19                             | 1,600     | +58                        | 1,773             |
| Sweetwater River                           | 4D No. Hunters | 17    | 9     | +89                             | 100       | -83                        | 13                |
|  | No. Rec. Days  | 85    | 39    | +118                            | 450       | -81                        | 26                |
|  | Harvest        | 12    | 95    | -87                             | 60        | -80                        | 68                |

Source: WGFD 2008-2017

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

| Population              |              |             | 2016 | 2015 | Percent Change Above/Below |         |                   |
|-------------------------|--------------|-------------|------|------|----------------------------|---------|-------------------|
|                         |              |             |      |      | 2015-2016                  | Average | Average 2007-2014 |
| Snake River             | 5A           | No. Hunters | 59   | 83   | -29                        | -24     | 77                |
|                         |              | Hunter Days | 197  | 163  | +21                        | +12     | 176               |
|                         |              | Harvest     | 170  | 284  | -40                        | -10     | 189               |
| Upper Green River       | 5B           | No. Hunters | 71   | 37   | +92                        | +84     | 39                |
|                         |              | Hunter Days | 145  | 106  | +37                        | +121    | 66                |
|                         |              | Harvest     | 173  | 24   | +621                       | +266    | 47                |
| Salt River              | 5C           | No. Hunters | 86   | 45   | +91                        | +22     | 70                |
|                         |              | Hunter Days | 218  | 105  | +108                       | +29     | 169               |
|                         |              | Harvest     | 174  | 88   | +98                        | +6      | 164               |
| Lower Bear River        | 5D           | No. Hunters | 44   | 15   | +193                       | -17     | 53                |
|                         |              | Hunter Days | 85   | 39   | +118                       | -29     | 119               |
|                         |              | Harvest     | 98   | 36   | +172                       | -18     | 119               |
| Great Divide Basin      | 5E           | No. Hunters | 0    | 0    | -                          | -       | 3                 |
|                         |              | Hunter Days | 0    | 0    | -                          | -       | 4                 |
|                         |              | Harvest     | 0    | 0    | -                          | -       | 2                 |
| Lower Green River       | 5F           | No. Hunters | 97   | 101  | -4                         | -38     | 157               |
|                         |              | Hunter Days | 178  | 219  | -19                        | -46     | 329               |
|                         |              | Harvest     | 200  | 231  | -13                        | -28     | 276               |
| Ham's Fork-Black's Fork | 5G           | No. Hunters | 80   | 82   | -2                         | -2      | 82                |
|                         |              | Hunter Days | 230  | 200  | +15                        | +33     | 173               |
|                         |              | Harvest     | 174  | 132  | +32                        | +23     | 141               |
| Upper Bear River        | 5H           | No. Hunters | 42   | 11   | +282                       | +40     | 30                |
|                         |              | Hunter Days | 55   | 51   | +8                         | +2      | 54                |
|                         |              | Harvest     | 30   | 63   | -52                        | -5      | 32                |
| Little Snake River      | 5I           | No. Hunters | 4    | 0    | -                          | -66     | 12                |
|                         |              | Hunter Days | 4    | 0    | -                          | -80     | 20                |
|                         |              | Harvest     | 7    | 0    | -                          | -69     | 22                |
| Total                   | No. Hunters  | 483         | 374  | +29  | -8                         | 522     |                   |
|                         | Hunter Days  | 1112        | 883  | +26  | 0                          | 1109    |                   |
|                         | Harvest      | 1026        | 858  | +20  | +3                         | 993     |                   |
|                         | Birds/Hunter | 2.1         | 2.3  | -7   | +12                        | 1.9     |                   |

Source: WGFD 2008-2017

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

| Management Area            |    |               | 2016  | 2015  | Percent<br>Change 2015-<br>2016 | Objective | Percent<br>Above/B<br>elow | Average 2007-<br>2014 |
|----------------------------|----|---------------|-------|-------|---------------------------------|-----------|----------------------------|-----------------------|
| Snake River                | 5A | No. Hunters   | 223   | 209   | +7                              | 500       | -55                        | 153                   |
|                            |    | No. Rec. Days | 604   | 828   | -27                             | 2,800     | -78                        | 484                   |
|                            |    | Harvest       | 818   | 662   | +24                             | 500       | +64                        | 297                   |
| Upper Green River<br>Basin | 5B | No. Hunters   | 207   | 148   | +40                             | 350       | -41                        | 118                   |
|                            |    | No. Rec. Days | 1,064 | 597   | +78                             | 1,750     | -39                        | 322                   |
|                            |    | Harvest       | 541   | 160   | +238                            | 438       | +24                        | 179                   |
| Salt River                 | 5C | No. Hunters   | 218   | 131   | +66                             | 800       | -73                        | 159                   |
|                            |    | No. Rec. Days | 834   | 609   | +37                             | 3,304     | -75                        | 742                   |
|                            |    | Harvest       | 466   | 345   | +35                             | 600       | -22                        | 375                   |
| Lower Bear River           | 5D | No. Hunters   | 174   | 37    | +370                            | 1,500     | -88                        | 119                   |
|                            |    | No. Rec. Days | 666   | 93    | +616                            | 7,500     | -91                        | 419                   |
|                            |    | Harvest       | 485   | 114   | +325                            | 1,800     | -73                        | 273                   |
| Great Divide Basin         | 5E | No. Hunters   | 2     | 13    | -85                             | 100       | -98                        | 7                     |
|                            |    | No. Rec. Days | 5     | 139   | -96                             | 500       | -99                        | 6                     |
|                            |    | Harvest       | 10    | 7     | +43                             | 50        | -80                        | 9                     |
| Lower Green River<br>Basin | 5F | No. Hunters   | 173   | 301   | -43                             | 475       | -64                        | 391                   |
|                            |    | No. Rec. Days | 399   | 1,156 | -65                             | 2,375     | -83                        | 1560                  |
|                            |    | Harvest       | 239   | 824   | -71                             | 380       | -37                        | 734                   |
| Ham's/Black's Fork         | 5G | No. Hunters   | 209   | 184   | +14                             | 370       | -44                        | 188                   |
|                            |    | No. Rec. Days | 586   | 797   | -26                             | 1,850     | -68                        | 709                   |
|                            |    | Harvest       | 393   | 375   | +5                              | 444       | -11                        | 358                   |
| Upper Bear River           | 5H | No. Hunters   | 78    | 10    | +680                            | 370       | -79                        | 117                   |
|                            |    | No. Rec. Days | 163   | 178   | -8                              | 1,665     | -90                        | 371                   |
|                            |    | Harvest       | 189   | 186   | +2                              | 185       | +2                         | 129                   |
| Little Snake River         | 5I | No. Hunters   | 0     | 2     | -100                            | 100       | -100                       | 26                    |
|                            |    | No. Rec. Days | 0     | 0     | -                               | 500       | -100                       | 47                    |
|                            |    | Harvest       | 0     | 4     | -100                            | 50        | -100                       | 59                    |

Source: WGFD 2008-2017

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      |
| Averages | 41,246      | 91              | 37,531        | 9            | 3,715      |

\*Ocular estimate

Source: WGFD unpublished data.

Table 14. Ground classifications of white-cheeked geese.

| County          | Year | LARGE | SMALL | TOTAL | %LARGE | %SMALL |
|-----------------|------|-------|-------|-------|--------|--------|
| <b>Carbon</b>   |      |       |       |       |        |        |
|                 | 2012 | 0     | 0     | 0     | 0.0    | 0.0    |
|                 | 2013 | 0     | 0     | 0     | 0.0    | 0.0    |
|                 | 2014 | 0     | 0     | 0     | 0.0    | 0.0    |
|                 | 2015 | 480   | 12    | 492   | 97.6   | 2.4    |
|                 | 2016 | NS    |       |       |        |        |
|                 | 2017 | NS    |       |       |        |        |
| <b>Converse</b> |      |       |       |       |        |        |
|                 | 2012 | 714   | 21    | 735   | 97.1   | 2.9    |
|                 | 2013 | 646   | 11    | 657   | 98.3   | 1.7    |
|                 | 2014 | 1408  | 17    | 1425  | 98.8   | 1.2    |
|                 | 2015 | 975   | 35    | 1010  | 96.5   | 3.5    |
|                 | 2016 | 525   | 51    | 576   | 91.1   | 8.9    |
|                 | 2017 | 689   | 85    | 774   | 89.0   | 11.0   |
| <b>Goshen</b>   |      |       |       |       |        |        |
|                 | 2012 | 1316  | 202   | 1518  | 86.7   | 13.3   |
|                 | 2013 | 1911  | 281   | 2192  | 87.2   | 12.8   |
|                 | 2014 | 4127  | 438   | 4565  | 90.4   | 9.6    |
|                 | 2015 | 826   | 71    | 897   | 92.1   | 7.9    |
|                 | 2016 | NS    |       |       |        |        |
|                 | 2017 | 1400  | 73    | 1473  | 95.0   | 5.0    |
| <b>Natrona</b>  |      |       |       |       |        |        |
|                 | 2012 | 441   | 57    | 498   | 88.6   | 11.4   |
|                 | 2013 | 701   | 1     | 702   | 99.9   | 0.1    |
|                 | 2014 | 1015  | 1     | 1016  | 99.9   | 0.1    |
|                 | 2015 | 277   | 14    | 291   | 95.2   | 4.8    |
|                 | 2016 | 457   | 4     | 461   | 99.1   | 0.9    |
|                 | 2017 | 521   | 41    | 562   | 92.7   | 7.3    |
| <b>Platte</b>   |      |       |       |       |        |        |
|                 | 2012 | 482   | 5     | 487   | 99.0   | 1.0    |
|                 | 2013 | 640   | 70    | 710   | 90.1   | 9.9    |
|                 | 2014 | 2480  | 494   | 2974  | 83.4   | 16.6   |
|                 | 2015 | 2492  | 209   | 2701  | 92.3   | 7.7    |
|                 | 2016 | 2043  | 274   | 2317  | 88.2   | 11.8   |
|                 | 2017 | 2560  | 186   | 2746  | 93.2   | 6.8    |
| <b>Total</b>    |      |       |       |       |        |        |
|                 | 2012 | 2953  | 285   | 3238  | 91.2   | 8.8    |
|                 | 2013 | 3898  | 363   | 4261  | 91.5   | 8.5    |
|                 | 2014 | 9030  | 950   | 9980  | 90.5   | 9.5    |
|                 | 2015 | 5050  | 341   | 5391  | 93.7   | 6.3    |
|                 | 2016 | 3025  | 329   | 3354  | 90.2   | 9.8    |
|                 | 2017 | 5170  | 385   | 5555  | 93.1   | 6.9    |

NS - Not surveyed.

Source: WGFD Unpublished Data

Table 15. Harvest and hunter activity for the Wyoming light goose conservation order, 2013-2017.

|   | 2017 | 2016 | 2015 | 2014 | 2013 | Average |
|---|------|------|------|------|------|---------|
| Permits Sold                                    | 178  | 156  | 139  | 153  | 133  | 152     |
| Total Survey Respondents                        | 94   | 82   | 95   | 102  | 103  | 95      |
| % Responded                                     | 53.0 | 53.0 | 68.4 | 66.7 | 77.4 | 63.7    |
| Active Hunters                                  | 135  | 123  | 90   | 112  | 103  | 113     |
| Total Days Hunted                               | 438  | 514  | 352  | 337  | 346  | 397     |
| Days/Hunter                                     | 3.2  | 4.2  | 3.9  | 3    | 3.4  | 3.5     |
| Geese Harvested                                 | 1066 | 671  | 534  | 449  | 436  | 631     |
| Geese Knocked Down, but not retrieved           | 42   | 21   | 27   | 43   | 20   | 31      |
| Total Harvest                                   | 1108 | 692  | 561  | 492  | 456  | 662     |
| Harvest/Hunter                                  | 8.2  | 5.6  | 6.2  | 4.4  | 4.4  | 5.8     |
| Hunters using Electronic Callers*               | -    | -    | 58   | 56   | 68   | 61      |
| Harvest by Hunters using Electronic Callers*    | -    | -    | 362  | 164  | 318  | 281     |
| Average Harvest of Hunters using Callers*       | -    | -    | 6.2  | 2.9  | 4.7  | 4.6     |
| Hunters Hunting After Sunset*                   | -    | -    | 21   | 43   | 37   | 34      |
| Harvest by Hunters Hunting After Sunset*        | -    | -    | 22   | 77   | 68   | 56      |
| Average Harvest of After Sunset Hunters*        | -    | -    | 1    | 1.8  | 1.8  | 1.5     |
| Hunters Using Callers and Hunting After Sunset* | -    | -    | 21   | 27   | 27   | 25      |
| % of Hunters Hunting in Goshen County*          | -    | -    | 96   | 97   | 99   | 97      |

\*No longer recorded starting in 2016

Source: WGFD Unpublished Data

Table 16. HIP estimates of goose harvest and hunter activity in Wyoming during the 2014-2016 regular hunting seasons.

| Goose Species                  | 2016   | % of Bag | 2015   | % of Bag | 2014   | % of Bag |
|--------------------------------|--------|----------|--------|----------|--------|----------|
| Canada Goose                   | 25,018 | 99.51    | 18,390 | 100.00   | 20,573 | 100.00   |
| Snow Goose                     | 62     | 0.25     | 0      | 0.00     | 0      | 0.00     |
| 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            | 62     | 0.14     | 0      | 0.00     | 0      | 0.00     |
| Total Goose Harvest            | 25,100 |          | 18,400 |          | 20,600 |          |
| Total Active Goose Hunters     | 3,900  |          | 3,200  |          | 3,700  |          |
| Total Goose Hunter Days Afield | 16,800 |          | 15,900 |          | 17,400 |          |
| Goose Harvest Per Hunter       | 6.5    |          | 5.7    |          | 5.5    |          |
| Sample Sizes                   | 407    |          | 295    |          | 228    |          |

Source: Raftovich et al. 2016-17

## 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 17. The 2016 count of 22,264 cranes was the second highest count since 2008.

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 2016 survey was 8.8%, slightly above the long-term (1972-2015) average of 8.2% (Table 18).

Crane surveys conducted on established and experimental survey areas in Wyoming are summarized in Table 19. In 2016, 4,879 cranes were counted in RMP staging areas of central and western Wyoming. This was higher than the number observed in 2015 (3,596), and the highest count ever recorded. The increase was partly due to the inclusion of the experimental areas in Natrona, Johnson, and Sheridan Counties into the official counts in 2016.

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 on September 1.

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.

Increasing presence of cranes in Johnson, Natrona and Sheridan counties during summer months and in September gave rise to the possibility that these might be greater sandhill cranes affiliated with the RMP. Track measurements confirmed 100% of mid-toe lengths exceeded the range known for lesser sandhill cranes (*Grus c. canadensis*). Hunting under the mid-continent population framework was suspended in these 3 counties after 2013 and experimental fall staging surveys were initiated that year (Roberts 2013). A ground survey was conducted in 2013 and aerial surveys were done in 2014-2016. This area was officially included in the September

pre-migration staging survey in 2016 and a hunting season was initiated in accordance with the RMP framework.

## **2016-17 Harvest**

Greater sandhill cranes (*Grus canadensis tabida*) have been hunted during September in the Salt River and Lower Bear River management areas since 1982. In 1986, a hunting season was initiated in the Farson area of the Lower Green River and in 1987, another hunt was initiated in the Riverton Project within the Wind River Basin. A hunt area was established in Big Horn and Park Counties in 1996. A hunt area was established in Uinta County in 2008. The Bear River Hunt Area in Lincoln County was also expanded to include the Hams Fork Drainage in 2008. The justification for crane hunts is to reduce crop depredations by staging cranes, to regulate population growth, and to provide recreational hunting opportunity.

Annual harvest allocations are prescribed based on a formula in the *Management Plan of the Pacific and Central Flyways for the Rocky Mountain Population of Greater Sandhill Cranes*. Due to shifts in the fall distribution of cranes, a smaller proportion of the crane population has been counted in Wyoming during recent years. Consequently, the harvest allocation available to Wyoming decreased beginning with the 2007 hunting season. During 2007-2010, the proportional reduction in the harvest allocation available to Wyoming was offset by an increase in the total allocation due to relatively good crane recruitment and increasing numbers of cranes counted in the September survey. In 2014, 2015, and 2016 the 3-year population average increased and Wyoming's allocation along with it.

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 2016 harvest allocation increased to 240 cranes due to increases in recruitment and the population count in 2014, 2015, and 2016. 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 2016, 158 cranes were harvested in the 6 Wyoming hunt areas (Table 20). Permit success ranged from 13% in Area 1 (Bear River) to 78% in Area 5 (Uinta). The harvest rate for active hunters ranged from 0.21 cranes per hunter in Area 1 (Bear River) to 0.82 cranes per hunter in Area 5 (Uinta). Hunter success averaged 56% across all hunt areas. The 2016 harvest rate was 0.56 cranes per active hunter compared to 0.63 cranes per hunter in 2015. Harvest rates fluctuate from year to year in all 6 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 opened in 2016. RMP crane hunting seasons are summarized in Table 30.

## **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*) and a third intermediate-sized subspecies, the Canadian sandhill crane (*G. c. rowanii*). However, recent genetic investigations question the existence and differentiation of the third subspecies (Jones et al. 2005). Since 1982, the MCP remained comparatively stable for many years, but has increased in recent years. The photo-corrected, 3-year average for 2015-17 was 453,519 cranes, which is within the established population-objective range of 349,000-472,000 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 10<sup>th</sup> to 30<sup>th</sup> of October. In 2014, the Department initiated the first coordinated spring survey of mid-continent sandhill cranes in Goshen County. On March 21, 2017, 3,255 cranes were counted flying onto or leaving two roost sites on Table Mountain WHMA (Table 22).

### **2016-17 Harvest**

Recent harvest statistics for mid-continent sandhill cranes are summarized in Table 22. During the 2016 season, 83 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, including areas in Natrona, Johnson, and Sheridan counties.
6. Continue monitoring to determine if creation of new Hunt Area 5 in Uinta County is providing substantive hunting opportunity and addressing depredation complaints as crane numbers increase and their fall distribution continues to expand.

Table 17. September pre-migration staging area counts of the Rocky Mountain Population of greater sandhill cranes – state totals.

| Year | Colorado <sup>a</sup> | 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 |
| Mean | 1,301                 | 7,053  | 5,288   | 2,421 | 3,264   | 19,327 |

<sup>a</sup> Colorado counts include migrants that had arrived at the staging areas in the San Luis Valley.

Source: Thorpe et al. 2016

Table 18. Population and allowable harvests 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                       |

Table 19. Pre-migration staging areas and associated September estimates of RMP sandhill cranes in Wyoming.

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

\* Natrona, Johnson, and Sheridan Counties not included

Source: WGFD Unpublished Data

Table 20. Harvest statistics from RMP Sandhill Crane hunts in Wyoming, 2004-2016.

| Hunt Area            | Year |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                      | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
| <b>1 Bear River</b>  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| No. Hunters          | 19   | 16   | 7    | 12   | 23   | 25   | 20   | 24   | 27   | 21   | 18   | 24   | 15   |
| Hunter Days          | 58   | 36   | 13   | 30   | 48   | 46   | 33   | 46   | 51   | 44   | 27   | 47   | 29   |
| Days/Hunter          | 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              | 4    | 10   | 5    | 5    | 13   | 9    | 11   | 18   | 17   | 9    | 12   | 14   | 12   |
| Cranes/Hunter        | 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 |
| <b>2 Salt River</b>  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| No. Hunters          | 20   | 16   | 10   | 7    | 13   | 25   | 26   | 22   | 22   | 11   | 30   | 23   | 15   |
| Hunter Days          | 50   | 37   | 20   | 21   | 36   | 61   | 109  | 54   | 45   | 29   | 87   | 59   | 48   |
| Days/Hunter          | 2.5  | 2.4  | 2    | 3    | 2.8  | 2.4  | 4.2  | 2.5  | 2.1  | 2.6  | 3    | 2.6  | 3.3  |
| Harvest              | 12   | 11   | 7    | 3    | 10   | 13   | 6    | 8    | 10   | 8    | 12   | 10   | 7    |
| Cranes/Hunter        | 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 |
| <b>3 Eden/Farson</b> |      |      |      |      |      |      |      |      |      |      |      |      |      |
| No. Hunters          | 60   | 33   | 30   | 38   | 49   | 86   | 85   | 83   | 69   | 54   | 73   | 43   | 35   |
| Hunter Days          | 99   | 51   | 54   | 64   | 76   | 171  | 151  | 152  | 137  | 103  | 135  | 82   | 65   |
| Days/Hunter          | 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              | 48   | 29   | 19   | 20   | 39   | 48   | 63   | 46   | 37   | 42   | 58   | 31   | 24   |
| Cranes/Hunter        | 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 |
| <b>4 Riverton</b>    |      |      |      |      |      |      |      |      |      |      |      |      |      |
| No. Hunters          | 83   | 36   | 47   | 41   | 59   | 71   | 91   | 73   | 70   | 65   | 83   | 48   | 55   |
| Hunter Days          | 192  | 104  | 106  | 98   | 149  | 166  | 196  | 133  | 121  | 118  | 155  | 90   | 91   |
| Days/Hunter          | 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              | 48   | 20   | 35   | 16   | 30   | 42   | 46   | 58   | 45   | 45   | 55   | 28   | 37   |
| Cranes/Hunter        | 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 |
| <b>5 Uinta</b>       |      |      |      |      |      |      |      |      |      |      |      |      |      |
| No. Hunters          | 11   | 6    | 6    | 3    | 10   | 11   | 10   | 8    | 10   |      |      |      |      |
| Hunter Days          | 26   | 22   | 11   | 9    | 47   | 37   | 13   | 22   | 20   |      |      |      |      |
| Days/Hunter          | 2.3  | 4    | 1.8  | 3    | 4.7  | 3.4  | 1.3  | 2.8  | 2    |      |      |      |      |
| Harvest              | 9    | 2    | 4    | 0    | 0    | 7    | 3    | 2    | 3    |      |      |      |      |
| Cranes/Hunter        | 0.82 | 0.33 | 0.67 | 0    | 0    | 0.64 | 0.3  | 0.25 | 0.3  |      |      |      |      |
| <b>6 Big Horn</b>    |      |      |      |      |      |      |      |      |      |      |      |      |      |
| No. Hunters          | 78   | 57   | 44   | 46   | 62   | 82   | 96   | 93   | 83   | 62   | 101  | 58   | 54   |
| Hunter Days          | 214  | 125  | 73   | 119  | 165  | 228  | 192  | 217  | 191  | 124  | 276  | 152  | 110  |
| Days/Hunter          | 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              | 34   | 31   | 33   | 31   | 42   | 42   | 53   | 6.3  | 50   | 35   | 57   | 33   | 44   |
| Cranes/Hunter        | 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 |
| <b>8 N/J/S</b>       |      |      |      |      |      |      |      |      |      |      |      |      |      |
| No. Hunters          | 13   |      |      |      |      |      |      |      |      |      |      |      |      |
| Hunter Days          | 27   |      |      |      |      |      |      |      |      |      |      |      |      |
| Days/Hunter          | 2.2  |      |      |      |      |      |      |      |      |      |      |      |      |
| Harvest              | 4    |      |      |      |      |      |      |      |      |      |      |      |      |
| Cranes/Hunter        | 0.31 |      |      |      |      |      |      |      |      |      |      |      |      |
| <b>Total</b>         |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Harvest Allocation   | 188  | 94   | 74   | 87   | 135  | 165  | 197  | 192  | 165  | 131  | 209  | 144  | 104  |
| Permits Issued       | 381  | 216  | 163  | 180  | 270  | 352  | 395  | 387  | 330  | 266  | 401  | 254  | 206  |
| No. Hunters          | 283  | 164  | 144  | 147  | 216  | 297  | 328  | 303  | 281  | 213  | 305  | 196  | 174  |
| Hunter Days          | 666  | 375  | 276  | 342  | 521  | 709  | 695  | 624  | 562  | 418  | 687  | 430  | 343  |
| Days/Hunter          | 2.4  | 2.3  | 1.9  | 2.3  | 2.4  | 2.4  | 2.1  | 2.1  | 2    | 2    | 2.3  | 2.2  | 2    |
| Harvest              | 158  | 104  | 101  | 74   | 134  | 161  | 182  | 195  | 162  | 138  | 194  | 116  | 124  |
| Cranes/Hunter        | 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 2005-2017

Table 21. Coordinated spring survey counts of Mid-continent sandhill cranes in Wyoming.

|                     | 2017  | 2016  | 2015  | 2014  | Average |
|---------------------|-------|-------|-------|-------|---------|
| Table Mountain WHMA | 3,255 | 4,200 | 2,918 | 2,952 | 3,331   |

Source: WGFD Unpublished Data

Table 22. Harvest statistics of Mid-continent sandhill cranes, 2004-2016.

| 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            |

Source: Dubovsky 2017

## **Other Webless Migratory Game Birds**

### **Mourning Doves**

#### **Population Surveys**

For monitoring and management purposes, mourning dove populations are subdivided into 3 units – the Eastern, Central, and Western management units. Fourteen states including Wyoming comprise the Central Management Unit. Call-counts were the principal index used to monitor mourning dove population status throughout the U.S. from 1953-2013. The call-count survey was suspended after 2013 except in states that continued to participate at a reduced effort. In 2014, 2015, 2016, and 2017 Wyoming participated in a modified call-count survey. Seventy-three doves were seen or heard along 4 survey routes in 2016.

#### **2016-17 Harvest**

Weather conditions in late August and early September can greatly influence dove abundance and harvest in Wyoming. In 2016, doves were present until mid-September when many migrated out.

Dove harvest decreased in 2016 and was below the LTA (Table 23). Harvest success (birds/per hunter) and effort (days/hunter) both decreased and were below the LTA. Harvest estimates derived from HIP are presented in Table 24. 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 30.

#### **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 2017, mourning doves were trapped and banded at two locations in BCR 10 (Rawlins and Seedskadee NWR), one location in BCR 17 (Casper) and two locations in BCR 18 (Cheyenne and Springer WHMA). Personnel banded 600 mourning doves (Table 25). A total of 16 doves banded in Wyoming since 2007 have been recovered. Banding recoveries are summarized in Table 26.

## **Wilson's Snipe**

### **Population Survey**

Based on data from the North American Breeding Bird Survey, the snipe population decreased in western portions of Wyoming and Montana during 1966-2013. However, the population generally increased in eastern portions of Wyoming, Montana, and Alberta.

### **2016-17 Harvest**

Snipe hunting and harvest in Wyoming have varied slightly over the past 11 years (Table 27). Confidence intervals about HIP-derived estimates continue to be excessively wide. Recent snipe hunting seasons are listed in Table 30.

## **Sora and Virginia Rail**

### **Population Survey**

Based on data from the Breeding Bird Survey, populations of both sora and Virginia rails increased from 1968-2013. Both species breed in wetland habitats and the increased precipitation in 2017 should help production. Improved habitat conditions will also provide better rail hunting opportunities.

### **2016-17 Harvest**

Rail harvest and hunting in Wyoming remained low during the past 11 years (Table 28). Confidence intervals around HIP-derived estimates continue to be excessively wide. Recent rail hunting seasons are listed in Table 30.

## **American Coot**

### **Population Survey**

Based on the most recent data from the North American breeding bird survey, the coot population decreased in Wyoming during 1968-2013. American coot populations increased slightly in Montana over the same time period.

## 2016-17 Harvest

For the most part, American coots are not actively hunted in Wyoming. Harvest has been nominal over the past 11 years (Table 29). Confidence intervals around HIP-derived estimates also continue to be excessively wide. Recent American coot hunting seasons are listed in Table 31.

## 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 23. Statewide mourning dove harvest in Wyoming.

| Year    | Hunters | Days  | Days /<br>Hunter | Harvest | Birds /<br>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             |
| Average | 2,363   | 7,275 | 3.08             | 29,166  | 12.27             |

Source: WGFD 2005-2017

Table 24. HIP estimates of mourning dove harvest and hunter activity in Wyoming.

| YEAR    | Hunters | Days  | Days /<br>Hunter | Harvest | Birds /<br>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             |
| Average | 2,531   | 6,038 | 2.38             | 28,715  | 11.38             |

Source: 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 25. Mourning doves banded by Department personnel to date.

| Band Date    | Location       | Age |     |      | Sex |      | TOTAL |        |      |
|--------------|----------------|-----|-----|------|-----|------|-------|--------|------|
|              |                | UNK | HY  | AHY  | UNK | Male |       | Female |      |
| 2007         | Casper         | 0   | 1   | 4    | 1   | 2    | 2     | 5      |      |
| 2008         | Casper         | 1   | 21  | 24   | 0   | 26   | 20    | 46     |      |
| 2012         | Cheyenne       | 0   | 11  | 25   | 11  | 15   | 10    | 36     |      |
| 2012         | Downar         | 1   | 15  | 17   | 15  | 14   | 4     | 33     |      |
| 2013         | Casper         | 0   | 1   | 2    | 1   | 2    | 0     | 3      |      |
| 2013         | Cheyenne       | 57  | 34  | 35   | 91  | 26   | 9     | 126    |      |
| 2013         | Downar         | 1   | 0   | 3    | 1   | 2    | 1     | 4      |      |
| 2013         | Speas          | 3   | 4   | 9    | 7   | 6    | 3     | 16     |      |
| 2014         | Casper         | 0   | 90  | 89   | 100 | 50   | 29    | 179    |      |
| 2014         | Cheyenne       | 1   | 27  | 87   | 28  | 52   | 35    | 115    |      |
| 2014         | Downar         | 3   | 14  | 34   | 17  | 24   | 10    | 51     |      |
| 2015         | Casper         | 0   | 27  | 117  | 29  | 83   | 32    | 144    |      |
| 2015         | Cheyenne       | 3   | 29  | 55   | 32  | 37   | 18    | 87     |      |
| 2016         | Savery         | 0   | 1   | 18   | 2   | 9    | 8     | 19     |      |
| 2016         | Casper         | 0   | 67  | 127  | 72  | 92   | 30    | 194    |      |
| 2016         | Springer WHMA  | 0   | 1   | 13   | 1   | 12   | 1     | 14     |      |
| 2016         | Cheyenne       | 6   | 57  | 176  | 63  | 131  | 45    | 239    |      |
| 2017         | Rawlins        | 0   | 17  | 39   | 17  | 31   | 8     | 56     |      |
| 2017         | Seedskadee NWR | 0   | 32  | 129  | 32  | 128  | 1     | 161    |      |
| 2017         | Casper         | 1   | 22  | 86   | 23  | 76   | 10    | 109    |      |
| 2017         | Springer WHMA  | 0   | 2   | 15   | 2   | 8    | 7     | 17     |      |
| 2017         | Cheyenne       | 13  | 63  | 181  | 76  | 145  | 36    | 257    |      |
| Total Banded |                | 90  | 536 | 1285 | 0   | 621  | 971   | 319    | 1911 |

Table 26. Encounters of mourning doves banded in Wyoming.

| Band Date | Encounter Date | Location                | How        |
|-----------|----------------|-------------------------|------------|
| 8/16/2007 | 2/20/2008      | Hermosillo, MX          | Shot       |
| 8/14/2008 | 9/19/2009      | Chalk, TX               | Shot       |
| 8/5/2013  | 5/15/2014      | Cheyenne, WY            | Found Dead |
| 7/3/2014  | 2/14/2015      | Casimiro Castillo, MX   | Shot       |
| 7/16/2014 | 10/15/2014     | Ixtlahuacan del Rio, MX | Shot       |
| 7/28/2014 | 9/14/2014      | Vado NM                 | Shot       |
| 7/28/2015 | 6/29/2016      | Casper, WY              | Found Dead |
| 7/30/2015 | 8/19/2015      | Casper, WY              | Found Dead |
| 8/6/2015  | 1/16/2016      | El Refugio, MX          | Shot       |
| 8/11/2015 | 9/6/2015       | August, KS              | Shot       |
| 8/18/2015 | 6/4/2016       | Casper, WY              | Found Dead |
| 8/18/2015 | 7/6/2016       | Casper, WY              | Found Dead |
| 8/19/2015 | 9/1/2015       | Cheyenne, WY            | Shot       |
| 7/11/2016 | 11/14/2016     | Santo Nino, MX          | Shot       |
| 7/13/2016 | 10/1/2016      | San Julian, MX          | Shot       |
| 7/25/2016 | 9/4/2016       | Wiggins, CO             | Shot       |

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

| Year    | Hunters | Days | Days /<br>Hunter | Harvest | Birds/<br>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             |
| Average | 138     | 258  | 1.94             | 315     | 2.26             |

Source: 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 28. HIP estimates of rail harvest and hunter activity in Wyoming.

| Year    | Hunters | Days  | Days /<br>Hunter | Harvest | Birds/<br>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    | 50      | 50    | 1.00             | 0       | 0                |
| Average | 34.62   | 50.00 | 0.55             | 50.00   | 0.62             |

Source: 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 29. HIP estimates of American coot harvest and hunter activity in Wyoming.

| Year    | Hunters | Days  | Days/<br>Hunter | Harvest | Birds /<br>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              |
| Average | 131     | 338   | 2.23            | 531     | 3.65              |

Source: 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 increased throughout the United States during 1996-2013, but decreased in Canada and Wyoming.

### **Harvest**

Recent crow seasons are summarized in Table 33. 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.

In response to requests from the hunting public, a light goose hunting season was opened in the Pacific Flyway portion of Wyoming for 2017. Some citizens and interest groups are opposed due to a perception that trumpeter swans will be mistaken as snow geese and killed. Based on considerable experience elsewhere, the Department believes this concern is unfounded. Appropriate cautions and identification materials were included in the 2017 migratory game bird hunting brochure. The Department will monitor the light goose hunting season and will make appropriate adjustments if the need should arise.

Table 30. Wilson’s snipe, sandhill crane, mourning dove, and rail hunting seasons in Wyoming, 1996-2016.

| Year | Common Snipe      | RMP Sandhill Crane        |                        |                   |                    |                      |                 |                       |                                   |                   | Mourning Dove   | Sora and Virginia Rail |
|------|-------------------|---------------------------|------------------------|-------------------|--------------------|----------------------|-----------------|-----------------------|-----------------------------------|-------------------|-----------------|------------------------|
|      |                   | 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 |                   |                 |                        |
| 1996 | Sep. 14 - Dec. 15 | Sep. 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 |                        |

Table 31. Duck, merganser, American coot, and light goose hunting seasons, 1996-2016.

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

Table 32. Dark goose hunting seasons, 1996-2016.

| Year | Dark Geese                                     |  |                     |               |               |                                |  |                             |                 |
|------|--|--|---------------------|---------------|---------------|--------------------------------|--|-----------------------------|-----------------|
|      | C1   | 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<br>Nov 11-Feb 8                 | -                   | Oct 18-Jan 31 | -             | Sep 30-Oct 22<br>Nov 4-Jan 25  | -  | Sep 1-Sep 7                 | Sep. 30-Jan. 6  |
| 2001 | Oct 6-Oct 19                                   | Oct 6-Oct 21<br>Nov 17-Feb 14                | -                   | Oct 18-Jan 31 | -             | Sep 29-Oct 21<br>Oct 27-Jan 17 | -  | Sep 1-Sep 7                 | Sep. 29-Jan. 5  |
| 2002 | Oct 5-Jan 18                                   | Oct 5-Oct 20<br>Nov 16-Feb 13                | -                   | Oct 18-Jan 31 | -             | Sep 28-Oct 20<br>Oct 26-Jan 16 | -  | Sep 1-Sep 7                 | Sep. 28-Jan. 4  |
| 2003 | Oct 4-Oct 19<br>Nov 1-Dec 14<br>Dec 20-Feb 3   | Oct 4-Oct 19<br>Nov 15-Feb 12                | -                   | -             | -             | Sep 27-Oct 12<br>Nov 1-Dec 14  | -  | Sep 1-Sep 8                 | Sep. 27-Jan. 2  |
| 2004 | Oct 2-Oct 17<br>Oct 30-Dec 12<br>Dec 18-Feb 1  | Oct 2-Oct 17<br>Nov 13-Feb 10                | -                   | -             | -             | Sep 25-Jan 8                   | Sep 25-Oct 10<br>Oct 30-Dec 12<br>Dec 18-Feb 1 | Sep 1-Sep 8                 | Sep. 25-Dec. 31 |
| 2005 | Oct 1-Oct 16<br>Oct 29-Dec 11<br>Dec 17-Jan 31 | Oct 1-Oct 16<br>Nov 12-Feb 9                 | -                   | -             | -             | Oct 1-Jan 14                   | Oct 1-Oct 23<br>Nov 5-Dec 11<br>Dec 17-Jan 31  | Sep 1-Sep 8                 | Sep. 24-Dec. 30 |
| 2006 | Oct 7-Oct 22<br>Nov 4-Dec 10<br>Dec 16-Feb 6   | Oct 7-Oct 22<br>Nov 4-Dec 10<br>Dec 16-Feb 6 | -                   | -             | -             | Oct 1-Jan 14                   | Sep 30-Oct 22<br>Nov 4-Dec 10<br>Dec 16-Jan 30 | Sep 1-Sep 8                 | Sep 23-Dec. 29  |
| 2007 | Oct 6-Oct 23<br>Nov 3-Dec 9<br>Dec 15-Feb 3    | Oct 6-Oct 23<br>Nov 17-Feb 12                | -                   | -             | -             | Sep 29-Dec 2<br>Dec 15-Jan 24  | Sep 29-Oct 21<br>Nov 3-Dec 9<br>Dec 15-Jan 29  | Sep 1-Sep 8                 | Sep. 22-Dec. 28 |
| 2008 | Oct 4-Oct 21<br>Nov 1-Dec 7<br>Dec 13-Jan 31   | Oct 4-Oct 21<br>Nov 15-Feb 9                 | -                   | -             | -             | Sep 27-Nov 30<br>Dec 13-Jan 21 | Sep 27-Oct 19<br>Nov 1-Dec 7<br>Dec 13-Jan 26  | Sep 1-Sep 8                 | Sep. 27-Jan. 1  |
| 2009 | Oct 3-Oct 20<br>Oct 31-Dec 6<br>Dec 12-Jan 30  | Oct 3-Oct 20<br>Nov 14-Feb 8                 | -                   | -             | -             | Sep 26-Nov 29<br>Dec 12-Jan 20 | Sep 26-Oct 20<br>Oct 31-Dec 6<br>Dec 12-Jan 23 | Sep 1-Sep 8                 | Sep. 26-Dec. 31 |
| 2010 | Oct 2-Oct 19<br>Nov 6-Dec 5<br>Dec 11-Feb 5    | Oct 2-Oct 19<br>Nov 13-Feb 7                 | -                   | -             | -             | Sep 25-Nov 28<br>Dec 11-Jan 19 | Sep 25-Oct 19<br>Oct 30-Dec 5<br>Dec 11-Jan 22 | Sep 1-Sep 8                 | Sep. 25-Dec. 30 |
| 2011 | Oct 1-Oct 16<br>Nov 5-Dec 4<br>Dec 10-Jan 28   | Oct 1-Oct 16<br>Nov 19-Feb 12                | -                   | -             | -             | Sep 24-Nov 27<br>Dec 10-Jan 18 | Sep 24-Oct 18<br>Nov 5-Dec 4<br>Dec 10-Jan 28  | Sep 1-Sep 8                 | Sep. 24-Jan. 6  |
| 2012 | Oct 6-Oct 21<br>Nov 3-Dec 2<br>Dec 8-Feb 4     | Oct 6-Oct 21<br>Nov 21-Feb 17                | -                   | -             | -             | Sep 22-Nov 25<br>Dec 8-Jan 16  | -  | Sep 1-Sep 8                 | Sep. 22-Dec. 27 |
| 2013 | Oct 5-Oct 22<br>Nov 2-Dec 1<br>Dec 7-Feb 1     | Oct 5-Oct 22<br>Nov 22-Feb 16                | -                   | -             | -             | Sep 21-Dec 1<br>Dec 14-Jan 15  | -  | Sep 1-Sep 8                 | Sep. 21-Dec. 26 |
| 2014 | Oct 4-Oct 22<br>Nov 1-Nov 30<br>Dec 6-Jan 30   | Oct 4-Oct 22<br>Nov 22-Feb 15                | -                   | -             | -             | Sep 27-Dec 7<br>Dec 13-Jan 14  | -  | Sep 1-Sep 8                 | Sep. 27-Jan. 1  |
| 2015 | Oct 3-Oct 21<br>Oct 31-Nov 29<br>Dec 5-Jan 29  | Oct 3-Oct 21<br>Nov 21-Feb 14                | -                   | -             | -             | Sep 26-Dec 6<br>Dec 12-Jan 13  | -  | Sep 1-Sep 8                 | Sep. 26-Dec. 31 |
| 2016 | Oct 1-Oct 18<br>Oct 29-Nov 27<br>Dec 3-Jan 28  | Oct 1-Oct 18<br>Nov 18-Feb 12                | -                   | -             | -             | Sep 24-Dec 4<br>Dec 10-Jan 11  | -  | Sep 1-Sep 8                 | Sep. 24-Dec. 29 |

Table 33. 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             |

## Waterfowl Nesting Structures

### **Introduction**

It is our intent to complete a comprehensive inventory of waterfowl nesting structures for inclusion in a future JCR. The report will contain an inventory of structures and their condition within the two regions they are still maintained, including recent and anticipated future maintenance and management needs. The report will identify the structures that will continue to be maintained. Currently, maintenance only takes place within the Lander and Laramie regions.

### **Recommendations**

1. Update the goose nest structure database. Work with Habitat and Access Section to obtain structure locations and information about their condition.
2. Complete the nesting structure status report.
3. Retain a manageable number of effective structures (those that are being used or likely to be used most years), and provide adequate maintenance.
4. Participate annually in the nest structure bedding and maintenance event sponsored by the Goshen Two-shot on Department WHMAs in Goshen County.

## **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. However, hunters are still required to hunt only from the established pits and blinds. 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 again through a permitting system.

### **Recommendations**

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

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