



U.S. Fish & Wildlife Service

Migratory bird hunting activity and harvest during the 2017-18 and 2018-19 hunting seasons

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Hunter setting decoys.
USFWS/Milton Friend

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Abstract: National surveys of migratory bird hunters were conducted during the 2017 and 2018 hunting seasons. Hunters of the following types of migratory birds were surveyed: waterfowl (family Anatidae), doves (mourning [*Zenaida macroura*] and white-winged [*Z. asiatica*]), band-tailed pigeon (*Patagioenas fasciata*), American woodcock (*Scolopax minor*), Wilson's snipe (*Gallinago delicata*), American coot (*Fulica americana*), gallinules (common gallinule [*Gallinula galeata*] and purple gallinule [*Porphyrrio martinicus*]), and rails (king rail [*Rallus elegans*], clapper rail [*R. crepitans*], Virginia rail [*R. limicola*], and sora [*Porzana carolina*]). Over 1 million waterfowl hunters harvested 12,115,800 ($\pm 4\%$) ducks and 3,600,500 ($\pm 5\%$) geese in the 2017 hunting season, and over 1 million waterfowl hunters harvested 10,813,400 ($\pm 5\%$) ducks and 2,499,700 ($\pm 6\%$) geese in the 2018 season. Mallard (*Anas platyrhynchos*), green-winged teal (*A. crecca*), blue-winged/cinnamon teal (*Spatula discors* and *S. cyanoptera*), gadwall (*Mareca strepera*), and wood duck (*Aix sponsa*) were the most-harvested duck species in the U.S., and Canada goose (*Branta canadensis*) was the predominant goose species in the goose harvest. Approximately 709,000 dove hunters harvested 11,561,100 ($\pm 6\%$) mourning doves in 2017 and 694,300 hunters harvested 10,374,500 ($\pm 8\%$) in 2018. Woodcock hunters numbered about 103,300 in 2017 and 87,800 in 2018, and harvested 203,500 ($\pm 17\%$) in 2017, and 180,200 ($\pm 19\%$) in 2018. About 22,500 people hunted snipe in 2017 and 23,400 in 2018, and they harvested 42,400 ($\pm 57\%$) and 83,600 ($\pm 121\%$) snipe in 2017 and 2018, respectively. Coot hunters (about 20,900 in 2017 and 10,800 in 2018) harvested 117,100 ($\pm 62\%$) coots in 2017 and 83,600 ($\pm 69\%$) in 2018. Gallinule hunters (about 5,400 in 2017 and 2,100 in 2018) harvested 12,600 ($\pm 108\%$) in 2017 and 2,400 ($\pm 138\%$) in 2018. Approximately 2,600 rail hunters harvested 14,600 ($\pm 48\%$) rails in 2017 and 5,100 rail hunters harvested 14,600 ($\pm 83\%$) rails in 2018.

Introduction

In the 1952-53 hunting season, the U.S. Fish and Wildlife Service (FWS) began conducting a survey of Federal Duck Stamp purchasers to estimate waterfowl hunter activity and harvest in the United States. That survey was conducted annually through the 2001-02 hunting season, after which it was replaced by a new migratory game bird harvest survey system. In 1992, the FWS and State Fish and Wildlife Agencies (States) established the Migratory Bird Harvest Information Program (HIP), which was fully operational nationwide by 1999 (Elden et al. 2002). This cooperative State-Federal program requires licensed migratory game bird hunters to register annually in each state in which they hunt. Each State is responsible for collecting the name, address, and date of birth from each migratory bird hunter, asking each of them a series of general screening questions about their his/her hunting success the previous year, and sending this information to the FWS. The States are also responsible for providing migratory bird hunters with proof of compliance to carry while they are hunting. The FWS is responsible for using these data to conduct annual national migratory game bird hunter activity and harvest surveys.

This report presents hunter activity and harvest estimates from the HIP surveys for the 2017-18 and 2018-19 hunting seasons. These estimates are preliminary, pending (1) final counts of the number of HIP registrants in each state each season, and (2) complete audits of all survey response data.

HIP Survey Design and Methods

Sample Frame. The HIP sample frame consisted of people who identified themselves as potential migratory game bird hunters when they purchased State hunting licenses. The States forwarded the sample frame data to the FWS 2-3 times a month, starting in August and continuing through the end of their migratory bird hunting seasons. People who hunted migratory birds in more than one state had to comply with the HIP requirement in each state in which they hunted. Thus, the sample frame was specific to each state.

Stratification and Sample Selection. States asked each migratory bird hunter a series of short screening questions about the species they hunted and their hunting success the previous year. The list of species or species-groups involved (dependent on seasons in each state) included ducks, sea ducks, geese, brant, doves, band-tailed pigeons, woodcock, coots and/or snipe, rails and/or gallinules, and sandhill cranes. The FWS used this prior-year information as a predictor of their current year hunting activity and success to assign each hunter to a success/activity stratum for each of the 10 species or species-groups based on his or her answers to the screening questions. From each State list the FWS selected stratified samples for each species or species-group, sampling the small group of active/very successful hunters at a high rate, the larger group of less successful hunters at a lower rate, and the very large group of hunters who rarely if ever hunt the species or species-group at a very low rate. The FWS conducted 5 separate harvest surveys to estimate hunter activity and harvest of: (1) waterfowl (ducks, sea ducks, geese, and brant), (2) doves and band-tailed pigeons, (3) woodcock, (4) snipe, rails, gallinules, and coots, and (5) sandhill cranes.

Survey Methodology. Contact before or early in the hunting season, and a daily hunting diary format, were used whenever possible in an effort to reduce memory and prestige bias, both of which result in overestimation (Atwood 1956). Hunters selected for the surveys were asked to record the date of each hunt, the state and county where they hunted, and how many birds of various species or species-groups they personally bagged that day. As a check on recording and for hunters who forgot to record their daily hunting information throughout the season, or did not receive the form until after the hunting season began, space was provided on the form to record season totals. Hunter response was voluntary.

Soon after the initial batch of names and addresses was received from a State, stratified samples were selected according to predetermined sampling rates. All surveys were conducted using Dillman's Total Design Method for mail surveys (Dillman 1978, Dillman 1991) to maximize survey response and ensure quality and timely responses. A survey packet including a cover letter and a survey form for recording daily hunting activity was sent to each selected hunter within one to two weeks after his/her name was received. The sample selection and initial mailing process continued with each subsequent batch of names and addresses (roughly twice per month), with the last initial mailing occurring on or shortly after the date the season closed in the state. Postcards were sent at the close of the season reminding sampled hunters to return their completed survey forms and thanking them for their help. About 3 weeks after this mailing, a follow-up packet with an additional form was sent to each hunter who had not yet responded. Finally, 3-4 weeks later, an additional follow-up packet was sent to the remaining non-respondents.

Analysis. Standard analyses for stratified samples (Cochran 1977, Steele and Torrie 1980) were used to obtain estimates of harvest and hunter activity for each state and species or species-group combination. The proportion of respondents who hunted (active hunters), their average days hunted and their average seasonal harvest were calculated and the corresponding totals estimated (active hunters, days hunted, birds bagged) at the state level. Variance estimates for these parameters were also calculated and converted to 95% confidence intervals. The number of days afield and the number of birds harvested were also estimated at the management unit and national levels, along with their corresponding 95% confidence intervals. However, the total number of active hunters (and any averages per active hunter) could not be estimated at the management unit or national levels because some people hunted migratory birds in more than one state. To calculate total numbers at larger geographic scales, we summed the number of active hunters in each state. This may overestimate the total number of active hunters because hunters are required to register for HIP in each state in which they hunt migratory birds.

Parts Collection Surveys

The FWS has conducted a cooperative Waterfowl Parts Survey annually to estimate the species, age, and sex composition of the duck harvest since 1961, and the species and age composition of the goose harvest since 1962. Hunters who agreed to participate in this survey were provided with large, postage-paid “wing envelopes” and were asked to send us a wing from each duck, brant, and coot they shot and the tail feathers and primary feather tips from each goose they shot throughout the hunting season. They were also asked to report the state, county, and date of harvest for each specimen they submitted. After the waterfowl hunting seasons ended, FWS and State biologists examined the specimens to determine the species, age, and sex of the birds.

Species composition estimates derived from the Waterfowl Parts Survey were combined with harvest estimates from the HIP waterfowl survey to calculate species-specific duck and goose harvest estimates. Similarly, date information provided by Waterfowl Parts Survey participants was combined with HIP survey results to estimate special September season duck and goose harvests. Estimates of the number of immatures per adult in the harvest (age ratio), and the number of males per female (sex ratio) were calculated for each species and state. Because sampling intensity varied among states, state ratios were weighted by harvest estimates from the HIP waterfowl survey to obtain flyway and U.S. ratios.

The FWS has conducted a Woodcock Wing Survey annually since 1977, primarily to estimate the age and sex composition of the woodcock harvest. Age and sex ratio estimates obtained from the woodcock wings collected in 1963-2018 were reported in “American woodcock population status, 2019” (Seamans and Rau 2019). This survey was expanded in 1997 to include rail wings to determine the species composition of the rail harvest, and band-tailed pigeon wings to obtain age ratio estimates.

Beginning in 2007, the FWS has performed a national Mourning Dove Parts Collection Survey to determine an index of recruitment. Selected hunters were asked to send in a wing from mourning doves harvested during the first two hunts of the season. Pooled age ratios from 2008-2018 were reported in “Mourning Dove population status, 2019” (Seamans 2019).

Survey Results

Waterfowl Hunter Activity and Harvest (Tables 1-7, Figures 1-3). HIP waterfowl harvest survey sample sizes and response rates were 104,820 hunters and 31%, respectively, for 2017-18, and 102,764 hunters and 17% for the 2018-19 survey (a new printing contract, as well as the lapse in federal appropriations, delayed survey mailings which resulted in a decrease in response rates this year, particularly for the waterfowl survey). Species-specific estimates for ducks and geese (Table 1A-E) are presented by flyway. We were unable to split the estimates for Colorado, Montana, New Mexico, and Wyoming into their Central and Pacific Flyway portions for this report, so we arbitrarily assigned all of Colorado, Montana, New Mexico, and Wyoming to the Central Flyway. However, the Waterfowl Parts Collection Survey enabled us to provide Flyway-specific point estimates of duck and goose harvest for those four states (Table 2).

Sea duck hunter activity and harvest were estimated separately from other ducks for states that had special sea duck seasons or regulations (Table 3). Likewise, brant hunter activity and harvest along the Atlantic and Pacific coasts were estimated separately and reported in Table 4. Sea duck and brant harvest estimates are also shown in the species-specific waterfowl estimates in Table 1, but the estimates of sea ducks and brant days afield and active hunters shown in Tables 3 and 4 are not included in the estimates of duck and goose days afield or active duck and goose hunters shown in Table 1.

Estimates for special September duck seasons are given in Table 5, and Table 6 shows estimates of Canada goose harvest during special resident goose seasons compared to regular season harvest. Table 7 summarizes the waterfowl harvest in Canada; those data were provided by the Canadian Wildlife Service, which conducts annual surveys similar to those conducted in the U.S.

Long-term trends of duck harvest, and goose harvest since 1961, are shown in Figures 1-2. The curves are locally weighted regression (lowess) lines (Cleveland and Devlin 1988) that fit a pattern to the majority of the estimates and identify points that deviate from that pattern. These figures show one lowess line and point estimates for the Federal Duck Stamp-based survey's estimates from 1961-2001 and a separate lowess line and point estimates for the HIP survey estimates for 1999-present.

Waterfowl Age and Sex Ratios (Tables 8-12, Figures 3-6). The 2017-18 Waterfowl Parts Survey collected 86,151 duck wings and 19,985 goose tails and primary tips from 4,870 hunters; the 2018-19 sample consisted of 81,729 duck wings and 15,086 goose tails and primary wing tips from 4,736 hunters. State-specific mallard age ratios and flyway-level age ratios for other ducks species are reported in Tables 8 and 9, respectively, followed by state-specific mallard sex ratios (Table 10) and flyway-level sex ratios for other duck species (Table 11). Table 12 gives age ratios for geese. Figures 3-6 show the long-term trends in age ratios of mallards (Figure 3), northern pintails (Figure 4), American black ducks and wood ducks (Figure 5) and lesser scaup (Figure 6).

Dove and Band-tailed Pigeon Hunter Activity and Harvest (Tables 13-15). The dove and band-tailed pigeon estimates were based on samples of 43,881 hunters in 2017-18 (39% response rate)

and 42,851 hunters in 2018-19 (23% response rate). Estimated numbers of active hunters, days afield, harvest and birds harvested per hunter are given in Table 13 for mourning doves, Table 14 for white-winged doves and Table 15 for band-tailed pigeons.

Woodcock Hunter Activity and Harvest (Table 16). Results of the HIP woodcock harvest survey are presented in Table 16. The 2017-18 survey had a sample size of 19,123 hunters and a 45% response rate; the 2018-19 survey sample size and response rate were 18,502 hunters and 26%.

Snipe, Coot, Gallinule, and Rail Hunter Activity and Harvest (Tables 17-21). The sample for the 2017-18 snipe, coot, gallinule, and rail harvest survey was 24,976 hunters (41% response rate) and 29,012 hunters (20% response rate) for the 2018-19 survey. Tables 17-20 give the estimates for Wilson's snipe (Table 17), American coot (Table 18), gallinules (Table 19; all species combined) and rails (Table 20; all species combined).

We believe that the number of rail wings collected each year is too small to provide reliable annual species composition estimates, even at the flyway and national levels. Therefore, we used 5-year running averages to obtain species-specific rail harvest estimates (Table 21). The 2017-18 estimates are based on the species composition of 1,840 rail wings collected from 109 hunters during the period 2013-2017, and the 2018-19 estimates are based on 1,763 rail wings collected from 113 hunters during the period 2014-2018.

Alaska Sandhill Crane Hunter Activity and Harvest Estimates. The estimates presented below were derived from surveys of 457 (2017-18, 42% response rate) and 710 (2018-19, 34% response rate) Alaska migratory bird hunters. For Alaska's 2017 season, we estimated that 917 active sandhill crane hunters spent 2,213 days hunting cranes and harvested 973 birds. In 2018, an estimated 1,249 active hunters spent 3,545 days hunting cranes and harvested 860 birds.

Mid-continent sandhill crane hunting activity and harvest in the Central Flyway states are estimated in a separate annual survey. Results of that survey for the 2017 and 2018 seasons were reported in "Status and harvests of sandhill cranes: Mid-continent, Rocky Mountain, Lower Colorado River Valley and Eastern populations" (Dubovsky 2019).

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Table 1A. Preliminary estimates of waterfowl harvest and hunter activity in the Atlantic Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Connecticut		Delaware		Florida	
	2017	2018	2017	2018	2017	2018
Mallard	4,932	6,006	9,307	8,157	115	179
Domestic Mallard	93	0	132	151	115	0
Black Duck	1,613	1,303	7,194	4,154	0	0
Mallard x Black Hybrid	93	113	198	76	0	0
Mottled Duck	0	0	0	0	7,140	9,932
Gadwall	620	113	990	1,662	691	537
Wigeon	186	57	462	302	2,534	3,311
Green-winged Teal	248	283	4,488	2,341	4,722	3,311
Blue-winged/Cinnamon Teal	62	57	528	151	45,144	47,783
Northern Shoveler	0	0	990	1,359	3,455	3,221
Northern Pintail	0	57	990	755	691	716
Wood Duck	2,296	2,550	1,254	1,208	24,875	20,670
Redhead	0	0	264	0	2,649	2,505
Canvasback	0	0	0	0	0	358
Greater Scaup	558	227	132	76	230	358
Lesser Scaup	0	0	66	227	10,941	2,953
Ring-necked Duck	186	397	132	680	32,822	35,077
Goldeneyes	62	113	66	151	115	179
Bufflehead	1,241	1,643	5,874	2,794	2,188	1,969
Ruddy Duck	0	0	0	302	230	537
Long-tailed Duck	2,158	1,253	0	1,366	0	0
Eiders	480	114	0	0	0	0
Scoters	480	684	223	2,049	0	179
Hooded Merganser	496	567	792	680	806	626
Other Mergansers	279	850	924	227	0	89
Other Ducks	0	0	0	0	3,800	8,322
Total Duck Harvest	16,100±42%	16,400±32%	35,000±18%	28,900±28%	143,300±14%	142,800±21%
Total Active Duck Hunters^a	1,700±34%	1,500±28%	3,300±13%	3,200±18%	14,700±20%	15,500±30%
Total Duck Hunter Days Afield^a	9,500±35%	12,500±35%	23,200±17%	21,300±22%	73,000±18%	80,300±25%
Seasonal Duck Harvest Per Hunter^a	7.8±54%	9.3±43%	10.5±22%	7.9±33%	9.7±24%	9.2±37%
Goose Species Composition						
Canada Goose	9,157	8,073	24,648	8,384	0	0
Snow Goose	59	0	1,579	519	0	0
Blue Goose	29	0	175	0	0	0
Ross' Goose	0	0	0	0	0	0
White-fronted Goose	0	37	0	0	0	0
Brant	1,763	807	256	588	0	0
Other Geese	29	0	0	0	0	0
Total Goose Harvest	11,000±40%	8,900±41%	26,700±27%	9,500±30%	2,100±96%	0
Total Active Goose Hunters^b	2,500±29%	1,700±34%	3,500±12%	2,700±20%	1,800±52%	300±196%
Total Goose Hunter Days Afield^b	11,500±34%	11,100±41%	22,800±19%	13,800±25%	6,900±75%	600±196%
Seasonal Goose Harvest Per Hunter^b	3.7±49%	4.7±53%	7.6±30%	3.4±36%	1.1±109%	0
Active Waterfowl Hunters^c	2,800±29%	2,600±27%	4,700±10%	4,200±16%	14,700±20%	15,500±30%
Sample Sizes						
DuckWings	444	271	534	347	1,244	1,596
GooseTails	323	233	307	130	0	3

Table 1A. Preliminary estimates of waterfowl harvest and hunter activity in the Atlantic Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Georgia		Maine		Maryland	
	2017	2018	2017	2018	2017	2018
Mallard	3,887	3,076	9,651	11,844	35,870	36,070
Domestic Mallard	0	0	0	0	453	287
Black Duck	0	0	2,923	5,620	10,326	7,463
Mallard x Black Hybrid	0	0	160	60	91	287
Mottled Duck	243	0	0	0	0	0
Gadwall	5,102	615	0	0	3,533	5,454
Wigeon	486	820	40	181	2,083	2,583
Green-winged Teal	5,587	1,846	1,642	1,148	7,609	7,271
Blue-winged/Cinnamon Teal	3,644	3,691	40	0	1,268	287
Northern Shoveler	3,644	820	80	0	1,540	1,722
Northern Pintail	0	0	240	423	1,630	1,435
Wood Duck	123,897	82,433	6,488	3,686	8,334	10,142
Redhead	1,458	2,461	0	0	1,630	1,914
Canvasback	729	820	0	0	4,982	13,012
Greater Scaup	0	205	0	60	5,344	14,925
Lesser Scaup	2,186	3,281	0	0	8,243	9,472
Ring-necked Duck	21,135	11,278	160	846	906	1,052
Goldeneyes	0	615	601	725	453	96
Bufflehead	0	3,486	1,522	2,719	8,605	14,447
Ruddy Duck	0	205	0	60	1,630	1,148
Long-tailed Duck	0	0	1,706	2,640	3,735	6,749
Eiders	0	0	5,688	7,290	0	198
Scoters	0	0	1,258	880	9,240	20,246
Hooded Merganser	3,401	3,281	641	604	1,449	1,722
Other Mergansers	0	0	441	725	1,359	96
Other Ducks	0	0	0	0	0	0
Total Duck Harvest	175,400±19%	118,900±23%	33,300±18%	39,500±23%	120,300±13%	158,100±23%
Total Active Duck Hunters^a	20,700±15%	14,900±22%	4,700±13%	5,000±17%	15,900±10%	19,000±11%
Total Duck Hunter Days Afield^a	115,200±17%	69,600±20%	21,800±15%	22,600±20%	72,000±12%	82,700±23%
Seasonal Duck Harvest Per Hunter^a	8.5±24%	8.0±32%	5.3±22%	5.7±29%	6.7±17%	6.9±26%
Goose Species Composition						
Canada Goose	25,337	12,801	15,246	11,397	178,497	90,855
Snow Goose	0	0	0	0	6,801	3,273
Blue Goose	0	0	0	0	257	131
Ross' Goose	0	0	0	0	0	0
White-fronted Goose	0	0	0	0	0	0
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	25,300±35%	12,800±54%	15,200±22%	11,400±40%	185,600±13%	94,300±16%
Total Active Goose Hunters^b	7,900±23%	6,000±39%	3,500±16%	2,500±25%	24,500±6%	20,700±9%
Total Goose Hunter Days Afield^b	46,100±41%	23,000±44%	14,600±21%	14,800±40%	127,800±11%	96,000±13%
Seasonal Goose Harvest Per Hunter^b	3.2±42%	2.1±67%	4.4±27%	4.5±47%	7.6±14%	4.6±19%
Active Waterfowl Hunters^c	20,900±15%	15,200±22%	6,700±11%	6,100±15%	32,200±5%	31,900±6%
Sample Sizes						
DuckWings	722	580	663	561	1,251	1,505
GooseTails	50	45	325	261	1,446	720

Table 1A. Preliminary estimates of waterfowl harvest and hunter activity in the Atlantic Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Massachusetts		New Hampshire		New Jersey	
	2017	2018	2017	2018	2017	2018
Mallard	4,178	7,186	3,626	5,527	11,323	6,431
Domestic Mallard	0	0	0	0	235	61
Black Duck	2,289	3,721	648	960	9,739	8,391
Mallard x Black Hybrid	94	0	0	0	117	184
Mottled Duck	0	0	0	0	0	0
Gadwall	0	0	0	0	587	490
Wigeon	0	171	86	0	293	306
Green-winged Teal	755	770	475	576	3,520	2,450
Blue-winged/Cinnamon Teal	0	0	0	38	0	0
Northern Shoveler	0	0	0	0	352	0
Northern Pintail	24	0	86	0	59	368
Wood Duck	3,115	5,004	4,662	5,451	3,755	3,920
Redhead	0	0	0	0	59	0
Canvasback	0	0	0	0	0	245
Greater Scaup	47	0	0	0	821	1,041
Lesser Scaup	71	0	0	0	704	368
Ring-necked Duck	0	0	86	230	1,349	245
Goldeneyes	189	128	43	38	59	245
Bufflehead	1,487	1,198	86	38	15,078	21,683
Ruddy Duck	0	0	0	0	59	490
Long-tailed Duck	1,815	598	0	0	1,291	885
Eiders	4,698	2,991	0	53	646	118
Scoters	2,029	2,222	0	210	5,165	3,601
Hooded Merganser	283	599	302	269	2,757	2,205
Other Mergansers	354	813	0	230	1,467	1,041
Other Ducks	0	0	0	0	0	0
Total Duck Harvest	21,400±35%	25,400±52%	10,100±28%	13,600±50%	59,400±24%	54,800±20%
Total Active Duck Hunters ^a	2,900±24%	3,400±37%	2,400±19%	1,600±28%	6,200±10%	6,300±13%
Total Duck Hunter Days Afield ^a	15,400±29%	18,500±44%	13,100±21%	11,800±33%	30,600±14%	34,000±17%
Seasonal Duck Harvest Per Hunter ^a	4.4±43%	5.8±64%	4.2±34%	8.5±57%	8.4±26%	8.0±24%
Goose Species Composition						
Canada Goose	8,546	17,325	5,670	3,226	26,598	19,257
Snow Goose	0	0	0	0	1,517	822
Blue Goose	0	0	0	0	0	0
Ross' Goose	0	0	0	0	0	0
White-fronted Goose	0	0	0	0	0	0
Brant	777	376	53	0	5,202	8,967
Other Geese	0	0	0	0	0	0
Total Goose Harvest	9,300±33%	17,700±52%	5,700±29%	3,200±48%	33,300±24%	29,000±27%
Total Active Goose Hunters ^b	2,500±25%	3,700±31%	1,600±22%	1,100±38%	4,300±13%	4,300±18%
Total Goose Hunter Days Afield ^b	13,200±32%	14,300±38%	9,700±29%	8,200±51%	20,900±20%	20,200±23%
Seasonal Goose Harvest Per Hunter ^b	3.4±42%	4.6±60%	3.5±37%	2.8±61%	6.6±27%	4.7±32%
Active Waterfowl Hunters ^c	4,300±20%	5,800±27%	2,700±18%	2,100±29%	7,800±8%	7,800±11%
Sample Sizes						
DuckWings	626	526	234	353	903	897
GooseTails	272	191	67	71	370	281

Table 1A. Preliminary estimates of waterfowl harvest and hunter activity in the Atlantic Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	New York		North Carolina		Pennsylvania	
	2017	2018	2017	2018	2017	2018
Mallard	78,548	50,121	35,209	51,584	19,421	26,319
Domestic Mallard	147	118	141	445	83	99
Black Duck	18,848	12,986	13,239	12,896	3,154	4,337
Mallard x Black Hybrid	660	176	282	445	415	197
Mottled Duck	0	0	0	0	0	0
Gadwall	2,494	1,528	27,181	32,462	1,162	493
Wigeon	5,647	3,232	12,112	35,797	0	394
Green-winged Teal	7,041	5,817	34,223	49,138	2,822	3,647
Blue-winged/Cinnamon Teal	440	353	6,197	7,115	747	0
Northern Shoveler	587	235	10,704	9,338	83	0
Northern Pintail	3,374	1,175	5,633	10,005	498	296
Wood Duck	20,169	18,803	117,457	116,508	19,587	17,940
Redhead	3,887	6,933	11,971	10,228	332	0
Canvasback	220	1,351	1,690	1,334	166	0
Greater Scaup	2,934	3,290	5,070	5,781	1,162	789
Lesser Scaup	1,834	1,234	16,196	21,790	2,324	1,183
Ring-necked Duck	733	1,234	17,041	37,798	249	493
Goldeneyes	5,647	3,702	0	667	1,245	197
Bufflehead	6,234	7,169	9,999	36,909	3,901	3,253
Ruddy Duck	220	59	6,197	7,560	581	1,084
Long-tailed Duck	8,202	10,515	141	0	166	197
Eiders	73	4,918	0	0	0	0
Scoters	2,734	2,200	2,394	13,341	83	99
Hooded Merganser	2,200	2,057	11,830	13,563	1,494	690
Other Mergansers	3,740	3,290	986	1,334	3,071	1,971
Other Ducks	73	0	0	222	0	0
Total Duck Harvest	176,700±17%	142,500±17%	345,900±24%	476,300±27%	62,700±39%	63,700±24%
Total Active Duck Hunters^a	17,400±13%	19,500±11%	26,100±16%	41,000±25%	12,000±25%	22,400±26%
Total Duck Hunter Days Afield^a	98,700±13%	97,800±16%	175,700±28%	229,300±27%	59,100±29%	100,600±44%
Seasonal Duck Harvest Per Hunter^a	9.7±22%	6.6±21%	13.3±28%	11.6±36%	5.2±46%	2.8±35%
Goose Species Composition						
Canada Goose	107,061	66,556	41,407	35,388	78,959	89,280
Snow Goose	2,943	917	254	0	1,689	1,216
Blue Goose	0	0	508	0	89	0
Ross' Goose	0	0	254	0	0	0
White-fronted Goose	87	0	0	0	0	0
Brant	7,232	10,631	1,167	5,746	0	0
Other Geese	0	0	0	0	89	0
Total Goose Harvest	117,300±21%	78,100±21%	43,600±34%	41,100±48%	80,800±19%	90,500±29%
Total Active Goose Hunters^b	14,700±12%	12,700±13%	17,800±21%	17,900±36%	17,600±20%	19,500±25%
Total Goose Hunter Days Afield^b	84,600±18%	60,400±19%	70,400±42%	61,000±39%	77,800±18%	100,300±25%
Seasonal Goose Harvest Per Hunter^b	7.5±25%	5.3±25%	2.4±40%	2.0±60%	4.6±28%	4.6±38%
Active Waterfowl Hunters^c	22,700±10%	22,900±9%	28,500±16%	41,400±24%	27,300±18%	34,400±20%
Sample Sizes						
DuckWings	2,340	2,240	2,456	2,142	756	646
GooseTails	1,327	1,076	169	110	909	893

Table 1A. Preliminary estimates of waterfowl harvest and hunter activity in the Atlantic Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Rhode Island		South Carolina		Vermont	
	2017	2018	2017	2018	2017	2018
Mallard	2,365	2,505	13,251	13,997	9,303	8,226
Domestic Mallard	0	0	530	0	0	0
Black Duck	1,475	1,318	424	1,105	2,340	1,645
Mallard x Black Hybrid	28	66	0	0	0	0
Mottled Duck	0	0	212	1,228	0	0
Gadwall	362	66	9,858	8,963	114	94
Wigeon	139	593	1,590	1,719	57	94
Green-winged Teal	167	132	22,685	18,539	742	893
Blue-winged/Cinnamon Teal	0	0	9,328	8,594	57	0
Northern Shoveler	28	0	4,028	3,069	114	0
Northern Pintail	0	0	1,166	1,596	342	141
Wood Duck	779	791	89,468	59,793	4,851	3,384
Redhead	0	0	530	982	0	0
Canvasback	0	0	212	859	0	0
Greater Scaup	139	396	318	491	0	47
Lesser Scaup	28	0	4,240	2,578	171	141
Ring-necked Duck	28	0	20,035	23,696	285	188
Goldeneyes	0	132	0	123	970	940
Bufflehead	445	264	6,466	3,929	57	235
Ruddy Duck	0	0	1,060	737	0	0
Long-tailed Duck	135	0	0	0	57	0
Eiders	1,415	1,224	0	0	0	0
Scoters	67	952	0	737	114	47
Hooded Merganser	334	264	2,650	2,947	114	282
Other Mergansers	1,085	66	1,060	368	171	141
Other Ducks	0	0	0	123	0	0
Total Duck Harvest	9,000±47%	8,800±36%	189,100±36%	156,200±39%	19,900±40%	16,500±27%
Total Active Duck Hunters^a	800±19%	1,200±24%	18,700±24%	16,900±29%	2,500±22%	2,100±13%
Total Duck Hunter Days Afield^a	4,900±26%	6,700±24%	88,800±24%	81,000±24%	15,300±27%	13,300±21%
Seasonal Duck Harvest Per Hunter^a	9.8±51%	5.5±43%	10.1±43%	9.2±49%	7.9±46%	7.8±30%
Goose Species Composition						
Canada Goose	8,056	7,514	15,083	6,706	15,905	7,377
Snow Goose	82	0	628	0	0	0
Blue Goose	0	0	0	0	0	0
Ross' Goose	0	0	0	0	0	0
White-fronted Goose	0	0	0	0	0	0
Brant	853	516	0	0	57	49
Other Geese	0	0	0	0	0	0
Total Goose Harvest	9,000±44%	8,000±65%	15,700±70%	6,700±59%	16,000±58%	7,400±42%
Total Active Goose Hunters^b	700±21%	1,200±29%	4,800±39%	4,500±49%	2,700±27%	1,500±19%
Total Goose Hunter Days Afield^b	5,000±30%	7,900±40%	13,000±42%	14,700±60%	12,800±28%	7,600±30%
Seasonal Goose Harvest Per Hunter^b	11.1±49%	6.2±72%	3.3±80%	1.5±77%	5.9±64%	5.1±46%
Active Waterfowl Hunters^c	1,000±15%	1,900±18%	19,200±23%	19,700±29%	3,400±21%	2,500±12%
Sample Sizes						
DuckWings	290	116	1,784	1,272	348	351
GooseTails	312	94	25	40	280	151

Table 1A. Preliminary estimates of waterfowl harvest and hunter activity in the Atlantic Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Virginia		West Virginia		Flyway Total	
	2017	2018	2017	2018	2017	2018
Mallard	43,229	37,881	2,161	2,012	286,376	277,119
Domestic Mallard	351	143	46	18	2,326	1,321
Black Duck	11,247	5,718	299	165	85,758	71,781
Mallard x Black Hybrid	234	715	0	0	2,372	2,319
Mottled Duck	0	0	0	0	7,595	11,160
Gadwall	11,832	9,720	92	18	64,618	62,214
Wigeon	703	2,001	23	18	26,442	51,581
Green-winged Teal	4,452	5,575	69	55	101,247	103,792
Blue-winged/Cinnamon Teal	234	2,573	23	0	67,713	70,642
Northern Shoveler	703	858	0	18	26,307	20,642
Northern Pintail	1,523	572	23	0	16,280	17,539
Wood Duck	22,025	18,583	1,241	1,189	454,253	372,055
Redhead	937	858	92	37	23,809	25,917
Canvasback	2,695	2,716	0	37	10,693	20,733
Greater Scaup	1,992	1,287	0	0	18,748	28,972
Lesser Scaup	3,397	1,858	23	0	50,424	45,084
Ring-necked Duck	9,724	9,863	69	18	104,941	123,096
Goldeneyes	117	1,144	115	0	9,682	9,195
Bufflehead	14,527	19,298	161	0	77,872	121,033
Ruddy Duck	937	572	69	0	10,983	12,754
Long-tailed Duck	5,455	0	0	0	24,862	24,203
Eiders	381	742	0	0	13,381	17,648
Scoters	9,268	19,289	23	0	33,078	66,734
Hooded Merganser	3,280	1,144	230	18	33,061	31,516
Other Mergansers	703	572	161	37	15,801	11,851
Other Ducks	0	0	0	0	3,874	8,667
Total Duck Harvest	149,900±19%	143,700±22%	4,900±24%	3,600±34%	1,572,500±8%	1,609,600±10%
Total Active Duck Hunters^a	17,500±17%	19,600±22%	1,000±23%	1,100±34%	168,600	194,100
Total Duck Hunter Days Afield^a	91,100±19%	90,300±25%	4,800±25%	5,200±35%	912,300±7%	977,400±9%
Seasonal Duck Harvest Per Hunter^a	7.7±26%	6.3±32%	4.9±33%	3.3±48%		
Goose Species Composition						
Canada Goose	60,007	31,427	5,527	2,818	625,704	418,386
Snow Goose	0	88	0	0	15,553	6,834
Blue Goose	0	0	0	0	1,058	131
Ross' Goose	0	0	0	0	254	0
White-fronted Goose	580	0	60	0	726	37
Brant	541	1,878	0	0	17,901	29,558
Other Geese	0	0	0	0	118	0
Total Goose Harvest	61,100±20%	33,400±26%	5,600±41%	2,800±36%	661,300±7%	454,900±10%
Total Active Goose Hunters^b	12,800±20%	13,400±28%	1,000±23%	1,000±35%	124,300	114,800
Total Goose Hunter Days Afield^b	52,600±19%	54,700±27%	5,400±28%	5,000±39%	595,300±8%	513,500±9%
Seasonal Goose Harvest Per Hunter^b	4.7±28%	2.4±38%	5.6±47%	2.9±50%		
Active Waterfowl Hunters^c	22,700±15%	23,400±20%	1,300±20%	1,500±29%	222,900	238,900
Sample Sizes						
DuckWings	1,192	892	214	199	16,001	14,494
GooseTails	419	386	187	174	6,788	4,859

Table 1B. Preliminary estimates of waterfowl harvest and hunter activity in the Mississippi Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Alabama		Arkansas		Illinois	
	2017	2018	2017	2018	2017	2018
Mallard	14,099	8,071	427,479	477,817	115,685	81,946
Domestic Mallard	0	0	0	0	160	0
Black Duck	371	245	270	0	959	1,193
Mallard x Black Hybrid	0	0	0	0	0	0
Mottled Duck	0	0	0	0	0	0
Gadwall	17,810	10,761	181,126	159,878	24,128	12,332
Wigeon	1,484	489	21,293	10,122	4,634	1,856
Green-winged Teal	16,326	2,690	175,466	154,947	31,797	10,873
Blue-winged/Cinnamon Teal	1,484	5,870	7,547	24,916	18,216	20,023
Northern Shoveler	4,452	734	69,000	52,428	22,849	4,376
Northern Pintail	1,113	489	22,371	20,244	8,309	2,785
Wood Duck	60,479	28,369	70,618	79,939	14,061	11,138
Redhead	1,855	3,913	270	1,817	3,196	2,785
Canvasback	2,226	489	3,773	1,038	5,592	2,652
Greater Scaup	1,484	2,690	270	1,557	1,118	2,387
Lesser Scaup	17,439	1,957	4,582	3,115	23,808	6,232
Ring-necked Duck	22,633	15,163	15,633	13,756	11,824	4,906
Goldeneyes	371	2,201	539	0	1,278	5,304
Bufflehead	8,905	10,027	2,426	2,855	13,582	4,376
Ruddy Duck	371	978	539	0	799	265
Long-tailed Duck	0	0	270	0	320	0
Eiders	0	0	0	0	0	0
Scoters	0	1,223	0	0	160	0
Hooded Merganser	2,226	1,223	2,695	1,817	2,716	265
Other Mergansers	371	0	0	0	479	1,061
Other Ducks	0	0	539	0	0	0
Total Duck Harvest	175,500±25%	97,600±33%	1,006,700±11%	1,006,200±25%	305,700±17%	176,800±29%
Total Active Duck Hunters^a	15,600±21%	12,700±32%	52,100±11%	60,700±15%	24,100±13%	22,700±18%
Total Duck Hunter Days Afield^a	80,100±22%	70,500±29%	370,200±14%	500,900±26%	209,700±15%	151,500±19%
Seasonal Duck Harvest Per Hunter^a	11.3±33%	7.7±46%	19.3±15%	16.6±29%	12.7±22%	7.8±34%
Goose Species Composition						
Canada Goose	22,186	15,062	6,111	20,181	130,871	62,843
Snow Goose	0	0	49,498	24,356	11,363	703
Blue Goose	0	0	26,277	9,046	2,743	938
Ross' Goose	0	0	17,111	3,479	1,959	0
White-fronted Goose	0	0	89,831	69,588	4,702	3,752
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	22,200±80%	15,100±149%	188,800±21%	126,700±42%	151,600±32%	68,200±29%
Total Active Goose Hunters^b	4,600±42%	3,300±69%	28,400±13%	26,500±19%	21,700±14%	15,600±21%
Total Goose Hunter Days Afield^b	17,900±51%	30,300±80%	116,000±17%	138,900±28%	176,800±19%	118,700±25%
Seasonal Goose Harvest Per Hunter^b	4.8±90%	4.6±164%	6.7±25%	4.8±46%	7.0±35%	4.4±36%
Active Waterfowl Hunters^c	15,900±21%	13,400±32%	52,200±11%	61,900±15%	29,000±12%	27,400±17%
Sample Sizes						
DuckWings	473	399	3,735	3,877	1,913	1,333
GooseTails	30	28	309	182	387	291

Table 1B. Preliminary estimates of waterfowl harvest and hunter activity in the Mississippi Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Indiana		Iowa		Kentucky	
	2017	2018	2017	2018	2017	2018
Mallard	45,269	47,689	44,263	53,898	76,376	70,510
Domestic Mallard	404	0	0	0	0	265
Black Duck	1,415	1,484	171	180	4,444	2,121
Mallard x Black Hybrid	0	0	0	0	0	265
Mottled Duck	0	0	0	0	0	0
Gadwall	9,903	3,340	10,938	8,652	16,942	9,808
Wigeon	1,617	557	4,272	4,326	3,333	265
Green-winged Teal	3,638	1,670	21,021	18,026	833	3,446
Blue-winged/Cinnamon Teal	3,436	2,412	37,427	47,589	1,111	1,060
Northern Shoveler	3,233	1,856	3,247	4,687	7,499	265
Northern Pintail	1,415	371	5,298	4,507	1,666	1,856
Wood Duck	9,094	10,577	23,584	16,944	9,721	8,482
Redhead	202	742	0	1,622	1,944	2,121
Canvasback	202	0	342	3,064	555	265
Greater Scaup	1,213	186	0	541	1,389	265
Lesser Scaup	404	371	1,538	721	5,555	3,446
Ring-necked Duck	3,638	371	2,222	5,408	3,333	1,060
Goldeneyes	2,021	557	171	901	3,888	1,060
Bufflehead	1,617	1,484	854	3,425	555	1,060
Ruddy Duck	0	0	171	541	278	0
Long-tailed Duck	0	0	0	0	0	0
Eiders	0	0	0	0	0	0
Scoters	202	0	0	361	278	0
Hooded Merganser	2,021	186	513	721	4,721	1,325
Other Mergansers	0	928	0	0	0	0
Other Ducks	0	186	0	0	0	0
Total Duck Harvest	90,900±14%	75,000±24%	156,000±21%	176,100±29%	144,400±10%	108,900±21%
Total Active Duck Hunters^a	10,500±14%	9,300±21%	13,400±18%	16,200±25%	10,100±16%	11,400±27%
Total Duck Hunter Days Afield^a	64,100±15%	64,900±19%	99,200±25%	97,800±23%	78,400±14%	99,400±29%
Seasonal Duck Harvest Per Hunter^a	8.7±20%	8.1±32%	11.6±27%	10.9±38%	14.3±19%	9.6±34%
Goose Species Composition						
Canada Goose	43,965	40,847	59,641	46,092	38,931	22,037
Snow Goose	1,570	0	0	223	0	0
Blue Goose	0	368	0	0	0	0
Ross' Goose	314	0	0	0	0	0
White-fronted Goose	1,256	0	0	668	0	0
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	47,100±17%	41,200±36%	59,600±28%	47,000±28%	38,900±14%	22,000±28%
Total Active Goose Hunters^b	10,500±14%	7,000±27%	13,200±20%	11,000±31%	8,900±11%	7,300±21%
Total Goose Hunter Days Afield^b	59,300±17%	59,600±30%	75,100±25%	75,100±34%	70,300±14%	49,400±22%
Seasonal Goose Harvest Per Hunter^b	4.5±22%	5.9±45%	4.5±34%	4.3±42%	4.4±18%	3.0±35%
Active Waterfowl Hunters^c	12,400±13%	9,800±21%	15,700±17%	16,700±24%	11,100±16%	13,700±26%
Sample Sizes						
DuckWings	450	404	913	977	520	411
GooseTails	150	112	182	211	30	63

Table 1B. Preliminary estimates of waterfowl harvest and hunter activity in the Mississippi Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Louisiana		Michigan		Minnesota	
	2017	2018	2017	2018	2017	2018
Mallard	86,315	23,391	116,186	102,877	159,718	105,149
Domestic Mallard	0	0	154	279	0	212
Black Duck	133	0	4,303	6,273	308	212
Mallard x Black Hybrid	0	87	307	279	0	0
Mottled Duck	9,149	11,259	0	0	0	0
Gadwall	167,990	96,530	6,762	3,903	29,543	22,471
Wigeon	30,230	10,037	5,994	4,461	11,386	10,812
Green-winged Teal	215,457	96,617	19,672	13,243	60,317	37,947
Blue-winged/Cinnamon Teal	221,026	160,941	3,227	3,067	78,166	61,479
Northern Shoveler	55,953	21,994	1,691	836	11,079	5,724
Northern Pintail	31,689	10,823	5,994	3,485	13,541	5,300
Wood Duck	81,277	20,860	44,108	28,716	116,326	85,010
Redhead	6,895	3,229	15,830	12,128	21,234	13,144
Canvasback	9,679	2,007	768	1,673	6,155	6,148
Greater Scaup	2,784	2,618	6,608	4,461	2,462	3,180
Lesser Scaup	89,630	21,645	8,760	6,970	8,617	10,812
Ring-necked Duck	60,461	13,528	13,524	9,340	80,321	81,618
Goldeneyes	133	436	2,766	4,182	6,770	5,936
Bufflehead	2,254	3,404	24,282	23,140	12,925	16,960
Ruddy Duck	398	349	1,229	836	615	848
Long-tailed Duck	0	0	7,838	3,346	0	0
Eiders	0	0	0	0	0	0
Scoters	133	87	768	1,394	1,231	424
Hooded Merganser	6,895	3,753	5,072	4,043	8,309	8,904
Other Mergansers	133	175	1,691	697	923	212
Other Ducks	5,304	2,007	0	0	0	0
Total Duck Harvest	1,083,900±18%	505,800±32%	297,500±17%	239,600±20%	629,900±15%	482,500±16%
Total Active Duck Hunters ^a	46,900±12%	36,300±17%	33,200±12%	33,200±22%	64,800±10%	53,200±15%
Total Duck Hunter Days Afield ^a	324,100±14%	222,200±32%	201,000±14%	165,500±18%	369,700±13%	264,900±15%
Seasonal Duck Harvest Per Hunter ^a	23.1±21%	13.9±37%	9.0±21%	7.2±30%	9.7±18%	9.1±22%
Goose Species Composition						
Canada Goose	420	150	180,296	93,764	212,160	143,863
Snow Goose	10,085	2,554	241	135	0	375
Blue Goose	8,404	3,005	0	0	0	0
Ross' Goose	1,681	0	0	0	0	0
White-fronted Goose	54,628	16,375	0	0	0	0
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	75,200±52%	22,100±40%	180,500±19%	93,900±26%	212,200±16%	144,200±26%
Total Active Goose Hunters ^b	15,500±17%	12,400±27%	34,500±13%	31,800±22%	52,200±10%	43,200±17%
Total Goose Hunter Days Afield ^b	74,700±24%	43,900±60%	209,500±16%	163,000±27%	291,800±15%	215,800±21%
Seasonal Goose Harvest Per Hunter ^b	4.9±54%	1.8±48%	5.2±23%	3.0±35%	4.1±19%	3.3±31%
Active Waterfowl Hunters ^c	47,400±12%	37,100±17%	42,900±11%	35,300±21%	72,900±10%	59,000±14%
Sample Sizes						
DuckWings	8,175	5,795	1,936	1,719	2,047	2,276
GooseTails	179	147	748	697	361	385

Table 1B. Preliminary estimates of waterfowl harvest and hunter activity in the Mississippi Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Mississippi		Missouri		Ohio	
	2017	2018	2017	2018	2017	2018
Mallard	61,215	35,961	244,342	172,749	43,104	39,145
Domestic Mallard	0	0	0	0	200	437
Black Duck	0	0	0	0	2,594	2,619
Mallard x Black Hybrid	0	0	0	0	0	146
Mottled Duck	0	0	0	0	0	0
Gadwall	50,561	23,702	58,067	36,527	2,694	2,910
Wigeon	4,735	654	9,506	3,438	898	873
Green-winged Teal	50,899	32,529	63,719	40,179	7,284	5,530
Blue-winged/Cinnamon Teal	338	5,231	23,124	18,693	2,894	3,347
Northern Shoveler	31,284	15,365	17,214	10,528	399	873
Northern Pintail	5,242	4,413	20,811	6,876	2,993	437
Wood Duck	41,937	23,375	15,416	9,454	15,366	11,496
Redhead	0	1,471	2,826	1,074	499	873
Canvasback	338	490	1,028	1,074	299	437
Greater Scaup	169	327	771	215	1,996	1,601
Lesser Scaup	1,860	327	8,479	2,793	1,796	1,310
Ring-necked Duck	8,793	4,577	15,159	5,801	1,497	2,037
Goldeneyes	169	0	0	1,504	2,694	2,037
Bufflehead	338	327	771	1,504	1,098	2,328
Ruddy Duck	338	0	0	215	0	437
Long-tailed Duck	0	0	0	0	0	0
Eiders	0	0	0	0	0	0
Scoters	0	0	0	0	0	0
Hooded Merganser	1,015	327	2,826	1,504	599	873
Other Mergansers	0	0	0	0	5,188	1,601
Other Ducks	0	0	0	0	0	0
Total Duck Harvest	259,200±15%	149,100±32%	484,100±18%	314,100±20%	94,100±22%	81,300±30%
Total Active Duck Hunters^a	12,700±18%	12,000±22%	38,800±11%	35,100±18%	11,100±24%	15,300±31%
Total Duck Hunter Days Afield^a	86,700±15%	77,900±18%	219,300±15%	256,100±30%	73,000±22%	81,200±26%
Seasonal Duck Harvest Per Hunter^a	20.3±24%	12.5±39%	12.5±21%	9.0±27%	8.5±32%	5.3±43%
Goose Species Composition						
Canada Goose	0	488	97,127	43,957	59,499	38,665
Snow Goose	6,387	326	9,868	8,658	301	0
Blue Goose	2,839	326	2,597	3,330	301	0
Ross' Goose	1,065	0	2,597	333	150	0
White-fronted Goose	22,001	13,835	5,713	4,329	150	133
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	32,300±30%	15,000±60%	117,900±35%	60,600±65%	60,400±25%	38,800±39%
Total Active Goose Hunters^b	8,500±25%	4,900±43%	14,100±17%	12,400±25%	13,000±22%	14,000±27%
Total Goose Hunter Days Afield^b	37,000±33%	23,700±68%	81,600±24%	65,900±32%	76,100±21%	75,800±34%
Seasonal Goose Harvest Per Hunter^b	3.8±39%	3.0±73%	8.3±39%	4.9±70%	4.6±33%	2.8±48%
Active Waterfowl Hunters^c	12,800±18%	12,000±22%	40,800±11%	38,900±17%	15,700±20%	18,800±27%
Sample Sizes						
DuckWings	1,533	912	1,884	1,462	943	559
GooseTails	91	92	227	182	402	291

Table 1B. Preliminary estimates of waterfowl harvest and hunter activity in the Mississippi Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Tennessee		Wisconsin		Flyway Total	
	2017	2018	2017	2018	2017	2018
Mallard	89,458	90,517	119,962	97,631	1,643,472	1,407,353
Domestic Mallard	267	0	0	205	1,184	1,397
Black Duck	1,869	1,091	1,020	614	17,855	16,032
Mallard x Black Hybrid	0	0	170	409	477	1,186
Mottled Duck	0	0	0	0	9,149	11,259
Gadwall	26,170	16,359	20,900	14,123	623,532	421,296
Wigeon	2,937	7,634	5,947	9,824	108,267	65,348
Green-winged Teal	19,761	13,087	31,435	21,900	717,625	452,685
Blue-winged/Cinnamon Teal	2,136	5,453	39,251	39,912	439,383	399,992
Northern Shoveler	5,608	3,272	3,738	4,298	237,247	127,236
Northern Pintail	5,875	3,272	8,326	4,094	134,643	68,949
Wood Duck	20,028	18,540	88,527	54,853	610,542	407,754
Redhead	1,068	8,725	1,529	6,550	57,348	60,193
Canvasback	6,409	3,272	2,719	7,982	40,087	30,592
Greater Scaup	0	3,272	8,666	12,076	28,929	35,375
Lesser Scaup	801	10,906	12,234	15,965	185,503	86,568
Ring-necked Duck	8,812	5,453	20,050	19,649	267,900	182,667
Goldeneyes	534	2,181	10,535	18,421	31,870	44,721
Bufflehead	9,346	3,272	17,332	24,357	96,285	98,519
Ruddy Duck	534	0	1,869	2,251	7,142	6,721
Long-tailed Duck	0	0	4,758	819	13,185	4,164
Eiders	0	0	0	0	0	0
Scoters	0	0	680	2,251	3,451	5,740
Hooded Merganser	4,273	3,272	3,908	5,526	47,789	33,738
Other Mergansers	1,335	0	1,020	2,661	11,140	7,334
Other Ducks	0	0	0	0	5,843	2,193
Total Duck Harvest	207,200±21%	199,600±42%	404,600±13%	366,400±21%	5,339,800±5%	3,979,000±9%
Total Active Duck Hunters^a	13,100±20%	22,100±29%	44,100±13%	47,600±19%	390,500	387,700
Total Duck Hunter Days Afield^a	82,600±18%	112,800±31%	286,400±12%	287,000±26%	2,544,600±5%	2,452,800±8%
Seasonal Duck Harvest Per Hunter^a	15.8±29%	9.0±51%	9.2±19%	7.7±28%		
Goose Species Composition						
Canada Goose	22,426	18,529	135,776	128,553	1,009,409	675,034
Snow Goose	1,557	0	0	0	90,872	37,329
Blue Goose	311	0	0	0	43,472	17,013
Ross' Goose	0	0	271	0	25,147	3,812
White-fronted Goose	2,803	2,059	0	0	181,084	110,739
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	27,100±38%	20,600±41%	136,000±18%	128,600±26%	1,350,000±8%	843,900±11%
Total Active Goose Hunters^b	8,100±25%	8,000±39%	38,400±10%	36,000±16%	271,700	233,500
Total Goose Hunter Days Afield^b	64,900±45%	52,500±58%	238,900±14%	221,600±19%	1,590,000±6%	1,334,300±9%
Seasonal Goose Harvest Per Hunter^b	3.3±46%	2.6±57%	3.5±20%	3.6±30%		
Active Waterfowl Hunters^c	14,000±20%	22,500±28%	54,200±13%	61,000±18%	437,100	427,400
Sample Sizes						
DuckWings	776	183	2,381	1,790	27,679	22,097
GooseTails	87	10	502	430	3,685	3,121

Table 1C. Preliminary estimates of waterfowl harvest and hunter activity in the Central Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Colorado		Kansas		Nebraska	
	2017	2018	2017	2018	2017	2018
Mallard	49,339	46,053	65,323	72,553	62,861	50,582
Domestic Mallard	0	0	0	0	132	0
Black Duck	0	0	0	0	0	0
Mallard x Black Hybrid	0	0	0	0	0	0
Mottled Duck	0	0	0	0	0	0
Gadwall	13,167	7,001	19,380	14,722	14,425	5,850
Wigeon	11,865	13,691	7,185	4,880	7,543	4,230
Green-winged Teal	6,366	4,512	19,947	21,310	20,645	20,251
Blue-winged/Cinnamon Teal	2,894	7,312	16,354	38,554	17,204	29,161
Northern Shoveler	723	622	7,468	4,474	2,779	3,420
Northern Pintail	723	467	4,160	3,335	3,970	2,970
Wood Duck	1,736	1,400	1,607	1,464	2,779	3,060
Redhead	1,447	1,867	2,836	2,603	2,250	1,080
Canvasback	0	778	851	569	397	90
Greater Scaup	0	0	95	163	0	90
Lesser Scaup	723	467	1,229	732	132	270
Ring-necked Duck	2,170	1,089	4,727	1,789	1,323	2,430
Goldeneyes	1,302	2,178	1,891	2,521	662	270
Bufflehead	289	467	756	1,464	0	360
Ruddy Duck	0	0	189	569	0	0
Long-tailed Duck	0	0	0	0	0	0
Eiders	0	0	0	0	0	0
Scoters	0	0	0	0	0	0
Hooded Merganser	0	0	1,796	2,115	265	180
Other Mergansers	145	311	284	732	132	0
Other Ducks	145	0	0	0	0	0
Total Duck Harvest	93,000±17%	88,200±18%	156,100±39%	174,600±37%	137,500±16%	124,300±18%
Total Active Duck Hunters^a	11,700±14%	11,900±18%	17,900±27%	18,100±34%	10,700±15%	11,700±19%
Total Duck Hunter Days Afield^a	60,200±16%	59,200±17%	66,100±38%	74,900±41%	84,900±16%	79,000±19%
Seasonal Duck Harvest Per Hunter^a	8.0±22%	7.4±26%	8.7±48%	9.7±50%	12.9±22%	10.6±26%
Goose Species Composition						
Canada Goose	104,263	75,831	95,786	50,579	138,904	99,129
Snow Goose	17,541	1,559	9,253	8,917	2,277	214
Blue Goose	1,639	195	3,501	2,631	683	0
Ross' Goose	3,771	390	1,501	1,316	455	0
White-fronted Goose	492	0	4,752	2,339	911	855
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	127,700±17%	78,000±20%	114,800±47%	65,800±61%	143,200±26%	100,200±23%
Total Active Goose Hunters^b	14,000±13%	12,500±19%	12,300±33%	13,700±43%	13,000±11%	11,100±15%
Total Goose Hunter Days Afield^b	74,600±15%	70,100±18%	57,900±40%	48,500±46%	108,400±17%	98,000±22%
Seasonal Goose Harvest Per Hunter^b	9.1±22%	6.2±27%	9.3±58%	4.8±75%	11.0±29%	9.0±27%
Active Waterfowl Hunters^c	19,500±12%	19,700±15%	22,200±24%	20,700±33%	16,200±13%	15,000±17%
Sample Sizes						
DuckWings	643	567	1,651	2,146	1,039	1,381
GooseTails	779	400	459	450	629	469

Table 1C. Preliminary estimates of waterfowl harvest and hunter activity in the Central Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	New Mexico		North Dakota		Oklahoma	
	2017	2018	2017	2018	2017	2018
Mallard	15,945	12,382	171,745	157,338	79,361	118,270
Domestic Mallard	0	0	0	87	0	0
Black Duck	0	0	0	0	0	0
Mallard x Black Hybrid	0	0	0	0	0	0
Mottled Duck	0	0	0	0	0	0
Gadwall	3,283	3,457	58,766	75,234	39,612	42,655
Wigeon	11,138	7,317	19,982	22,961	10,618	13,043
Green-winged Teal	4,103	3,216	30,437	41,835	33,759	18,331
Blue-winged/Cinnamon Teal	586	3,055	39,711	37,051	2,722	1,410
Northern Shoveler	2,228	2,010	19,645	29,485	4,764	2,644
Northern Pintail	3,048	402	16,525	19,656	8,440	3,701
Wood Duck	469	1,206	2,782	2,522	4,492	4,054
Redhead	234	643	14,839	25,310	1,361	1,058
Canvasback	117	241	7,504	7,828	681	705
Greater Scaup	0	0	169	87	0	353
Lesser Scaup	234	80	21,415	25,136	1,089	881
Ring-necked Duck	703	965	8,769	11,916	9,120	7,579
Goldeneyes	0	884	590	1,392	136	353
Bufflehead	234	724	10,455	9,828	136	705
Ruddy Duck	117	0	1,265	1,740	0	176
Long-tailed Duck	0	0	0	0	0	0
Eiders	0	0	0	0	0	0
Scoters	0	0	169	0	0	0
Hooded Merganser	0	0	1,602	1,218	953	2,115
Other Mergansers	0	161	0	87	0	0
Other Ducks	117	884	0	87	136	0
Total Duck Harvest	42,600±106%	37,600±103%	426,400±21%	470,800±14%	197,400±25%	218,000±25%
Total Active Duck Hunters^a	3,000±59%	3,300±74%	29,400±7%	33,800±11%	15,800±15%	20,000±21%
Total Duck Hunter Days Afield^a	17,700±79%	24,200±108%	143,500±14%	160,400±13%	82,600±27%	98,300±31%
Seasonal Duck Harvest Per Hunter^a	14.1±121%	11.5±127%	14.5±22%	14.0±18%	12.5±30%	10.9±33%
Goose Species Composition						
Canada Goose	1,986	9,749	176,541	109,091	56,660	35,890
Snow Goose	64	0	21,338	14,160	590	2,036
Blue Goose	0	0	15,273	10,712	0	255
Ross' Goose	0	464	3,481	1,478	0	509
White-fronted Goose	0	0	2,920	3,078	3,541	509
Brant	0	0	0	0	0	0
Other Geese	0	0	898	0	0	0
Total Goose Harvest	2,100±54%	10,200±130%	220,500±14%	138,500±34%	60,800±35%	39,200±39%
Total Active Goose Hunters^b	1,600±75%	3,200±73%	26,700±7%	23,300±10%	7,900±22%	9,000±30%
Total Goose Hunter Days Afield^b	6,200±83%	9,500±85%	118,200±9%	104,400±13%	27,000±32%	26,000±34%
Seasonal Goose Harvest Per Hunter^b	1.3±92%	3.2±149%	8.2±16%	6.0±36%	7.7±42%	4.4±49%
Active Waterfowl Hunters^c	4,700±52%	6,000±61%	35,300±7%	36,400±11%	16,900±14%	21,200±20%
Sample Sizes						
DuckWings	363	468	5,057	5,413	1,450	1,237
GooseTails	96	22	1,963	1,125	103	154

Table 1C. Preliminary estimates of waterfowl harvest and hunter activity in the Central Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	South Dakota		Texas		Wyoming	
	2017	2018	2017	2018	2017	2018
Mallard	44,934	50,841	96,236	103,378	20,411	19,371
Domestic Mallard	0	0	0	0	0	0
Black Duck	0	0	0	349	0	0
Mallard x Black Hybrid	0	0	0	0	0	0
Mottled Duck	0	0	4,919	1,921	0	0
Gadwall	19,639	24,185	160,607	147,034	4,795	2,636
Wigeon	6,038	6,532	76,775	42,434	5,617	3,065
Green-winged Teal	21,990	16,417	226,475	132,017	4,521	2,391
Blue-winged/Cinnamon Teal	8,644	8,827	233,960	298,958	2,192	2,268
Northern Shoveler	7,945	8,473	64,585	34,750	411	368
Northern Pintail	4,068	3,972	60,949	27,765	411	429
Wood Duck	1,907	3,531	94,097	52,562	342	245
Redhead	3,051	7,150	58,383	25,670	411	184
Canvasback	1,716	1,501	16,895	4,540	68	0
Greater Scaup	127	88	1,283	1,572	0	0
Lesser Scaup	2,669	3,884	44,910	12,398	137	61
Ring-necked Duck	2,669	4,060	45,766	58,325	0	245
Goldeneyes	127	353	1,925	524	1,507	1,410
Bufflehead	3,178	10,327	6,202	4,540	137	184
Ruddy Duck	127	883	1,711	1,397	137	61
Long-tailed Duck	0	0	214	0	0	0
Eiders	0	0	0	0	0	0
Scoters	0	0	0	0	0	0
Hooded Merganser	445	1,059	3,208	4,016	0	0
Other Mergansers	191	177	2,352	699	411	123
Other Ducks	0	0	3,636	1,048	0	0
Total Duck Harvest	129,500±18%	152,300±25%	1,205,100±26%	955,900±23%	41,500±25%	33,000±20%
Total Active Duck Hunters^a	12,700±18%	15,600±21%	86,200±20%	74,300±29%	4,100±21%	3,700±19%
Total Duck Hunter Days Afield^a	52,800±16%	61,800±20%	391,800±17%	358,200±28%	21,800±29%	15,600±18%
Seasonal Duck Harvest Per Hunter^a	10.2±25%	9.8±32%	14.0±32%	12.9±37%	10.1±32%	9.0±27%
Goose Species Composition						
Canada Goose	85,181	61,810	30,767	71,297	35,396	20,311
Snow Goose	20,123	7,053	105,909	26,736	218	0
Blue Goose	12,104	2,413	17,750	6,932	0	0
Ross' Goose	3,480	186	34,317	10,893	0	0
White-fronted Goose	4,085	3,341	43,192	33,668	0	0
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	125,000±24%	74,800±42%	231,900±36%	149,500±40%	35,600±33%	20,300±24%
Total Active Goose Hunters^b	15,200±13%	14,300±19%	48,200±17%	43,600±28%	4,200±18%	3,700±18%
Total Goose Hunter Days Afield^b	77,700±19%	69,100±29%	141,100±24%	166,600±50%	23,200±26%	14,800±19%
Seasonal Goose Harvest Per Hunter^b	8.2±28%	5.2±46%	4.8±40%	3.4±49%	8.5±37%	5.4±30%
Active Waterfowl Hunters^c	18,200±15%	18,800±18%	93,600±19%	99,900±28%	5,800±15%	6,000±11%
Sample Sizes						
DuckWings	2,037	1,725	5,635	5,474	606	539
GooseTails	826	403	392	151	653	449

Table 1C. Preliminary estimates of waterfowl harvest and hunter activity in the Central Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Flyway Total	
	2017	2018
Mallard	606,155	630,768
Domestic Mallard	132	87
Black Duck	0	349
Mallard x Black Hybrid	0	0
Mottled Duck	4,919	1,921
Gadwall	333,673	322,774
Wigeon	156,760	118,154
Green-winged Teal	368,244	260,280
Blue-winged/Cinnamon Teal	324,268	426,597
Northern Shoveler	110,548	86,246
Northern Pintail	102,294	62,698
Wood Duck	110,212	70,045
Redhead	84,812	65,564
Canvasback	28,229	16,252
Greater Scaup	1,673	2,352
Lesser Scaup	72,540	43,910
Ring-necked Duck	75,248	88,398
Goldeneyes	8,140	9,885
Bufflehead	21,388	28,599
Ruddy Duck	3,546	4,826
Long-tailed Duck	214	0
Eiders	0	0
Scoters	169	0
Hooded Merganser	8,268	10,703
Other Mergansers	3,515	2,289
Other Ducks	4,034	2,019
Total Duck Harvest	2,429,000±14%	2,254,700±11%
Total Active Duck Hunters^a	191,400	192,300
Total Duck Hunter Days Afield^a	921,400±9%	931,400±13%
Seasonal Duck Harvest Per Hunter^a		
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Goose Species Composition		
Canada Goose	725,483	533,686
Snow Goose	177,314	60,676
Blue Goose	50,951	23,137
Ross' Goose	47,005	15,235
White-fronted Goose	59,893	43,790
Brant	0	0
Other Geese	898	0
Total Goose Harvest	1,061,500±11%	676,500±14%
Total Active Goose Hunters^b	143,100	134,400
Total Goose Hunter Days Afield^b	634,200±8%	607,100±16%
Seasonal Goose Harvest Per Hunter^b		
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Active Waterfowl Hunters^c	232,500	243,700
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Sample Sizes		
DuckWings	18,481	18,950
GooseTails	5,900	3,623

Table 1D. Preliminary estimates of waterfowl harvest and hunter activity in the Pacific Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Arizona		California		Idaho	
	2017	2018	2017	2018	2017	2018
Mallard	2,350	4,175	209,323	144,472	137,089	172,946
Domestic Mallard	21	0	851	475	447	516
Black Duck	0	0	0	0	0	0
Mallard x Black Hybrid	0	0	0	0	0	0
Mottled Duck	0	0	0	0	0	0
Gadwall	1,355	1,206	112,490	61,730	18,850	12,562
Wigeon	2,795	2,659	186,178	157,767	27,269	20,908
Green-winged Teal	2,032	1,917	356,700	316,959	13,038	17,295
Blue-winged/Cinnamon Teal	699	1,453	45,098	30,628	745	1,635
Northern Shoveler	635	1,082	169,330	141,504	3,204	2,495
Northern Pintail	296	309	119,467	138,774	2,310	4,732
Wood Duck	0	93	23,825	12,346	5,886	6,281
Redhead	466	216	8,339	7,241	1,341	688
Canvasback	85	93	15,657	14,958	149	344
Greater Scaup	0	0	511	356	0	344
Lesser Scaup	106	186	5,956	4,274	1,192	1,463
Ring-necked Duck	1,228	928	23,315	30,865	3,278	4,216
Goldeneyes	212	186	6,297	3,799	12,517	8,690
Bufflehead	254	93	16,337	12,583	3,427	3,098
Ruddy Duck	85	371	2,893	1,662	149	1,033
Long-tailed Duck	0	0	0	0	0	0
Eiders	0	0	0	0	0	0
Scoters	21	0	792	645	75	86
Hooded Merganser	42	124	1,532	1,306	373	688
Other Mergansers	0	155	681	950	298	258
Other Ducks	254	557	0	0	0	0
Total Duck Harvest	12,900±26%	15,800±24%	1,305,600±15%	1,083,300±16%	231,600±42%	260,300±91%
Total Active Duck Hunters^a	2,100±20%	2,000±24%	56,100±13%	51,400±14%	17,700±23%	18,300±45%
Total Duck Hunter Days Afield^a	8,600±22%	8,800±23%	443,900±13%	370,000±11%	98,800±25%	95,000±64%
Seasonal Duck Harvest Per Hunter^a	6.3±33%	7.9±34%	23.2±20%	21.1±21%	13.1±47%	14.3±102%
Goose Species Composition						
Canada Goose	1,624	816	52,876	83,139	66,012	42,049
Snow Goose	191	204	91,487	47,653	689	367
Blue Goose	0	0	380	406	0	0
Ross' Goose	0	102	25,107	8,922	413	0
White-fronted Goose	0	51	64,098	57,589	551	0
Brant	0	0	3,176	514	0	0
Other Geese	0	0	1,902	0	0	0
Total Goose Harvest	1,800±45%	1,200±67%	239,000±16%	198,200±19%	67,700±32%	42,400±70%
Total Active Goose Hunters^b	1,200±29%	1,000±36%	43,900±11%	36,800±12%	15,800±23%	16,300±54%
Total Goose Hunter Days Afield^b	4,400±35%	3,900±42%	268,200±15%	245,900±15%	60,800±25%	53,400±93%
Seasonal Goose Harvest Per Hunter^b	1.5±54%	1.1±76%	5.4±20%	5.4±23%	4.3±40%	2.6±88%
Active Waterfowl Hunters^c	2,200±19%	2,200±23%	59,300±13%	53,500±14%	20,400±21%	21,500±41%
Sample Sizes						
DuckWings	611	511	7,674	9,135	3,109	3,025
GooseTails	19	23	1,280	993	491	462

Table 1D. Preliminary estimates of waterfowl harvest and hunter activity in the Pacific Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Montana		Nevada		Oregon	
	2017	2018	2017	2018	2017	2018
Mallard	74,656	109,744	9,582	19,429	183,971	164,859
Domestic Mallard	0	0	0	0	134	390
Black Duck	0	0	0	0	0	0
Mallard x Black Hybrid	0	0	0	0	0	0
Mottled Duck	0	0	0	0	0	0
Gadwall	5,111	7,093	6,538	5,858	14,928	14,940
Wigeon	9,636	11,376	3,148	4,004	96,155	90,159
Green-winged Teal	5,279	12,447	4,359	6,822	70,334	84,703
Blue-winged/Cinnamon Teal	2,346	7,762	1,142	1,186	1,210	1,299
Northern Shoveler	1,005	3,078	2,041	2,150	16,272	24,294
Northern Pintail	1,341	3,212	830	890	41,286	56,642
Wood Duck	1,173	937	208	297	11,565	9,094
Redhead	754	1,338	865	2,002	807	260
Canvasback	335	402	761	1,112	1,479	2,209
Greater Scaup	84	268	0	0	10,086	11,172
Lesser Scaup	670	1,740	138	297	7,262	10,393
Ring-necked Duck	670	1,205	208	74	11,431	8,444
Goldeneyes	3,603	7,495	138	0	941	1,949
Bufflehead	168	535	104	667	6,186	7,925
Ruddy Duck	0	402	138	1,335	807	390
Long-tailed Duck	0	0	0	0	0	0
Eiders	0	0	0	0	0	0
Scoters	0	134	35	0	62	315
Hooded Merganser	0	535	104	148	1,614	1,949
Other Mergansers	503	0	104	0	1,210	650
Other Ducks	0	134	0	0	134	130
Total Duck Harvest	107,300±18%	169,800±29%	30,400±30%	46,300±49%	477,900±32%	492,200±16%
Total Active Duck Hunters^a	12,400±14%	14,600±14%	2,600±37%	3,400±35%	26,800±18%	28,200±9%
Total Duck Hunter Days Afield^a	57,500±16%	72,400±23%	14,600±28%	21,100±45%	200,300±28%	196,300±14%
Seasonal Duck Harvest Per Hunter^a	8.6±22%	11.6±33%	11.7±48%	13.7±60%	17.9±37%	17.4±18%
Goose Species Composition						
Canada Goose	55,852	52,400	4,636	2,475	46,220	69,373
Snow Goose	707	547	109	99	4,464	4,790
Blue Goose	0	109	0	0	0	177
Ross' Goose	0	0	55	0	394	887
White-fronted Goose	141	0	55	0	4,727	5,855
Brant	0	0	0	0	0	0
Other Geese	0	0	0	0	0	0
Total Goose Harvest	56,700±18%	53,100±24%	4,900±51%	2,600±58%	55,800±32%	81,100±18%
Total Active Goose Hunters^b	9,700±14%	9,500±18%	2,400±34%	900±63%	13,300±22%	13,700±13%
Total Goose Hunter Days Afield^b	50,300±22%	40,400±20%	13,000±62%	2,800±52%	55,900±29%	74,600±21%
Seasonal Goose Harvest Per Hunter^b	5.9±23%	5.6±30%	2.0±61%	2.9±85%	4.2±39%	5.9±22%
Active Waterfowl Hunters^c	16,300±10%	18,900±10%	2,700±36%	3,400±35%	27,800±17%	29,300±8%
Sample Sizes						
DuckWings	1,281	1,269	880	624	3,567	3,796
GooseTails	401	485	89	78	425	458

Table 1D. Preliminary estimates of waterfowl harvest and hunter activity in the Pacific Flyway during the 2017 and 2018 hunting seasons.

Duck Species Composition	Utah		Washington		Flyway Total	
	2017	2018	2017	2018	2017	2018
Mallard	70,062	60,853	181,372	367,244	868,405	1,043,720
Domestic Mallard	195	163	79	141	1,728	1,684
Black Duck	0	0	0	0	0	0
Mallard x Black Hybrid	0	0	0	0	0	0
Mottled Duck	0	0	0	0	0	0
Gadwall	29,901	17,329	8,671	19,691	197,842	140,409
Wigeon	26,383	14,888	42,643	109,428	394,206	411,190
Green-winged Teal	51,594	26,278	30,583	79,188	533,919	545,608
Blue-winged/Cinnamon Teal	7,524	8,380	158	563	58,921	52,906
Northern Shoveler	11,726	12,610	6,385	11,252	210,598	198,466
Northern Pintail	18,761	14,644	15,843	46,837	200,135	266,040
Wood Duck	586	325	2,128	1,969	45,372	31,342
Redhead	1,173	2,115	1,182	3,376	14,926	17,237
Canvasback	2,150	2,603	394	2,110	21,010	23,830
Greater Scaup	195	0	6,306	3,376	17,182	15,516
Lesser Scaup	977	4,800	5,439	4,923	21,741	28,074
Ring-necked Duck	1,270	2,522	10,405	12,940	51,805	61,194
Goldeneyes	684	5,207	2,658	969	27,050	28,294
Bufflehead	489	3,173	10,878	9,986	37,842	38,060
Ruddy Duck	782	1,953	79	0	4,933	7,144
Long-tailed Duck	0	0	55	0	55	0
Eiders	0	0	0	0	0	0
Scoters	0	0	1,495	845	2,480	2,025
Hooded Merganser	293	81	1,261	1,688	5,218	6,519
Other Mergansers	977	1,139	631	985	4,403	4,136
Other Ducks	0	81	79	141	467	1,042
Total Duck Harvest	225,700±16%	179,100±17%	328,700±8%	677,700±17%	2,720,200±10%	2,924,400±11%
Total Active Duck Hunters^a	16,300±23%	13,800±18%	20,800±5%	31,500±5%	154,700	163,200
Total Duck Hunter Days Afield^a	102,700±28%	81,900±20%	123,400±7%	267,000±12%	1,049,800±8%	1,112,600±8%
Seasonal Duck Harvest Per Hunter^a	13.9±27%	13.0±25%	15.6±10%	21.5±18%		
Goose Species Composition						
Canada Goose	24,178	15,165	46,804	68,195	298,201	333,611
Snow Goose	1,867	1,606	16,218	43,723	115,733	98,989
Blue Goose	0	0	109	326	489	1,019
Ross' Goose	934	268	1,197	2,773	28,099	12,952
White-fronted Goose	0	0	218	2,121	69,790	65,616
Brant	0	0	562	1,233	3,737	1,747
Other Geese	0	0	0	163	1,902	163
Total Goose Harvest	27,000±28%	17,000±29%	65,100±16%	118,500±40%	518,000±10%	514,100±14%
Total Active Goose Hunters^b	9,200±19%	7,900±20%	11,200±6%	18,000±8%	106,600	104,300
Total Goose Hunter Days Afield^b	47,900±28%	37,300±26%	58,300±11%	108,600±17%	558,800±9%	566,900±12%
Seasonal Goose Harvest Per Hunter^b	2.9±34%	2.2±35%	5.8±17%	6.5±40%		
Active Waterfowl Hunters^c	17,200±22%	14,600±18%	22,400±5%	34,600±5%	168,200	178,100
Sample Sizes						
DuckWings	2,310	2,202	4,193	4,878	23,625	25,440
GooseTails	289	191	597	724	3,591	3,414

Table 1E. Preliminary estimates of waterfowl harvest and hunter activity in Alaska and the United States during the 2017 and 2018 hunting seasons.

Duck Species Composition	Alaska		United States Total	
	2017	2018	2017	2018
Mallard	21,152	14,830	3,425,560	3,373,791
Domestic Mallard	0	0	5,370	4,490
Black Duck	0	0	103,613	88,163
Mallard x Black Hybrid	0	0	2,850	3,505
Mottled Duck	0	0	21,662	24,340
Gadwall	522	684	1,220,188	947,378
Wigeon	6,528	9,811	692,204	656,084
Green-winged Teal	5,223	5,191	1,726,257	1,367,555
Blue-winged/Cinnamon Teal	0	57	890,285	950,194
Northern Shoveler	1,045	1,825	585,745	434,415
Northern Pintail	3,525	4,734	456,878	419,960
Wood Duck	0	0	1,220,379	881,195
Redhead	0	0	180,895	168,912
Canvasback	0	0	100,019	91,407
Greater Scaup	1,436	285	67,969	82,501
Lesser Scaup	653	171	330,861	203,807
Ring-necked Duck	0	0	499,893	455,355
Goldeneyes	3,003	1,483	79,744	93,578
Bufflehead	1,567	856	234,954	287,066
Ruddy Duck	0	0	26,604	31,444
Long-tailed Duck	1,666	120	39,982	28,487
Eiders	0	478	13,381	18,127
Scoters	5,831	3,586	45,009	78,085
Hooded Merganser	0	0	94,336	82,477
Other Mergansers	0	120	34,859	25,728
Other Ducks	2,083	1,435	16,300	15,356
Total Duck Harvest	54,200±18%	45,700±30%	12,115,800±4%	10,813,400±5%
Total Active Duck Hunters ^a	4,500±11%	4,200±17%	909,800	941,500
Total Duck Hunter Days Afield ^a	18,800±15%	17,300±22%	5,446,900±3%	5,491,500±5%
Seasonal Duck Harvest Per Hunter ^a	9.8±21%	9.4±34%		
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Goose Species Composition				
Canada Goose	5,069	5,002	2,663,867	1,965,719
Snow Goose	0	0	399,472	203,828
Blue Goose	0	0	95,971	41,300
Ross' Goose	0	0	100,506	31,999
White-fronted Goose	724	1,819	312,217	222,000
Brant	3,863	3,381	25,502	34,685
Other Geese	0	0	2,919	163
Total Goose Harvest	9,700±46%	10,200±43%	3,600,500±5%	2,499,700±6%
Total Active Goose Hunters ^b	1,800±22%	1,900±27%	647,500	588,900
Total Goose Hunter Days Afield ^b	7,600±29%	8,900±32%	3,386,000±4%	3,030,800±6%
Seasonal Goose Harvest Per Hunter ^b	3.3±51%	3.6±51%		
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Active Waterfowl Hunters ^c	5,000±10%	4,800±15%	1,065,800	1,092,900
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Sample Sizes				
DuckWings	365	748	86,151	81,729
GooseTails	19	69	19,983	15,086

^a Duck hunter statistics do not include sea duck hunter statistics for states with special sea duck seasons or sea duck permits: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Virginia, California, Oregon, Washington, and Alaska. (Refer to Table 3.)

^b Goose hunter statistics do not include brant hunter statistics for coastal states with brant seasons: Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, North Carolina, Rhode Island, Virginia, California, Oregon, Washington, and Alaska. (Refer to Table 4.)

^c Hunter number estimates at the flyway and national levels may be biased high because the HIP sample frames are state-specific; therefore hunters are counted twice if they hunt in more than one state. Variance inestimable.

Table 2. Flyway-specific point estimates of duck and goose harvest in Colorado, Montana, New Mexico, and Wyoming during the 2017 and 2018 hunting seasons.

	2017		2018	
	Central Flyway	Pacific Flyway	Central Flyway	Pacific Flyway
Duck Harvest				
Colorado	78,400	14,600	73,700	14,500
Montana	24,000	83,300	57,000	112,800
New Mexico	42,300	200	34,900	2,700
Wyoming	30,900	10,600	23,400	9,700
Goose Harvest				
Colorado	118,700	9,000	70,800	7,200
Montana	36,600	20,100	38,100	15,000
New Mexico	1,100	900	8,400	1,900
Wyoming	35,100	500	19,100	1,200

Table 3. Preliminary estimates of sea duck harvest and hunter activity for states with special sea duck seasons or sea duck permits during the 2017 and 2018 hunting seasons. ¹

	Sea Duck Harvest ²		Active Sea Duck Hunters ³		Sea Duck Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Connecticut	3,100 ± 103%	2,100 ± 83%	900 ± 54%	500 ± 65%	3,000 ± 77%	2,600 ± 78%	3.5 ± 116%	3.8 ± 105%
Delaware	200 ± 96%	3,400 ± 92%	100 ± 84%	400 ± 58%	600 ± 141%	1,800 ± 63%	1.8 ± 128%	8.4 ± 109%
Maine	8,500 ± 43%	10,800 ± 68%	1,300 ± 35%	1,300 ± 51%	3,100 ± 35%	4,300 ± 63%	6.6 ± 55%	8.3 ± 85%
Maryland	13,000 ± 23%	27,200 ± 28%	3,100 ± 21%	4,900 ± 20%	6,800 ± 35%	14,500 ± 44%	4.2 ± 31%	5.6 ± 35%
Massachusetts	8,500 ± 47%	5,800 ± 84%	1,400 ± 38%	900 ± 66%	3,500 ± 49%	2,300 ± 64%	6.0 ± 61%	6.5 ± 107%
New Hampshire	700 ± 84%	300 ± 82%	100 ± 72%	100 ± 106%	400 ± 96%	300 ± 77%	5.4 ± 110%	2.1 ± 134%
New Jersey	7,100 ± 51%	4,500 ± 58%	1,200 ± 28%	1,100 ± 41%	4,300 ± 38%	2,800 ± 45%	5.9 ± 58%	4.1 ± 71%
New York	8,600 ± 61%	14,800 ± 55%	1,400 ± 47%	2,400 ± 33%	6,400 ± 68%	11,900 ± 47%	6.1 ± 77%	6.2 ± 65%
Rhode Island	1,600 ± 69%	2,200 ± 52%	200 ± 50%	500 ± 41%	700 ± 56%	2,000 ± 50%	8.1 ± 85%	4.4 ± 67%
Virginia	14,900 ± 64%	20,000 ± 79%	2,300 ± 43%	3,400 ± 49%	9,400 ± 56%	9,800 ± 87%	6.4 ± 77%	5.9 ± 93%
Atlantic Flyway Total	66,300 ± 20%	91,000 ± 24%	12,100	15,500	38,200 ± 21%	52,300 ± 24%		
California	800 ± 73%	600 ± 117%	100 ± 41%	100 ± 71%	300 ± 58%	200 ± 94%	6.1 ± 83%	11.5 ± 137%
Oregon	100 ± 140%	300 ± 70%	100 ± 85%	100 ± 39%	100 ± 97%	200 ± 52%	1.0 ± 164%	3.3 ± 80%
Washington	4,200 ± 46%	1,800 ± 35%	1,000 ± 25%	500 ± 22%	3,500 ± 38%	1,700 ± 31%	4.2 ± 52%	3.5 ± 41%
Pacific Flyway Total	5,100 ± 40%	2,800 ± 36%	1,200	700	4,000 ± 34%	2,100 ± 27%		
Alaska	9,600 ± 38%	5,700 ± 47%	1,600 ± 22%	1,300 ± 35%	5,700 ± 32%	4,400 ± 41%	6.0 ± 44%	4.4 ± 59%
United States Total	81,000 ± 17%	99,600 ± 22%	14,900	17,500	47,900 ± 18%	58,900 ± 22%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Sea ducks include long-tailed ducks, eiders, and scoters in the Atlantic Flyway; long-tailed ducks, scoters, and harlequin ducks in California and Oregon; long-tailed ducks, scoters, harlequin ducks, and goldeneyes in Washington; and long-tailed ducks, eiders, scoters, harlequin ducks, and mergansers in Alaska.

³ Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 4. Preliminary estimates of brant harvest and hunter activity for states with special sea duck seasons or sea duck permits during the 2017 and 2018 hunting seasons. ¹

	Brant Harvest		Active Brant Hunters ²		Brant Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Connecticut	1,800 ± 92%	800 ± 122%	900 ± 64%	200 ± 68%	2,600 ± 80%	900 ± 84%	2.0 ± 112%	3.7 ± 139%
Delaware	300 ± 92%	600 ± 84%	100 ± 71%	300 ± 66%	400 ± 78%	1,000 ± 72%	2.1 ± 116%	2.3 ± 107%
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	800 ± 64%	400 ± 96%	500 ± 60%	300 ± 106%	1,400 ± 84%	800 ± 101%	1.6 ± 88%	1.2 ± 143%
New Hampshire	100 ± 192%	0	<50 ± 192%	0	<50 ± 192%	0	2.0 ± 272%	0
New Jersey	5,200 ± 29%	9,000 ± 29%	1,600 ± 22%	2,300 ± 28%	5,400 ± 25%	9,500 ± 36%	3.3 ± 36%	4.0 ± 40%
New York	6,800 ± 45%	10,300 ± 58%	1,700 ± 43%	1,800 ± 36%	8,800 ± 42%	10,300 ± 45%	4.0 ± 62%	5.6 ± 69%
North Carolina	1,200 ± 100%	5,700 ± 123%	900 ± 82%	2,500 ± 89%	1,200 ± 88%	6,300 ± 113%	1.3 ± 129%	2.3 ± 152%
Rhode Island	900 ± 125%	500 ± 55%	300 ± 98%	100 ± 30%	1,100 ± 94%	900 ± 54%	3.3 ± 159%	5.3 ± 63%
Virginia	500 ± 73%	1,800 ± 43%	700 ± 63%	700 ± 36%	1,600 ± 58%	1,900 ± 45%	0.8 ± 96%	2.5 ± 56%
Atlantic Flyway Total	17,400 ± 24%	29,100 ± 33%	6,600	8,200	22,500 ± 22%	31,600 ± 30%		
California	3,200 ± 73%	500 ± 60%	900 ± 71%	200 ± 34%	2,300 ± 63%	600 ± 54%	3.5 ± 102%	2.5 ± 68%
Oregon	0	0	<50 ± 108%	100 ± 184%	<50 ± 116%	200 ± 184%	0	0
Washington	300 ± 62%	1,200 ± 55%	200 ± 44%	600 ± 47%	300 ± 49%	1,200 ± 54%	1.8 ± 76%	1.9 ± 72%
Pacific Flyway Total	3,500 ± 66%	1,700 ± 43%	1,100	900	2,700 ± 54%	1,900 ± 40%		
Alaska	3,900 ± 64%	3,400 ± 51%	400 ± 36%	500 ± 46%	1,800 ± 51%	2,700 ± 47%	10.7 ± 73%	6.4 ± 69%
United States Total	24,800 ± 22%	34,200 ± 29%	8,100	9,600	27,000 ± 19%	36,100 ± 26%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 5. Preliminary harvest estimates for special September teal and teal/wood duck seasons during the 2017 and 2018 hunting seasons.

State	Harvest										Number of	
	Green-winged teal		Blue-winged teal		Wood ducks		Other ducks		Total duck harvest		wings received	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
September Teal Seasons												
Delaware	0	151	66	76	0	0	0	0	66	227	1	3
Georgia	0	0	2,672	1,846	0	0	0	0	2,672	1,846	11	9
Maryland	272	1,148	91	0	0	0	0	0	362	1,148	4	12
North Carolina	282	222	1,127	3,113	0	0	0	0	1,408	3,335	10	15
South Carolina	106	0	3,286	3,069	0	0	0	0	3,392	3,069	32	25
Virginia	117	1,001	0	2,001	0	0	0	0	117	3,002	1	21
Atlantic Flyway Total	777	2,522	7,242	10,105	0	0	0	0	8,018	12,627	59	85
Alabama	0	0	0	5,625	0	0	0	0	0	5,625	0	23
Arkansas	809	779	6,738	21,802	0	0	0	0	7,547	22,580	28	87
Illinois	2,397	1,459	15,020	18,962	0	133	0	0	17,417	20,553	109	155
Indiana	202	371	2,829	2,412	0	0	0	0	3,031	2,783	15	15
Iowa	1,196	1,082	16,235	32,086	0	0	0	0	17,432	33,168	102	184
Louisiana	3,182	349	92,149	86,231	0	0	133	175	95,464	86,755	720	994
Michigan	1,998	2,230	1,537	2,370	768	0	615	0	4,918	4,600	32	33
Mississippi	0	0	0	3,923	0	0	0	0	0	3,923	0	24
Missouri	1,285	645	21,068	17,189	0	215	0	0	22,353	18,048	87	84
Ohio	599	873	2,395	3,347	0	0	0	0	2,993	4,220	30	29
Wisconsin	1,869	1,228	11,215	12,895	170	0	0	0	13,254	14,123	78	69
Mississippi Flyway Total	13,536	9,015	169,187	206,841	938	347	747	175	184,409	216,379	1,201	1,697
Colorado	1,158	467	1,447	933	0	0	0	0	2,604	1,400	18	9
Kansas	4,821	3,091	13,329	33,918	95	0	0	0	18,245	37,009	193	455
Nebraska	4,764	1,980	12,969	20,071	0	0	0	0	17,733	22,051	134	245
New Mexico	117	241	234	2,251	0	0	0	0	352	2,493	3	31
Oklahoma	272	0	2,586	1,410	0	0	136	0	2,995	1,410	22	8
Texas	16,681	6,636	169,161	180,388	0	0	0	175	185,842	187,198	869	1,072
Central Flyway Total	27,813	12,415	199,728	238,971	95	0	136	175	227,772	251,561	1,239	1,820
SeasonType Total	42,126	23,952	376,156	455,917	1,033	347	883	349	420,199	480,566	2,499	3,602
September Teal/Wood Duck Seasons												
Florida	0	0	4,261	8,411	1,036	1,521	0	0	5,298	9,932	46	111
Kentucky	0	0	1,111	1,060	5,277	4,771	0	0	6,388	5,832	23	22
Tennessee	0	0	2,136	5,453	3,204	6,543	0	0	5,341	11,996	20	11
SeasonType Total	0	0	7,508	14,924	9,518	12,836	0	0	17,026	27,760	89	144
U.S. Total	42,126	23,952	383,665	470,842	10,551	13,183	883	349	437,225	508,326	2,588	3,746

Table 6. Preliminary estimates of the number of Canada geese harvested during the special September, regular, and special late seasons during the 2017 and 2018 hunting seasons.

State / Flyway	September		Regular		Late		Total	
	2017	2018	2017	2018	2017	2018	2017	2018
Connecticut	1,000	1,900	7,700	6,100	500	0	9,200	8,100
Delaware	2,800	1,400	21,800	7,000	0	0	24,600	8,400
Georgia	10,100	2,600	15,200	10,200	0	0	25,300	12,800
Maine	6,400	6,100	8,900	5,300	0	0	15,200	11,400
Maryland	6,900	6,000	171,600	84,800	0	0	178,500	90,900
Massachusetts	1,300	3,200	5,900	14,100	1,400	0	8,500	17,300
New Hampshire	1,000	1,000	4,600	2,200	0	0	5,700	3,200
New Jersey	4,600	6,300	20,000	10,600	2,000	2,300	26,600	19,300
New York	44,600	37,500	62,500	29,000	0	0	107,100	66,600
North Carolina	10,900	6,100	30,500	29,300	0	0	41,400	35,400
Pennsylvania	11,100	0	67,800	89,300	0	0	79,000	89,300
Rhode Island	400	500	7,500	7,000	100	0	8,100	7,500
South Carolina	5,000	3,500	10,100	3,200	0	0	15,100	6,700
Vermont	7,000	3,500	8,900	3,800	0	0	15,900	7,400
Virginia	5,500	5,600	27,700	25,800	26,800	0	60,000	31,400
West Virginia	900	500	4,700	2,300	0	0	5,500	2,800
Atlantic Flyway Total ¹	119,700	85,800	477,300	330,300	30,800	2,300	627,800	418,400
North Dakota	49,600	21,200	126,900	87,900	0	0	176,500	109,100
Oklahoma	1,800	0	54,900	35,900	0	0	56,700	35,900
South Dakota	21,600	21,000	63,500	40,800	0	0	85,200	61,800
Texas	600	1,000	30,200	70,300	0	0	30,800	71,300
Central Flyway Total ¹	73,600	43,100	677,900	517,900	0	0	751,500	561,100
Colorado	0	1,000	8,900	6,200	0	0	8,900	7,200
Idaho	1,000	0	65,000	42,000	0	0	66,000	42,000
Oregon	3,000	2,800	43,200	66,500	0	0	46,200	69,400
Washington	6,000	9,100	40,800	59,100	0	0	46,800	68,200
Wyoming	200	900	300	300	0	0	500	1,200
Pacific Flyway Total ¹	10,200	13,900	262,000	292,400	0	0	272,200	306,200
United States Total	203,500	142,800	2,431,700	1,820,600	30,800	2,300	2,666,000	1,965,700

¹Flyway and U.S. totals include all states' harvest.

Table 7. Waterfowl harvest estimates in Canada during the 2017 and 2018 hunting seasons (estimates courtesy of the Canadian Wildlife Service).

Duck Species Composition	Newfoundland		Prince Edward Isl.		Nova Scotia		New Brunswick		Quebec		Ontario		Manitoba	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Mallard	334	329	1,292	1,019	4,829	3,487	5,456	6,282	50,497	42,549	83,591	82,967	36,119	37,245
Black Duck	7,138	6,940	3,147	2,081	12,637	11,839	5,773	8,190	19,567	14,674	8,813	8,753	0	0
Gadwall	0	0	68	1,054	0	0	195	46	1,539	2,351	4,253	2,650	3,684	3,694
Wigeon	0	0	65	39	301	316	640	659	1,262	1,520	6,171	5,859	2,644	2,046
Green-winged Teal	0	2,676	258	385	2,718	2,209	3,522	4,380	13,221	9,645	11,155	10,630	4,892	4,512
Blue-winged/Cinnamon Teal	0	349	0	77	0	0	261	286	277	710	2,146	2,580	12,459	6,038
Northern Shoveler	0	0	0	0	0	0	178	111	571	408	1,154	665	4,545	1,694
Northern Pintail	437	349	0	0	0	442	209	302	1,437	2,482	4,224	2,993	3,428	2,648
Wood Duck	0	0	65	0	39	897	2,388	4,464	24,050	12,933	60,338	47,331	2,554	390
Redhead	0	0	0	0	0	0	0	0	82	97	6,759	7,228	3,208	6,169
Canvasback	0	0	0	0	0	0	0	0	0	0	1,109	2,791	6,033	5,121
Greater Scaup	0	0	0	0	172	680	140	178	820	304	3,633	5,915	0	2,464
Lesser Scaup	0	0	0	0	0	0	108	70	1,080	411	5,176	5,745	3,750	10,559
Ring-necked Duck	4,744	3,598	65	121	30	428	845	1,126	4,761	3,107	8,629	12,048	2,111	6,847
Goldeneyes	3,028	1,950	0	0	992	484	1,002	1,120	1,118	1,273	4,290	10,665	264	569
Bufflehead	0	0	0	0	533	725	254	1,241	189	617	8,572	12,389	1,016	3,748
Ruddy Duck	0	0	0	0	0	0	0	0	0	0	1,066	76	223	0
Long-tailed Duck	637	882	0	0	339	906	77	0	958	0	483	3,625	0	0
Eiders	7,872	5,668	0	0	508	3,781	641	77	2,201	1,371	0	0	0	0
Scoters	0	216	0	0	2,959	3,983	103	0	2,583	1,043	922	324	0	0
Hooded Merganser	0	0	0	0	1,113	368	437	72	2,080	2,345	4,881	2,427	293	623
Other Mergansers	3,027	2,363	0	0	876	1,002	100	137	1,217	983	2,999	1,779	0	0
Other Ducks	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Duck Harvest	27,217	25,320	4,960	4,776	28,046	31,547	22,329	28,741	129,510	98,823	230,364	229,440	87,223	94,367
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Goose Species Composition														
Canada Goose	6,422	3,902	9,509	12,899	11,548	12,787	9,116	15,480	146,868	118,570	198,638	193,852	70,493	63,259
Snow Goose	0	0	0	1,049	0	0	0	0	59,708	19,548	1,322	1,029	2,795	7,403
Blue Goose	0	0	0	0	0	0	0	0	537	0	945	899	10,262	3,518
Ross's Goose	0	0	0	0	0	0	0	0	0	0	0	0	768	1,797
White-fronted Goose	0	0	0	0	0	0	0	0	0	0	0	0	0	467
Brant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Goose Harvest	6,422	3,902	9,509	13,948	11,548	12,787	9,116	15,480	207,113	138,118	200,905	195,780	84,318	76,444
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Migratory Bird Permits Sold	13,826	12,871	1,213	1,193	4,726	4,601	5,077	5,049	30,422	29,803	53,250	51,502	8,172	8,504

Table 7 (continued). Waterfowl harvest estimates in Canada during the 2017 and 2018 hunting seasons (estimates courtesy of the Canadian Wildlife Service).

Duck Species Composition	Saskatchewan		Alberta		British Columbia		Nunavut		Northwest Terr.		Yukon Territory		Canada Total	
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Mallard	133,725	168,068	89,114	83,522	25,962	25,204	0	0	658	0	0	168	431,577	450,840
Black Duck	0	0	0	0	0	0	0	0	0	0	0	0	57,075	52,477
Gadwall	15,200	13,703	20,006	11,455	326	900	0	0	0	0	0	0	45,271	35,853
Wigeon	7,741	11,209	11,218	9,987	4,634	7,917	0	0	0	0	0	336	34,676	39,888
Green-winged Teal	4,977	10,180	3,863	5,603	2,500	1,703	0	0	0	0	0	336	47,106	52,259
Blue-winged/Cinnamon Teal	19,148	19,671	10,020	12,089	49	224	0	0	0	0	0	0	44,360	42,024
Northern Shoveler	8,395	7,308	5,522	7,452	394	666	0	0	0	0	0	0	20,759	18,304
Northern Pintail	28,390	15,714	13,135	9,429	2,092	1,986	0	0	0	0	0	168	53,352	36,513
Wood Duck	680	0	0	344	0	261	0	0	0	0	0	0	90,114	66,620
Redhead	326	2,615	5,647	10,852	0	0	0	0	0	0	0	0	16,022	26,961
Canvasback	530	2,125	1,811	3,372	21	0	0	0	0	0	0	0	9,504	13,409
Greater Scaup	0	457	0	1,457	0	72	0	0	0	0	0	0	4,765	11,527
Lesser Scaup	443	1,571	2,694	10,268	89	486	0	0	0	0	0	0	13,340	29,110
Ring-necked Duck	928	1,127	570	441	244	1,093	0	0	0	0	0	0	22,927	29,936
Goldeneyes	0	1,063	2,298	3,589	21	245	0	0	0	0	0	0	13,013	20,958
Bufflehead	444	2,582	4,204	3,229	710	486	0	0	0	0	0	336	15,922	25,353
Ruddy Duck	0	0	0	710	0	85	0	0	0	0	0	0	1,289	871
Long-tailed Duck	0	0	0	0	0	0	0	0	0	0	0	0	2,494	5,413
Eiders	0	0	0	0	0	0	0	0	0	0	0	0	11,222	10,897
Scoters	0	0	0	0	75	0	0	0	0	0	0	0	6,642	5,566
Hooded Merganser	0	2,050	793	452	112	82	0	0	0	0	0	0	9,709	8,419
Other Mergansers	0	0	0	0	0	0	0	0	0	0	0	0	8,219	6,264
Other Ducks	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Duck Harvest	220,927	259,443	170,895	174,251	37,229	41,410	0	0	658	0	0	1,344	959,358	989,462
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Goose Species Composition														
Canada Goose	208,946	152,697	158,552	134,376	14,207	13,486	0	0	0	0	0	0	834,299	721,308
Snow Goose	37,637	37,691	19,987	24,518	979	1,634	0	0	0	0	0	0	122,428	92,872
Blue Goose	16,865	15,724	921	1,871	62	0	0	0	0	0	0	0	29,592	22,012
Ross's Goose	35,452	8,916	4,996	1,217	282	0	0	0	0	0	0	0	41,498	11,930
White-fronted Goose	45,104	48,434	30,993	30,408	787	55	0	0	0	0	0	0	76,884	79,364
Brant	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Goose Harvest	344,004	263,462	215,449	192,390	16,317	15,175	0	0	0	0	0	0	1,104,701	927,486
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Migratory Bird Permits Sold	19,864	19,701	24,337	24,416	6,886	7,029	50	63	286	266	297	275	168,406	165,273

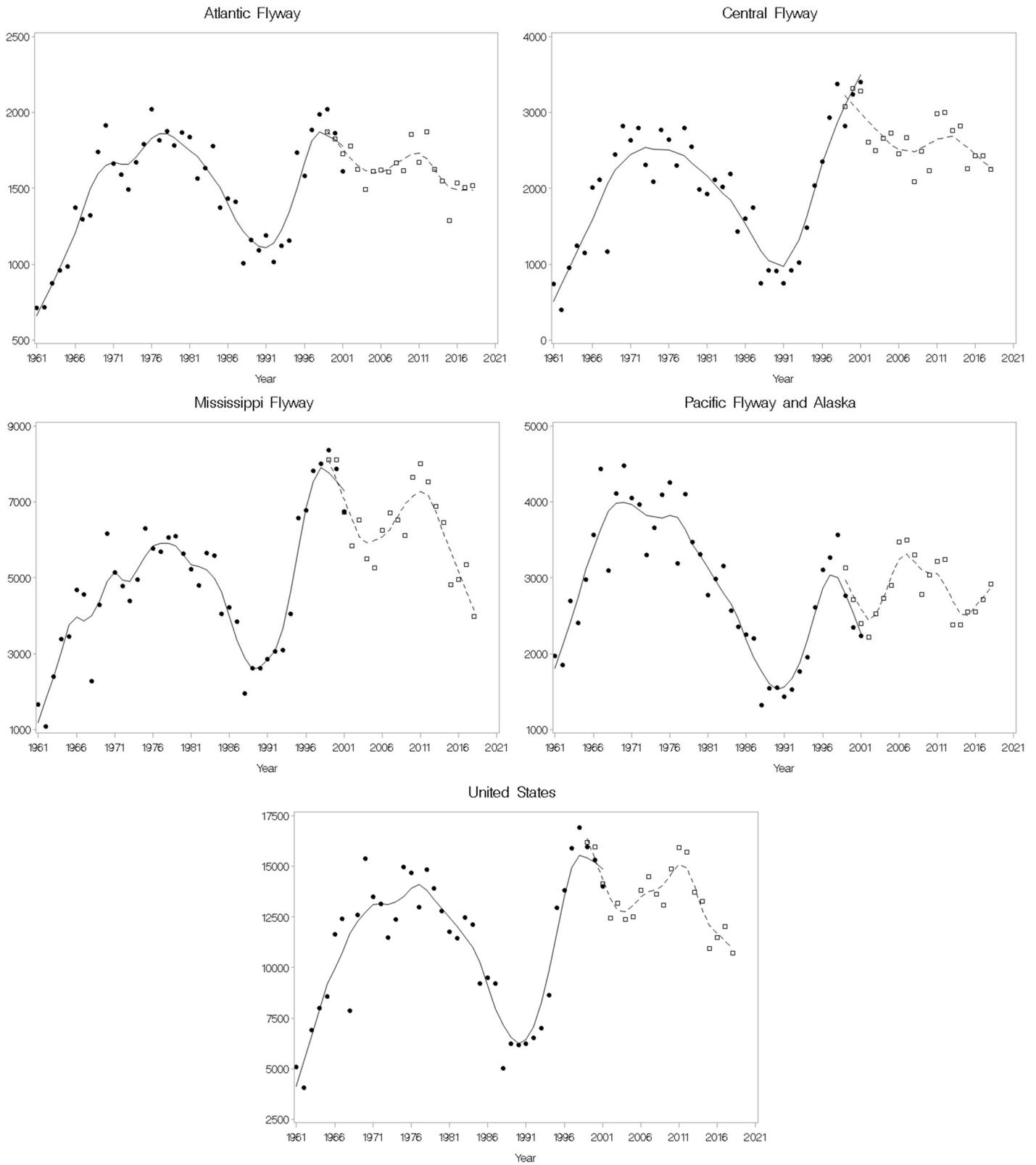


Figure 1. Number of ducks harvested (in thousands) by hunters in the United States, 1961-2018. (Federal Duck Stamp Survey – circles and solid line; HIP survey – squares and dashed line.)

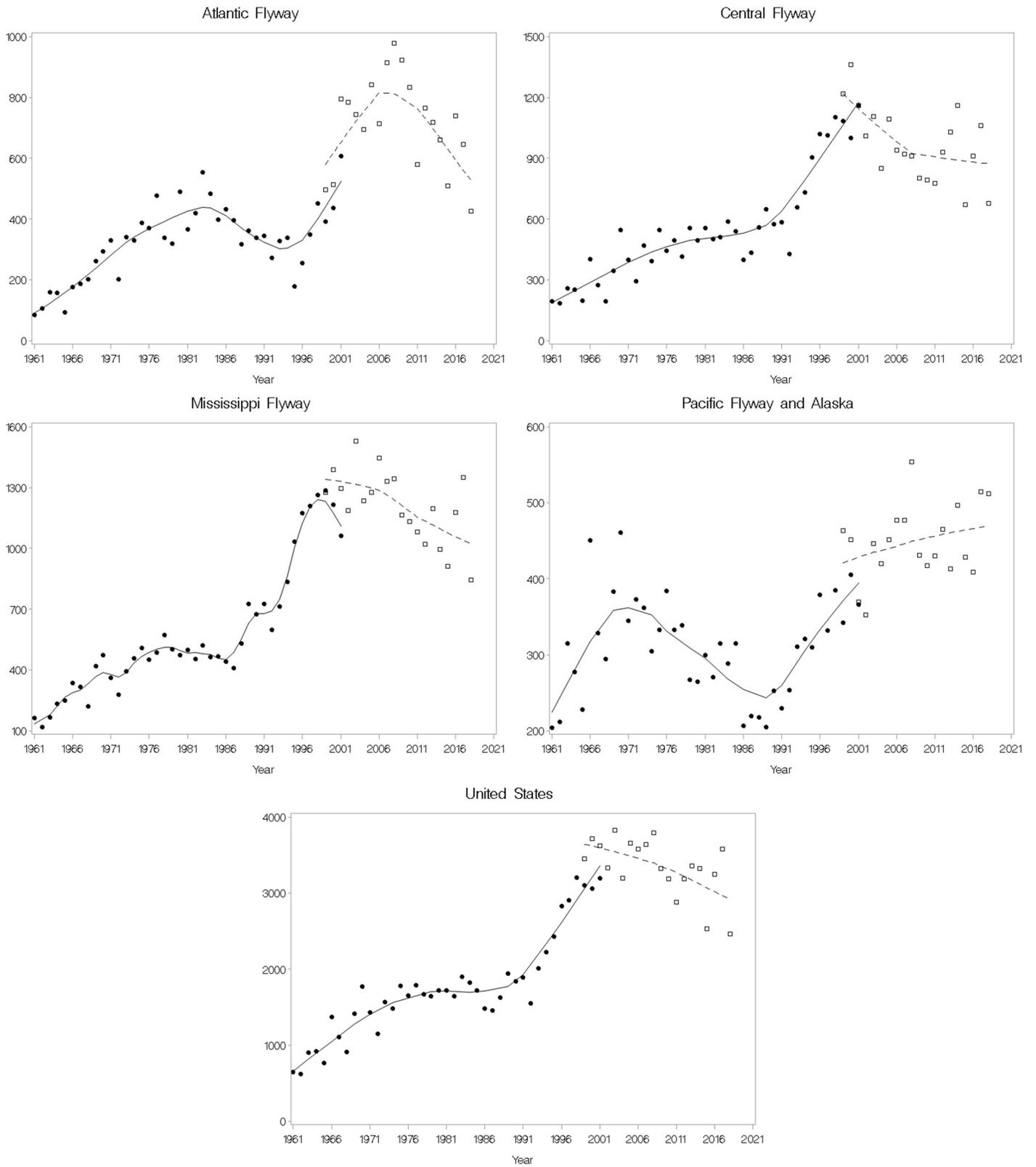


Figure 2. Number of geese harvested (in thousands) by hunters in the United States, 1961-2018. (Federal Duck Stamp Survey – circles and solid line; HIP survey – squares and dashed line).

Table 8. Preliminary weighted age ratios of mallards in state harvests during the 2014-2018 hunting seasons as determined from Waterfowl Parts Collection Survey.

State and Flyway	Immatures per adult ^a				
	2014	2015	2016	2017	2018
Connecticut	1.1	1.2	1.1	1.2	1.0
Delaware	1.8	1.5	1.1	1.1	1.5
Florida	---	---	---	---	---
Georgia	0.9	1.0	2.1	---	---
Maine	1.4	2.7	1.9	1.9	1.6
Maryland	1.2	1.4	1.4	1.2	1.1
Massachusetts	1.3	1.0	1.1	1.3	1.3
New Hampshire	1.6	2.2	1.5	1.6	2.3
New Jersey	0.9	0.8	0.7	0.9	1.2
New York	1.7	2.1	1.5	1.5	1.6
North Carolina	1.6	1.0	1.2	1.1	0.8
Pennsylvania	1.2	1.5	0.9	1.1	1.0
Rhode Island	0.9	0.9	1.2	1.2	0.9
South Carolina	0.9	2.2	2.4	1.5	1.2
Vermont	2.7	2.6	2.1	1.8	1.6
Virginia	1.0	0.9	0.8	0.8	0.8
West Virginia	0.6	0.4	0.8	0.6	0.8
Atlantic Flyway Total ^b	1.33	1.38	1.24	1.17	1.12
Alabama	1.1	1.1	1.4	0.5	1.1
Arkansas	1.1	0.7	0.7	0.5	0.8
Illinois	1.9	1.1	1.2	1.4	1.3
Indiana	1.8	1.4	0.9	0.7	1.0
Iowa	4.3	1.6	1.6	1.2	2.0
Kentucky	1.4	1.1	0.8	0.5	0.7
Louisiana	1.3	1.0	1.0	0.6	0.7
Michigan	2.0	2.8	2.1	1.3	1.4
Minnesota	5.4	4.4	4.2	2.5	3.0
Mississippi	0.9	0.7	0.9	0.5	0.6
Missouri	2.3	1.0	1.1	1.1	1.2
Ohio	1.5	1.7	1.4	1.1	1.3
Tennessee	1.3	0.9	0.7	0.4	0.8
Wisconsin	2.6	2.6	2.3	2.5	2.2
Mississippi Flyway Total ^b	1.66	1.19	1.09	0.92	1.07

Table 8 (continued). Preliminary weighted age ratios of mallards in state harvests during the 2014-2018 hunting seasons as determined from Waterfowl Parts Collection Survey.

State and Flyway	Immatures per adult ^a				
	2014	2015	2016	2017	2018
Colorado	1.1	0.7	0.7	0.9	0.7
Kansas	1.1	0.5	0.6	0.5	0.6
Montana	1.3	0.8	0.6	0.6	1.1
Nebraska	1.5	1.2	0.8	0.9	0.9
New Mexico	1.9	1.7	1.1	1.1	0.7
North Dakota	3.2	2.2	1.7	1.8	2.2
Oklahoma	0.7	0.5	0.4	0.5	0.4
South Dakota	2.3	1.7	1.8	1.3	1.6
Texas	1.0	0.5	0.5	0.4	0.6
Wyoming	0.8	0.6	0.7	1.2	0.8
Central Flyway Total ^b	1.43	0.97	0.78	0.85	0.90
Arizona	1.6	1.4	1.5	1.2	0.8
California	1.3	1.5	2.2	2.3	1.3
Colorado	2.9	1.5	---	3.5	1.1
Idaho	1.1	0.9	1.0	1.0	0.7
Montana	0.9	1.2	0.6	0.9	0.8
Nevada	1.7	1.1	2.5	2.5	1.6
New Mexico	1.8	---	1.5	---	---
Oregon	1.5	1.5	1.7	2.0	1.0
Utah	1.7	1.3	1.4	1.3	0.9
Washington	1.2	1.1	1.1	1.5	0.9
Wyoming	3.9	2.5	2.0	1.7	1.5
Pacific Flyway Total ^b	1.25	1.21	1.25	1.56	0.94
Alaska	3.7	2.5	1.4	2.9	1.7
U.S. Total ^b	1.50	1.16	1.07	1.06	1.00

^a Ratio not shown if based on a sample of less than 20 wings.

^b In estimating Flyway and U.S. ratios, the ratio for each state was weighed in proportion to the estimated harvest in that state as determined from the Harvest Information Program Waterfowl Harvest Survey.

Table 9. Preliminary weighted age ratios of ducks harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Immatures per adult ^{a, b}				
	2014	2015	2016	2017	2018
Mallard					
Atlantic	1.33	1.38	1.24	1.17	1.12
Mississippi	1.66	1.19	1.09	0.92	1.07
Central	1.43	0.97	0.78	0.85	0.90
Pacific	1.25	1.21	1.25	1.56	0.94
U.S. Total	1.50	1.16	1.07	1.06	1.00
Black duck					
Atlantic	1.07	1.17	1.40	0.97	1.13
Mississippi	1.30	3.94	1.60	1.28	0.99
U.S. Total	1.12	1.55	1.46	1.02	1.11
Mottled duck					
Atlantic	1.12	1.95	1.19	2.42	1.91
Mississippi	0.94	1.56	1.82	0.97	2.49
Central	2.71	2.21	2.38	0.77	---
U.S. Total	1.09	1.80	1.63	1.24	2.00
Gadwall					
Atlantic	1.68	1.09	1.28	0.81	0.92
Mississippi	1.32	1.03	1.02	0.79	1.10
Central	1.29	1.26	0.94	1.00	1.10
Pacific	1.32	1.00	0.97	1.54	1.09
U.S. Total	1.33	1.09	1.01	0.94	1.09
American wigeon					
Atlantic	0.68	0.93	0.50	1.09	0.60
Mississippi	1.70	2.37	1.72	1.54	1.97
Central	0.95	1.14	0.67	0.89	0.97
Pacific	1.58	1.27	0.95	1.22	1.21
U.S. Total	1.35	1.31	0.93	1.19	1.16
Green-winged teal					
Atlantic	1.68	1.66	1.70	1.52	1.42
Mississippi	1.48	1.63	1.58	1.50	1.01
Central	1.53	1.53	1.20	1.59	1.36
Pacific	1.30	1.27	0.90	1.09	0.81
U.S. Total	1.46	1.49	1.24	1.38	1.01
Blue-winged/Cinnamon teal					
Atlantic	0.85	1.18	0.93	1.57	0.94
Mississippi	1.16	1.28	1.27	1.75	1.76
Central	1.46	1.43	0.95	1.18	1.59
Pacific	1.19	0.74	0.83	1.09	1.30
U.S. Total	1.24	1.30	1.04	1.45	1.57

Table 9 (continued). Preliminary weighted age ratios of ducks harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Immatures per adult ^{a, b}				
	2014	2015	2016	2017	2018
Northern shoveler					
Atlantic	1.22	1.02	1.46	0.95	1.27
Mississippi	1.61	1.06	0.96	1.06	1.17
Central	1.83	1.44	0.92	1.32	1.71
Pacific	1.34	0.79	0.69	1.16	0.97
U.S. Total	1.54	0.95	0.87	1.14	1.17
Northern pintail					
Atlantic	1.08	0.68	1.35	1.31	0.40
Mississippi	1.11	0.88	1.29	1.30	0.89
Central	1.13	0.98	0.73	0.86	1.02
Pacific	1.10	0.70	0.77	0.88	0.67
U.S. Total	1.12	0.79	0.88	1.01	0.74
Wood duck					
Atlantic	1.33	1.32	1.37	1.36	1.38
Mississippi	2.04	1.74	1.29	1.19	1.34
Central	1.13	2.34	0.87	1.63	1.33
Pacific	1.96	2.18	1.70	2.71	2.03
U.S. Total	1.69	1.61	1.29	1.32	1.37
Redhead					
Atlantic	1.94	0.83	0.72	0.76	0.48
Mississippi	2.88	2.00	1.12	1.23	1.08
Central	3.19	1.33	0.68	1.43	1.79
Pacific	1.39	0.51	0.72	1.67	1.29
U.S. Total	2.80	1.38	0.81	1.27	1.18
Canvasback					
Atlantic	1.72	---	0.32	0.36	0.18
Mississippi	2.70	1.47	1.02	0.83	1.04
Central	2.10	1.48	0.74	0.73	0.95
Pacific	1.68	0.90	1.03	1.70	1.05
U.S. Total	2.17	1.18	0.90	0.85	0.74
Greater scaup					
Atlantic	1.15	1.69	2.71	1.21	0.37
Mississippi	1.53	2.21	3.31	2.31	1.44
Central	---	1.28	---	---	---
Pacific	1.21	1.32	0.91	1.19	1.41
U.S. Total	1.45	1.82	2.14	1.50	0.91

Table 9 (continued). Preliminary weighted age ratios of ducks harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Immatures per adult ^{a, b}				
	2014	2015	2016	2017	2018
Lesser scaup					
Atlantic	0.83	0.88	1.18	0.91	0.39
Mississippi	0.86	0.88	1.33	1.06	0.52
Central	0.78	0.83	1.12	1.01	0.85
Pacific	1.82	1.47	1.14	1.81	1.67
U.S. Total	0.91	0.93	1.21	1.06	0.64
Ring-necked duck					
Atlantic	1.59	2.27	1.33	2.03	1.33
Mississippi	2.40	2.09	2.47	1.93	1.69
Central	1.24	1.14	1.57	1.48	0.97
Pacific	2.14	2.17	1.27	2.38	1.53
U.S. Total	1.91	1.97	1.74	1.92	1.40
Common goldeneye					
Atlantic	0.88	0.70	0.72	0.61	0.82
Mississippi	1.41	1.44	1.00	0.83	0.92
Central	0.81	1.71	1.75	0.81	0.77
Pacific	0.81	1.46	1.46	0.56	0.94
U.S. Total	1.02	1.37	1.04	0.69	0.90
Bufflehead					
Atlantic	1.15	1.01	1.24	0.89	1.10
Mississippi	2.05	0.99	0.92	0.96	1.16
Central	0.76	1.18	0.81	0.70	0.87
Pacific	1.10	1.18	0.62	1.44	1.22
U.S. Total	1.33	1.06	0.98	0.97	1.11
Ruddy duck					
Atlantic	2.36	2.27	1.34	0.77	0.67
Mississippi	1.22	---	1.81	1.66	5.23
Central	2.07	0.92	3.24	1.42	1.48
Pacific	1.43	1.28	3.21	1.23	2.47
U.S. Total	1.64	1.56	1.95	1.12	1.46
Hooded merganser					
Atlantic	1.29	0.73	1.03	0.78	0.87
Mississippi	2.18	1.76	1.35	0.98	1.04
Central	1.59	0.86	0.61	0.51	1.09
Pacific	1.20	1.98	1.38	1.18	0.81
U.S. Total	1.74	1.20	1.12	0.87	0.96

Table 9 (continued). Preliminary weighted age ratios of ducks harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Immatures per adult ^{a, b}				
	2014	2015	2016	2017	2018
Common merganser					
Atlantic	1.33	1.88	1.59	0.88	1.46
Mississippi	1.31	---	---	0.52	---
Central	---	---	---	---	---
Pacific	1.06	0.63	0.79	1.11	0.77
U.S. Total	1.28	1.10	1.11	0.78	0.86
Red-breasted merganser					
Atlantic	2.76	0.92	1.28	1.06	0.45
Mississippi	1.69	0.41	1.09	0.71	1.33
U.S. Total	1.96	0.57	1.15	0.96	0.70
Long-tailed duck					
Atlantic	0.40	0.16	0.59	0.70	0.41
Mississippi	---	0.27	0.52	1.62	1.13
U.S. Total	0.61	0.20	0.61	0.87	0.48
Common eider					
Atlantic	0.29	0.08	0.39	0.22	0.69
U.S. Total	0.31	0.08	0.39	0.22	0.69
Black scoter					
Atlantic	0.30	0.72	0.82	1.11	0.29
U.S. Total	0.56	0.71	0.89	1.05	0.31
White-winged scoter					
Atlantic	0.40	0.37	2.26	2.40	---
Pacific	---	---	---	---	9.35
U.S. Total	1.95	0.94	3.29	2.44	2.97
Surf scoter					
Atlantic	0.31	0.47	0.47	0.46	0.17
Pacific	0.79	0.67	1.29	2.05	0.77
U.S. Total	0.52	0.56	0.66	0.44	0.20

^a Ratio not shown if based on a sample of less than 20 wings.

^b In estimating Flyway and U.S. ratios, the ratio for each state was weighed in proportion to the estimated harvest in that state as determined from the Harvest Information Program Waterfowl Harvest Survey.

Table 10. Preliminary weighted sex ratios of mallards in state harvests during the 2014-2018 hunting seasons as determined from Waterfowl Parts Collection Survey.

State and Flyway	Males per female ^a				
	2014	2015	2016	2017	2018
Connecticut	1.8	2.4	1.9	2.2	2.2
Delaware	1.6	2.0	1.3	1.8	1.9
Florida	---	---	---	---	---
Georgia	2.1	1.7	1.1	---	---
Maine	1.4	1.6	1.5	1.6	2.0
Maryland	1.6	2.5	1.8	2.3	1.9
Massachusetts	2.1	2.6	1.7	2.1	2.1
New Hampshire	1.4	1.1	1.4	1.7	1.4
New Jersey	1.6	2.1	2.9	1.9	2.0
New York	1.8	1.7	2.1	2.1	2.3
North Carolina	1.2	2.2	1.7	1.9	2.2
Pennsylvania	1.8	2.0	2.1	2.0	2.1
Rhode Island	1.2	2.0	2.3	2.0	1.3
South Carolina	2.5	1.7	1.5	1.2	2.1
Vermont	1.7	1.1	2.0	2.0	2.2
Virginia	1.6	2.0	1.9	1.9	2.0
West Virginia	1.9	2.5	2.5	2.7	2.3
Atlantic Flyway Total ^b	1.67	1.95	1.83	1.98	2.06
Alabama	1.7	1.9	1.5	2.2	3.7
Arkansas	2.2	2.8	2.9	3.1	3.6
Illinois	1.8	2.7	2.5	1.9	2.2
Indiana	2.3	2.7	2.7	2.2	1.8
Iowa	2.0	2.8	2.3	1.9	2.4
Kentucky	2.3	3.0	2.9	3.0	2.1
Louisiana	1.8	2.5	2.2	2.2	3.4
Michigan	1.4	1.5	1.4	1.6	1.6
Minnesota	1.3	1.5	1.2	1.9	1.6
Mississippi	3.3	4.3	2.7	3.6	4.9
Missouri	2.7	3.4	3.1	3.2	3.2
Ohio	2.8	2.5	2.4	2.8	2.4
Tennessee	2.3	2.6	2.6	3.2	2.0
Wisconsin	1.8	1.6	2.2	1.8	2.0
Mississippi Flyway Total ^b	2.04	2.47	2.38	2.47	2.59

Table 10 (continued). Preliminary weighted sex ratios of mallards in state harvests during the 2014-2018 hunting seasons as determined from Waterfowl Parts Collection Survey.

State and Flyway	Males per female ^a				
	2014	2015	2016	2017	2018
Colorado	3.8	2.4	3.0	3.5	3.8
Kansas	5.5	5.3	6.6	4.4	5.4
Montana	3.7	5.2	7.3	2.7	2.3
Nebraska	4.2	4.9	5.3	4.1	4.5
New Mexico	2.1	3.1	2.2	3.9	1.5
North Dakota	2.3	2.5	2.4	2.4	2.3
Oklahoma	3.6	3.7	3.4	3.1	5.0
South Dakota	4.0	3.5	4.3	4.4	5.8
Texas	1.7	4.1	3.7	4.1	4.1
Wyoming	3.5	5.0	6.6	3.7	3.4
Central Flyway Total ^b	3.12	3.55	3.64	3.29	3.58
Arizona	1.7	1.7	1.2	2.0	2.0
California	2.5	1.9	2.1	2.4	2.6
Colorado	2.2	1.7	---	2.3	2.0
Idaho	2.9	2.9	2.7	2.9	3.2
Montana	2.8	3.4	4.2	3.1	2.5
Nevada	1.8	1.5	1.7	1.5	1.7
New Mexico	2.3	---	5.3	---	---
Oregon	2.4	2.8	2.3	1.9	1.9
Utah	1.7	2.3	2.6	2.6	2.3
Washington	2.2	2.7	2.4	3.2	2.7
Wyoming	1.5	2.0	1.3	2.9	2.4
Pacific Flyway Total ^b	2.39	2.60	2.50	2.53	2.53
Alaska	1.2	1.4	1.4	1.5	1.6
U.S. Total ^b	2.25	2.63	2.52	2.55	2.67

^a Ratio not shown if based on a sample of less than 20 wings.

^b In estimating Flyway and U.S. ratios, the ratio for each state was weighed in proportion to the estimated harvest in that state as determined from the Harvest Information Program Waterfowl Harvest Survey.

Table 11. Preliminary weighted sex ratios of ducks harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Males per female ^a				
	2014	2015	2016	2017	2018
Mallard					
Atlantic	1.67	1.95	1.83	1.98	2.06
Mississippi	2.04	2.47	2.38	2.47	2.59
Central	3.12	3.55	3.64	3.29	3.58
Pacific	2.39	2.60	2.50	2.53	2.53
U.S. Total	2.25	2.63	2.52	2.55	2.67
Black duck					
Atlantic	1.10	1.11	1.05	1.12	1.04
Mississippi	1.00	1.21	0.59	1.06	1.15
U.S. Total	1.08	1.14	0.89	1.11	1.05
Mottled duck					
Atlantic	1.09	0.95	1.12	1.17	1.32
Mississippi	1.07	0.53	1.72	1.30	0.90
Central	0.63	0.99	1.70	1.30	---
U.S. Total	1.01	0.74	1.47	1.25	1.10
Gadwall					
Atlantic	2.17	1.61	2.23	1.65	2.31
Mississippi	1.68	1.87	1.76	1.96	1.70
Central	1.67	1.48	1.71	1.79	1.73
Pacific	1.78	1.62	1.63	1.73	1.66
U.S. Total	1.71	1.69	1.76	1.86	1.74
American wigeon					
Atlantic	2.43	1.96	2.11	1.78	1.71
Mississippi	1.19	1.41	1.67	1.41	1.36
Central	1.73	1.79	1.70	1.58	1.80
Pacific	1.58	1.52	1.66	1.56	1.45
U.S. Total	1.57	1.57	1.69	1.54	1.50
Green-winged teal					
Atlantic	1.39	1.55	1.35	1.45	1.27
Mississippi	1.89	1.78	1.90	1.80	1.89
Central	1.96	2.06	1.87	1.94	1.72
Pacific	1.84	1.85	1.76	1.92	1.66
U.S. Total	1.84	1.83	1.80	1.83	1.70
Blue-winged/Cinnamon teal					
Atlantic	1.66	1.15	1.71	1.44	1.40
Mississippi	1.79	1.39	1.06	1.20	1.30
Central	1.63	1.28	1.68	1.66	1.55
Pacific	1.22	1.20	1.83	1.30	0.98
U.S. Total	1.70	1.32	1.43	1.38	1.39

Table 11 (continued). Preliminary weighted sex ratios of ducks harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Males per female ^a				
	2014	2015	2016	2017	2018
Northern shoveler					
Atlantic	1.84	1.86	1.20	1.56	1.33
Mississippi	1.67	1.70	1.62	1.85	1.92
Central	1.74	1.50	1.50	1.41	1.37
Pacific	1.55	1.70	1.97	1.84	1.71
U.S. Total	1.65	1.67	1.67	1.73	1.67
Northern pintail					
Atlantic	2.02	1.87	1.55	1.45	2.43
Mississippi	2.12	2.35	2.15	1.92	2.40
Central	2.34	2.24	2.49	1.91	2.08
Pacific	2.45	2.93	3.09	2.96	2.65
U.S. Total	2.30	2.58	2.53	2.24	2.47
Wood duck					
Atlantic	1.91	1.97	1.96	1.91	1.95
Mississippi	1.81	1.72	1.91	1.73	2.02
Central	2.27	1.87	2.18	1.88	2.62
Pacific	2.09	1.64	2.06	1.44	1.48
U.S. Total	1.87	1.80	1.95	1.80	2.01
Redhead					
Atlantic	1.21	1.30	1.84	1.65	1.58
Mississippi	1.50	1.38	1.31	1.97	1.85
Central	1.61	1.94	1.52	1.23	1.43
Pacific	1.83	2.15	1.78	1.67	1.70
U.S. Total	1.54	1.64	1.49	1.51	1.62
Canvasback					
Atlantic	0.71	---	0.61	0.78	1.44
Mississippi	1.32	1.14	1.54	1.84	2.09
Central	1.49	1.19	1.05	1.28	1.33
Pacific	1.02	1.23	1.25	1.15	1.23
U.S. Total	1.25	1.19	1.27	1.36	1.54
Greater scaup					
Atlantic	0.92	0.77	1.12	1.56	1.18
Mississippi	0.97	1.97	1.16	1.24	1.42
Central	---	0.73	---	---	---
Pacific	1.30	2.14	1.34	1.74	2.24
U.S. Total	1.07	1.62	1.24	1.51	1.44

Table 11 (continued). Preliminary weighted sex ratios of ducks harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Males per female ^a				
	2014	2015	2016	2017	2018
Lesser scaup					
Atlantic	2.66	2.15	1.78	2.32	4.43
Mississippi	2.18	2.32	2.21	2.23	2.28
Central	1.88	1.79	1.26	2.20	1.74
Pacific	1.38	1.40	1.52	1.20	1.50
U.S. Total	2.05	2.04	1.72	2.13	2.29
Ring-necked duck					
Atlantic	1.35	1.18	1.39	1.45	1.76
Mississippi	1.58	1.86	2.15	2.03	1.70
Central	1.98	2.42	2.31	1.95	1.62
Pacific	1.76	1.47	1.74	1.65	1.39
U.S. Total	1.60	1.61	1.84	1.83	1.66
Common goldeneye					
Atlantic	0.88	0.87	1.32	1.28	0.82
Mississippi	1.27	1.05	1.23	1.25	1.46
Central	1.32	0.87	1.53	1.43	1.88
Pacific	1.66	1.68	1.22	1.79	1.23
U.S. Total	1.37	1.24	1.29	1.44	1.34
Bufflehead					
Atlantic	1.76	1.86	1.22	2.09	1.38
Mississippi	1.33	1.12	1.38	1.46	1.26
Central	1.42	1.25	1.25	1.36	1.61
Pacific	1.47	0.96	1.44	1.31	1.36
U.S. Total	1.51	1.31	1.31	1.61	1.35
Hooded merganser					
Atlantic	3.37	1.64	2.97	2.24	1.54
Mississippi	2.25	2.62	2.06	1.81	1.81
Central	2.44	3.16	2.14	3.27	2.24
Pacific	4.19	---	---	1.88	1.47
U.S. Total	2.63	2.17	2.37	2.07	1.71
Common merganser					
Atlantic	0.86	0.73	1.10	1.57	1.23
Mississippi	0.81	---	---	0.91	---
Central	---	---	---	---	---
Pacific	0.65	1.75	0.63	0.99	1.27
U.S. Total	0.76	0.65	0.82	1.19	1.07

^a Ratio not shown if based on a sample of less than 20 wings.

^b In estimating Flyway and U.S. ratios, the ratio for each state was weighed in proportion to the estimated harvest in that state as determined from the Harvest Information Program Waterfowl Harvest Survey.

Table 12. Preliminary weighted age ratios of geese harvested during the 2014-2018 hunting seasons, by species and flyway.

Species and Flyway	Immatures per adult ^{a, b}				
	2014	2015	2016	2017	2018
Canada goose					
Atlantic	0.35	0.41	0.44	0.50	0.24
Mississippi	0.38	0.47	0.42	0.41	0.32
Central	0.49	0.38	0.44	0.49	0.28
Pacific	0.59	0.47	0.71	0.51	0.40
U.S. Total	0.43	0.43	0.46	0.46	0.30
Snow goose					
Atlantic	1.06	0.77	0.58	1.41	0.05
Mississippi	0.46	0.31	0.38	0.77	0.19
Central	0.41	0.28	0.54	0.56	0.08
Pacific	0.49	0.78	0.77	0.81	0.43
U.S. Total	0.47	0.44	0.55	0.69	0.24
Blue goose					
Mississippi	0.40	0.20	0.40	1.24	0.23
Central	0.79	0.31	0.65	0.79	0.06
U.S. Total	0.61	0.27	0.51	0.98	0.13
Ross' goose					
Mississippi	2.39	---	0.88	1.48	---
Central	0.67	0.61	1.07	0.79	0.11
Pacific	0.32	0.69	0.77	0.86	0.35
U.S. Total	0.74	0.68	0.96	0.96	0.18
Greater white-fronted goose					
Mississippi	0.52	0.78	0.71	0.64	0.24
Central	0.67	0.69	0.39	0.56	0.29
Pacific	0.52	1.05	0.75	0.29	0.45
U.S. Total	0.58	0.83	0.62	0.53	0.31
Brant					
Atlantic	0.26	0.10	0.86	0.35	0.02
Pacific	0.53	0.26	0.55	0.25	1.21
U.S. Total	0.30	0.20	0.91	0.34	0.08

^a Ratio not shown if based on a sample of less than 20 wings.

^b In estimating Flyway and U.S. ratios, the ratio for each state was weighed in proportion to the estimated harvest in that state as determined from the Harvest Information Program Waterfowl Harvest Survey.

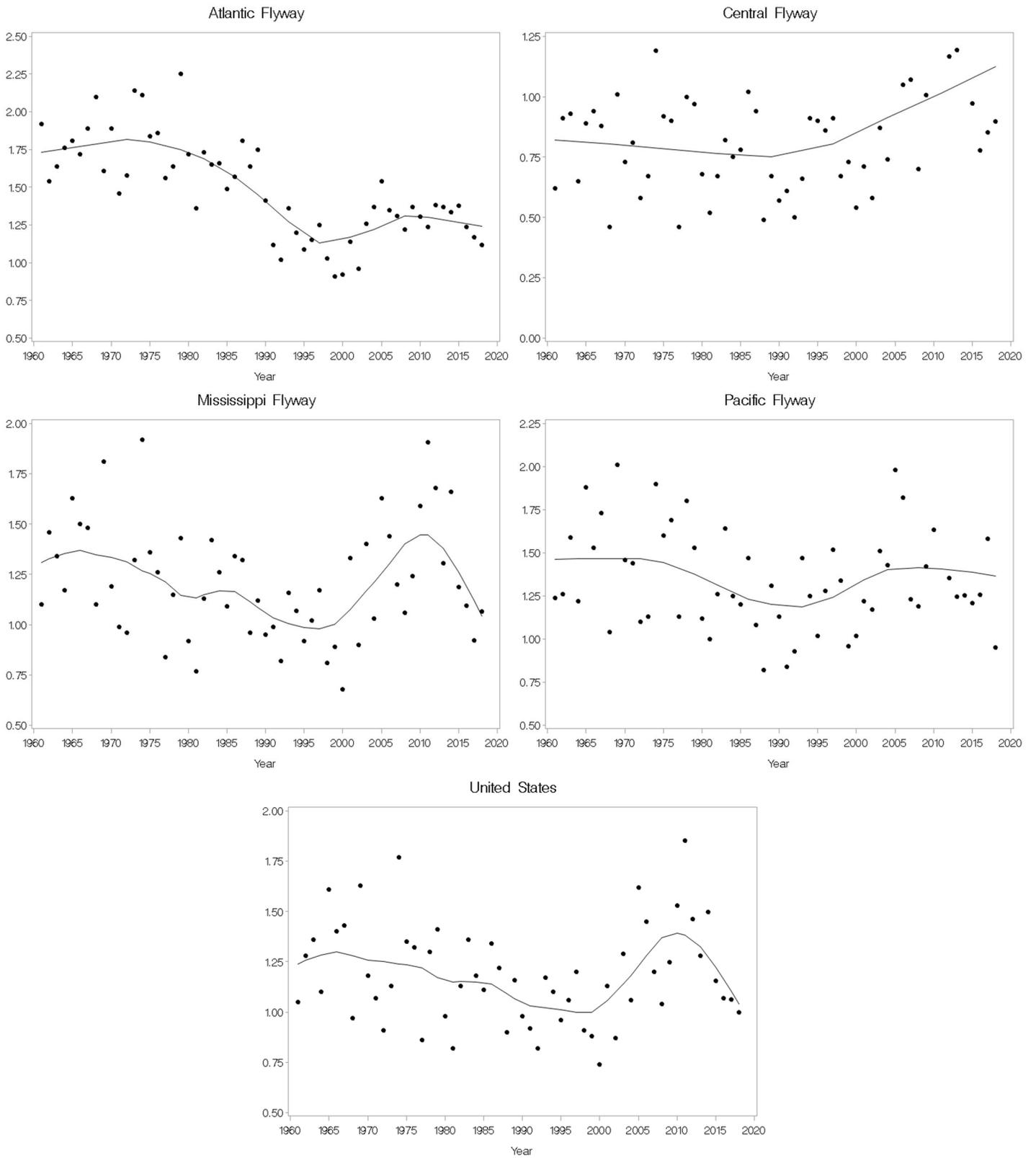


Figure 3. Age ratios of mallards harvested in the United States, 1961-2018.

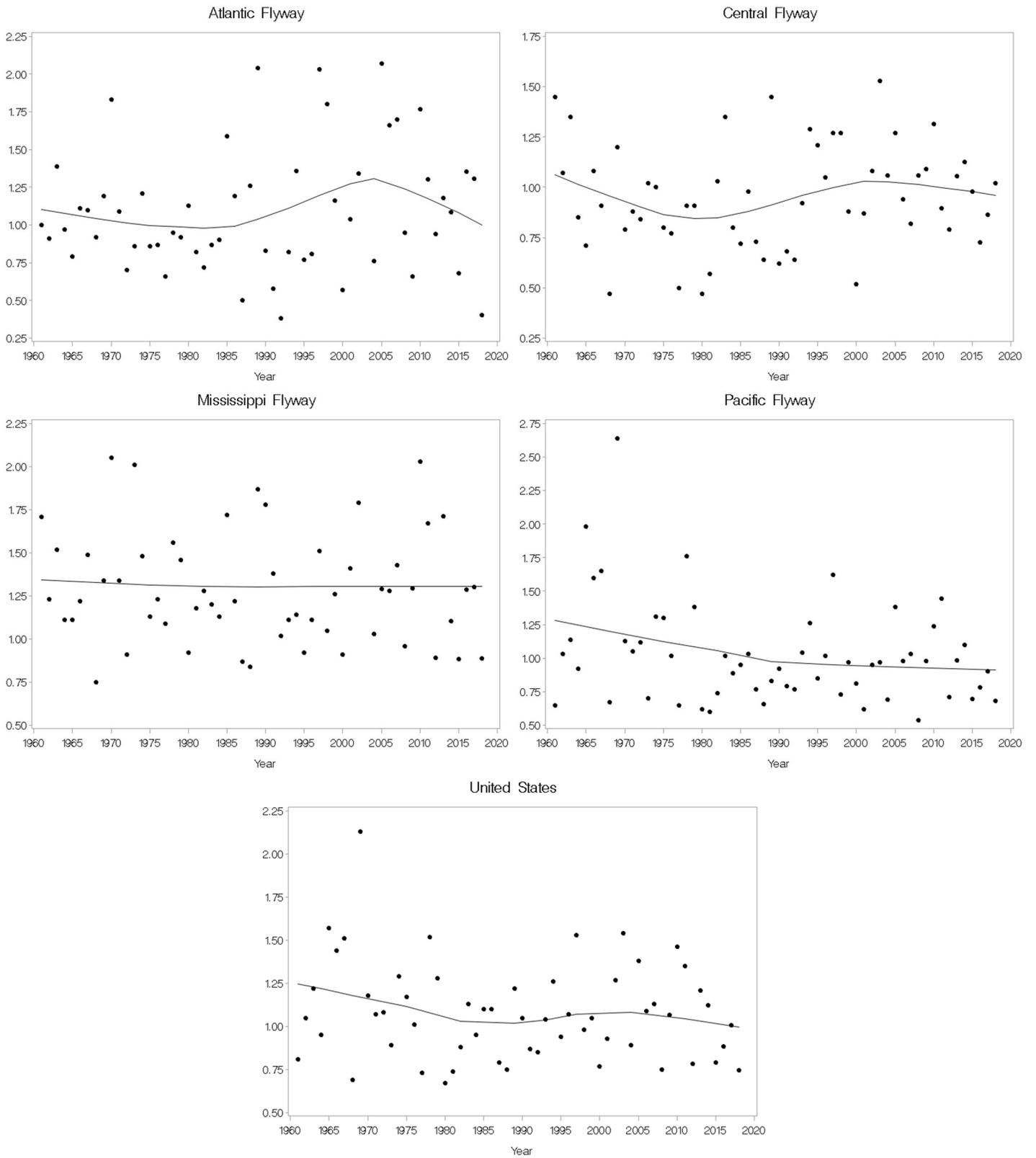


Figure 4. Age ratios of northern pintails harvested in the United States, 1961-2018.

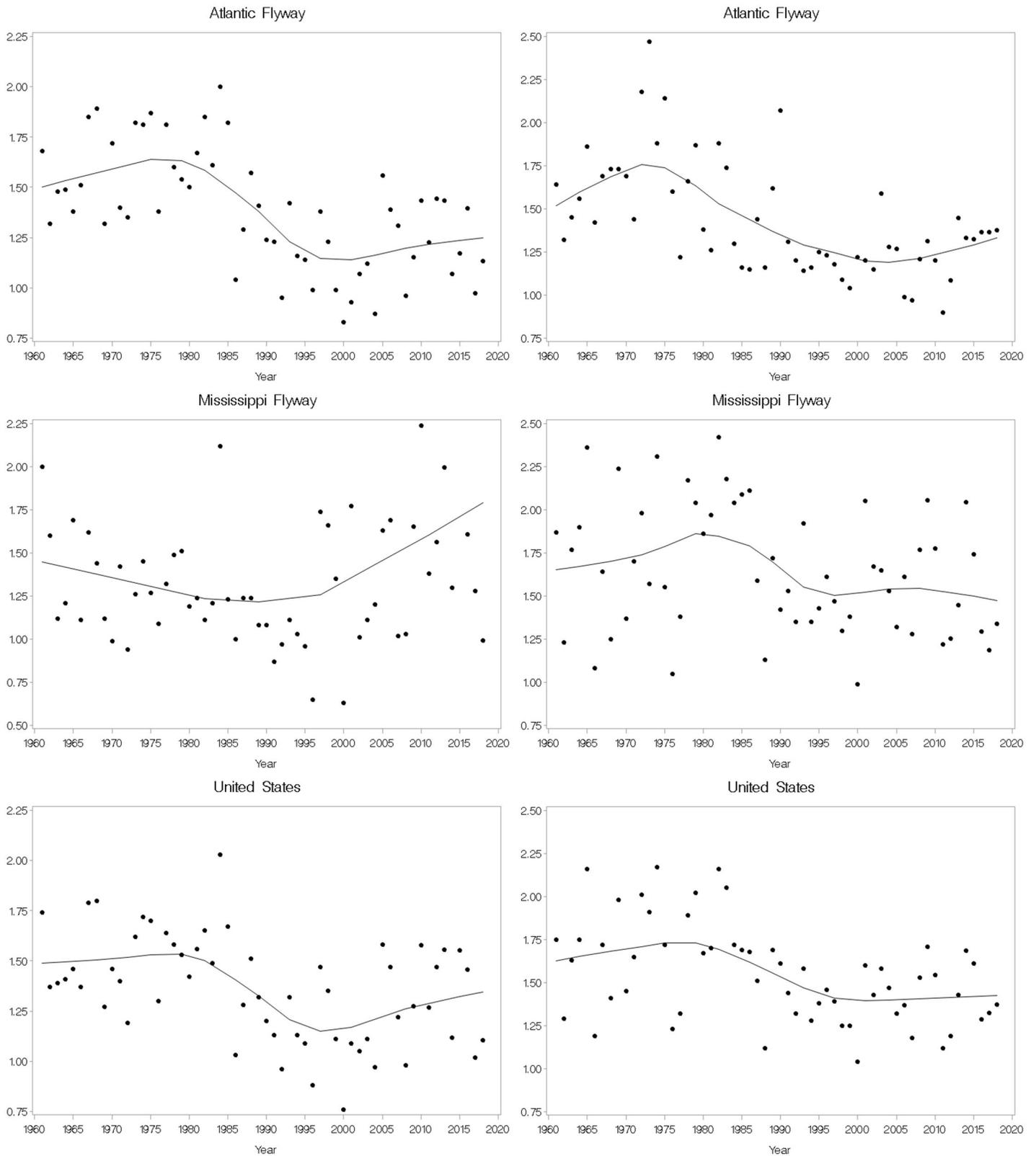


Figure 5. Age ratios of American black ducks (left column) and wood ducks (right column) harvested in the United States, 1961-2018.

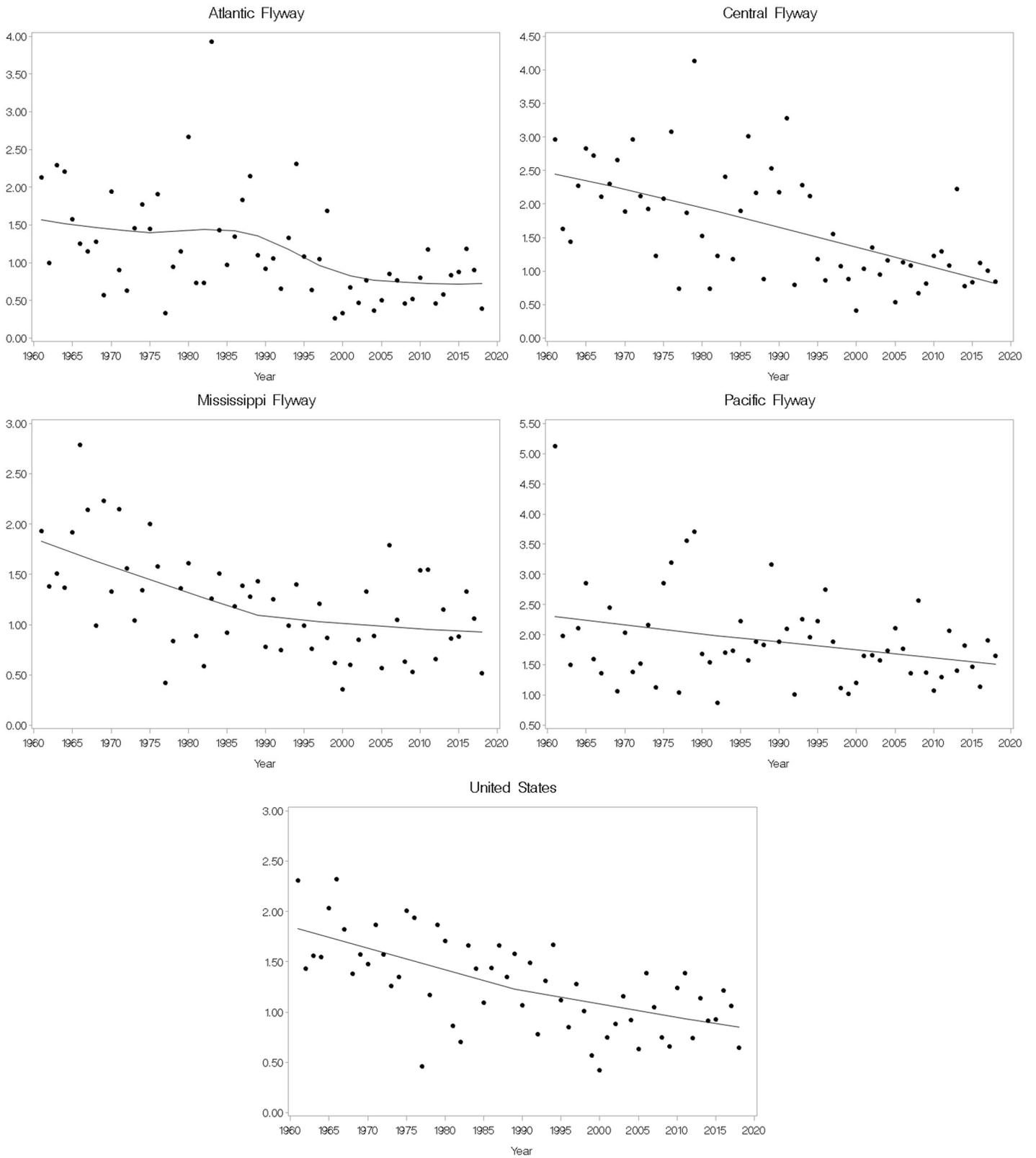


Figure 6. Age ratios of lesser scaup harvested in the United States, 1961-2018.

Table 13. Preliminary estimates of mourning dove harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Mourning Dove Harvest		Active Hunters ²		Mourning Dove Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Alabama	483,600 ± 30%	415,700 ± 30%	27,600 ± 14%	30,400 ± 20%	64,900 ± 27%	58,800 ± 26%	17.5 ± 34%	13.7 ± 36%
Delaware	19,600 ± 36%	15,000 ± 73%	1,600 ± 30%	1,100 ± 45%	4,100 ± 49%	2,400 ± 70%	12.5 ± 47%	13.1 ± 86%
Florida	119,100 ± 77%	107,700 ± 46%	6,500 ± 47%	8,800 ± 60%	27,000 ± 80%	18,500 ± 43%	18.3 ± 91%	12.3 ± 76%
Georgia	963,500 ± 20%	679,700 ± 30%	43,500 ± 12%	32,400 ± 19%	121,600 ± 18%	84,800 ± 35%	22.2 ± 24%	21.0 ± 36%
Illinois	344,900 ± 29%	155,000 ± 49%	17,100 ± 20%	11,900 ± 28%	52,500 ± 25%	29,400 ± 43%	20.1 ± 36%	13.0 ± 56%
Indiana	122,100 ± 20%	110,800 ± 56%	10,300 ± 23%	7,400 ± 43%	25,300 ± 23%	15,900 ± 41%	11.9 ± 31%	14.9 ± 71%
Kentucky	254,700 ± 18%	245,400 ± 36%	11,900 ± 29%	15,000 ± 34%	30,900 ± 27%	35,800 ± 51%	21.4 ± 34%	16.3 ± 49%
Louisiana	141,900 ± 32%	133,200 ± 78%	15,800 ± 32%	8,000 ± 59%	30,800 ± 33%	22,000 ± 69%	9.0 ± 45%	16.7 ± 98%
Maryland	67,500 ± 28%	51,500 ± 34%	5,400 ± 24%	5,700 ± 32%	11,600 ± 26%	8,600 ± 28%	12.5 ± 37%	9.0 ± 46%
Mississippi	316,500 ± 25%	273,400 ± 30%	13,600 ± 18%	15,700 ± 21%	35,700 ± 22%	32,800 ± 24%	23.3 ± 30%	17.4 ± 37%
North Carolina	531,300 ± 24%	684,600 ± 64%	43,300 ± 21%	37,200 ± 33%	96,600 ± 22%	94,200 ± 54%	12.3 ± 32%	18.4 ± 72%
Ohio	67,200 ± 43%	169,100 ± 43%	5,900 ± 30%	12,800 ± 33%	16,000 ± 39%	36,300 ± 42%	11.4 ± 53%	13.2 ± 54%
Pennsylvania	96,400 ± 26%	88,900 ± 31%	10,900 ± 30%	9,500 ± 42%	43,600 ± 35%	25,800 ± 34%	8.9 ± 40%	9.4 ± 52%
Rhode Island	800 ± 194%	1,700 ± 98%	200 ± 117%	600 ± 63%	500 ± 122%	2,400 ± 89%	4.0 ± 226%	3.0 ± 116%
South Carolina	606,200 ± 28%	522,300 ± 50%	28,900 ± 22%	28,200 ± 30%	90,000 ± 32%	83,700 ± 37%	20.9 ± 36%	18.5 ± 58%
Tennessee	334,800 ± 39%	276,800 ± 41%	19,400 ± 25%	15,500 ± 38%	44,300 ± 30%	31,600 ± 39%	17.3 ± 46%	17.8 ± 56%
Virginia	262,600 ± 19%	205,200 ± 26%	17,900 ± 16%	16,000 ± 23%	39,900 ± 16%	33,800 ± 21%	14.7 ± 25%	12.8 ± 34%
West Virginia	9,800 ± 26%	13,700 ± 43%	1,000 ± 23%	1,400 ± 34%	2,600 ± 39%	3,800 ± 51%	10.2 ± 34%	9.6 ± 55%
Wisconsin	40,800 ± 37%	18,100 ± 68%	5,500 ± 31%	3,600 ± 56%	20,500 ± 34%	14,100 ± 66%	7.5 ± 48%	5.0 ± 88%
Eastern Unit Total	4,783,300 ± 8%	4,167,600 ± 15%	286,200	261,300	758,500 ± 8%	634,800 ± 12%		
Arkansas	287,100 ± 35%	170,600 ± 51%	16,200 ± 29%	12,400 ± 43%	35,500 ± 30%	24,500 ± 42%	17.7 ± 45%	13.8 ± 67%
Colorado	117,600 ± 25%	121,500 ± 28%	11,300 ± 19%	10,000 ± 23%	24,100 ± 20%	20,200 ± 26%	10.4 ± 31%	12.2 ± 36%
Iowa	134,900 ± 16%	107,800 ± 22%	11,200 ± 13%	9,000 ± 21%	28,300 ± 17%	23,500 ± 26%	12.0 ± 21%	12.0 ± 31%
Kansas	290,600 ± 34%	337,600 ± 44%	21,800 ± 24%	22,900 ± 35%	58,300 ± 35%	44,300 ± 34%	13.3 ± 41%	14.8 ± 56%
Minnesota	39,100 ± 30%	55,300 ± 50%	6,800 ± 63%	7,100 ± 69%	16,200 ± 45%	16,900 ± 64%	5.7 ± 70%	7.8 ± 85%
Missouri	367,200 ± 18%	309,400 ± 24%	27,400 ± 13%	26,000 ± 17%	65,700 ± 16%	48,300 ± 18%	13.4 ± 22%	11.9 ± 29%
Montana	8,900 ± 45%	9,800 ± 45%	1,300 ± 57%	1,200 ± 59%	2,200 ± 63%	3,500 ± 64%	7.1 ± 73%	8.0 ± 74%
Nebraska	177,900 ± 16%	189,100 ± 35%	12,300 ± 16%	11,600 ± 22%	31,000 ± 15%	33,700 ± 29%	14.5 ± 23%	16.3 ± 41%
New Mexico	73,900 ± 51%	126,900 ± 31%	5,500 ± 57%	9,900 ± 19%	16,500 ± 70%	28,200 ± 24%	13.5 ± 77%	12.8 ± 37%

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

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Table 13 (continued). Preliminary estimates of mourning dove harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Mourning Dove Harvest		Active Hunters ²		Mourning Dove Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
North Dakota	59,400 ± 26%	65,200 ± 45%	4,100 ± 26%	3,900 ± 32%	11,400 ± 31%	11,800 ± 47%	14.7 ± 36%	16.7 ± 55%
Oklahoma	315,600 ± 29%	181,300 ± 33%	17,500 ± 16%	13,600 ± 31%	45,600 ± 24%	29,200 ± 31%	18.1 ± 34%	13.4 ± 45%
South Dakota	111,600 ± 31%	69,400 ± 30%	5,700 ± 22%	4,900 ± 25%	18,400 ± 26%	11,500 ± 27%	19.5 ± 38%	14.1 ± 39%
Texas	3,469,500 ± 14%	2,990,400 ± 17%	190,500 ± 13%	199,100 ± 18%	703,300 ± 17%	553,200 ± 18%	18.2 ± 19%	15.0 ± 25%
Wyoming	9,400 ± 57%	14,800 ± 41%	700 ± 42%	1,400 ± 37%	2,200 ± 84%	3,200 ± 42%	13.1 ± 71%	10.8 ± 55%
Central Unit Total	5,462,800 ± 10%	4,749,100 ± 12%	332,200	332,900	1,058,800 ± 11%	852,100 ± 12%		
Arizona	350,700 ± 11%	352,700 ± 12%	18,600 ± 5%	19,000 ± 6%	52,400 ± 8%	55,100 ± 9%	18.8 ± 12%	18.6 ± 13%
California	766,900 ± 12%	892,600 ± 15%	50,100 ± 9%	52,500 ± 12%	125,700 ± 13%	129,400 ± 15%	15.3 ± 15%	17.0 ± 19%
Idaho	108,500 ± 42%	88,800 ± 61%	6,900 ± 26%	11,300 ± 40%	22,700 ± 39%	24,100 ± 51%	15.7 ± 49%	7.8 ± 72%
Nevada	16,000 ± 32%	21,400 ± 56%	2,700 ± 25%	2,700 ± 34%	6,200 ± 44%	6,200 ± 45%	6.0 ± 40%	7.9 ± 66%
Oregon	19,700 ± 47%	13,200 ± 58%	2,800 ± 54%	2,500 ± 47%	8,500 ± 63%	18,300 ± 136%	7.1 ± 72%	5.3 ± 75%
Utah	29,600 ± 55%	25,300 ± 37%	6,800 ± 32%	6,400 ± 27%	15,000 ± 46%	12,400 ± 41%	4.3 ± 64%	4.0 ± 46%
Washington	23,700 ± 80%	63,700 ± 32%	2,700 ± 42%	5,800 ± 25%	4,700 ± 44%	14,200 ± 31%	8.7 ± 91%	11.1 ± 40%
Western Unit Total	1,315,000 ± 9%	1,457,700 ± 10%	90,600	100,100	235,100 ± 9%	259,800 ± 14%		
United States Total	11,561,100 ± 6%	10,374,500 ± 8%	709,000	694,300	2,052,400 ± 7%	1,746,700 ± 8%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 14. Preliminary estimates of white-winged dove harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	White-winged Dove Harvest		Active Hunters ²		White-winged Dove Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Alabama	9,800 ± 115%	3,900 ± 112%	1,100 ± 93%	1,400 ± 104%	10,700 ± 125%	1,800 ± 106%	8.8 ± 148%	2.7 ± 153%
Delaware	0	0	0	0	0	0	0	0
Florida	4,200 ± 102%	9,400 ± 175%	1,300 ± 133%	2,300 ± 135%	4,100 ± 130%	4,300 ± 90%	3.2 ± 168%	4.1 ± 221%
Georgia	600 ± 112%	200 ± 195%	700 ± 82%	200 ± 195%	3,200 ± 110%	2,500 ± 195%	0.9 ± 138%	1.0 ± 276%
Louisiana	9,200 ± 118%	8,800 ± 85%	1,500 ± 110%	2,000 ± 123%	2,500 ± 106%	3,600 ± 91%	6.2 ± 161%	4.5 ± 150%
Maryland	0	0	0	0	0	0	0	0
Mississippi	800 ± 156%	1,100 ± 136%	700 ± 110%	200 ± 136%	1,000 ± 124%	300 ± 144%	1.2 ± 191%	5.0 ± 192%
North Carolina	600 ± 195%	0	1,300 ± 153%	900 ± 115%	3,900 ± 153%	1,700 ± 117%	0.5 ± 248%	0
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
Eastern Unit Total	25,200 ± 65%	23,400 ± 80%	6,600	7,000	25,400 ± 64%	14,100 ± 53%		
Colorado	1,800 ± 77%	2,900 ± 140%	2,100 ± 52%	800 ± 59%	3,500 ± 47%	2,500 ± 108%	0.8 ± 93%	3.8 ± 152%
Kansas	200 ± 196%	400 ± 188%	1,400 ± 110%	200 ± 195%	2,100 ± 102%	200 ± 188%	0.2 ± 225%	2.2 ± 271%
New Mexico	22,400 ± 35%	44,900 ± 40%	3,100 ± 74%	6,200 ± 26%	7,900 ± 42%	18,300 ± 33%	7.2 ± 82%	7.2 ± 48%
Oklahoma	13,300 ± 97%	7,800 ± 157%	2,600 ± 58%	1,200 ± 128%	9,300 ± 80%	2,400 ± 99%	5.1 ± 113%	6.3 ± 203%
Texas	1,252,800 ± 20%	1,481,200 ± 33%	118,300 ± 17%	130,500 ± 26%	407,400 ± 20%	374,900 ± 24%	10.6 ± 27%	11.4 ± 42%
Central Unit Total	1,290,500 ± 20%	1,537,300 ± 32%	127,500	138,900	430,200 ± 19%	398,400 ± 23%		
Arizona	62,100 ± 14%	71,900 ± 16%	11,200 ± 7%	11,000 ± 9%	30,000 ± 10%	29,900 ± 12%	5.5 ± 16%	6.5 ± 19%
California	47,000 ± 27%	38,600 ± 53%	12,500 ± 22%	11,300 ± 31%	31,400 ± 23%	24,100 ± 40%	3.8 ± 35%	3.4 ± 62%
Nevada	200 ± 131%	<50 ± 191%	200 ± 96%	300 ± 119%	600 ± 95%	1,000 ± 165%	1.0 ± 162%	0.1 ± 225%
Utah	100 ± 192%	200 ± 137%	400 ± 156%	1,000 ± 82%	1,800 ± 179%	1,600 ± 84%	0.3 ± 248%	0.2 ± 160%
Western Unit Total	109,400 ± 14%	110,800 ± 21%	24,400	23,600	63,800 ± 13%	56,600 ± 18%		
United States Total	1,425,000 ± 18%	1,671,500 ± 30%	158,400	169,500	519,500 ± 16%	469,000 ± 19%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 15. Preliminary estimates of band-tailed pigeon harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Band-tailed Pigeon Harvest		Active Hunters ²		Band-tailed Pigeon Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Arizona	100 ± 72%	100 ± 110%	100 ± 47%	100 ± 49%	100 ± 52%	600 ± 60%	1.0 ± 86%	0.9 ± 120%
Colorado	<50 ± 64%	-- ³	<50 ± 29%	-- ³	100 ± 33%	-- ³	0.9 ± 70%	-- ³
New Mexico	200 ± 68%	100 ± 94%	100 ± 24%	100 ± 36%	300 ± 41%	200 ± 43%	1.6 ± 72%	0.6 ± 101%
Utah	0	<50 ± 156%	<50 ± 66%	<50 ± 57%	<50 ± 78%	100 ± 82%	0	0.6 ± 166%
Interior Total	300 ± 46%	200 ± 77%	200	300	500 ± 28%	800 ± 42%		
California	5,600 ± 80%	9,000 ± 70%	2,500 ± 48%	2,400 ± 65%	5,600 ± 54%	6,400 ± 66%	2.2 ± 93%	3.8 ± 95%
Oregon	500 ± 54%	1,200 ± 44%	100 ± 27%	300 ± 21%	400 ± 36%	1,000 ± 34%	3.2 ± 60%	3.4 ± 49%
Washington	0	1,500 ± 154%	100 ± 195%	500 ± 80%	100 ± 195%	1,500 ± 95%	0	3.1 ± 173%
Pacific Coast Total	6,000 ± 74%	11,600 ± 57%	2,800	3,200	6,100 ± 50%	8,900 ± 50%		
United States Total	6,300 ± 71%	11,800 ± 57%	3,000	3,400	6,600 ± 46%	9,800 ± 46%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

³ We were not able to conduct a survey of band-tailed pigeon permit hunters, and no band-tailed pigeons were reported in the dove survey.

Table 16. Preliminary estimates of American woodcock harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Woodcock Harvest		Active Woodcock Hunters ²		Woodcock Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Connecticut	1,600 ± 69%	900 ± 59%	600 ± 33%	600 ± 46%	3,800 ± 44%	2,100 ± 45%	2.5 ± 76%	1.4 ± 75%
Delaware	200 ± 151%	100 ± 82%	200 ± 119%	100 ± 156%	700 ± 128%	500 ± 140%	1.0 ± 192%	0.6 ± 176%
Florida	200 ± 151%	200 ± 195%	200 ± 92%	100 ± 195%	1,400 ± 132%	300 ± 195%	1.0 ± 177%	3.0 ± 275%
Georgia	1,400 ± 104%	4,100 ± 121%	3,600 ± 123%	4,400 ± 129%	9,500 ± 136%	8,000 ± 118%	0.4 ± 161%	0.9 ± 177%
Maine	17,300 ± 53%	9,700 ± 28%	5,000 ± 30%	3,800 ± 47%	22,600 ± 28%	17,200 ± 37%	3.4 ± 61%	2.5 ± 55%
Maryland	400 ± 59%	1,500 ± 171%	100 ± 31%	800 ± 170%	500 ± 43%	900 ± 145%	2.9 ± 67%	2.0 ± 241%
Massachusetts	1,900 ± 46%	3,500 ± 54%	1,200 ± 28%	1,400 ± 36%	5,900 ± 29%	8,100 ± 45%	1.5 ± 54%	2.5 ± 65%
New Hampshire	4,900 ± 44%	5,400 ± 41%	2,400 ± 31%	2,000 ± 34%	8,600 ± 29%	8,500 ± 28%	2.1 ± 54%	2.7 ± 53%
New Jersey	1,700 ± 50%	2,900 ± 75%	800 ± 51%	900 ± 69%	4,700 ± 85%	2,900 ± 61%	2.1 ± 71%	3.2 ± 102%
New York	6,100 ± 31%	5,100 ± 65%	3,300 ± 31%	3,400 ± 60%	15,100 ± 35%	17,200 ± 102%	1.8 ± 43%	1.5 ± 88%
North Carolina	6,700 ± 103%	6,000 ± 119%	1,200 ± 61%	3,400 ± 160%	5,800 ± 88%	13,700 ± 160%	5.6 ± 120%	1.8 ± 199%
Pennsylvania	8,200 ± 58%	4,000 ± 81%	5,200 ± 39%	1,500 ± 46%	20,700 ± 34%	6,300 ± 73%	1.6 ± 70%	2.7 ± 93%
Rhode Island	200 ± 171%	200 ± 81%	<50 ± 88%	100 ± 104%	300 ± 121%	700 ± 86%	4.3 ± 193%	1.5 ± 132%
South Carolina	4,700 ± 145%	1,200 ± 73%	1,400 ± 164%	1,900 ± 168%	4,500 ± 152%	2,800 ± 117%	3.4 ± 219%	0.7 ± 183%
Vermont	3,400 ± 33%	2,200 ± 42%	1,300 ± 30%	900 ± 22%	5,800 ± 28%	4,300 ± 25%	2.7 ± 44%	2.5 ± 48%
Virginia	3,400 ± 104%	2,200 ± 59%	1,700 ± 80%	2,700 ± 83%	4,500 ± 85%	5,300 ± 75%	2.0 ± 131%	0.8 ± 102%
West Virginia	500 ± 52%	300 ± 47%	400 ± 61%	100 ± 28%	800 ± 38%	400 ± 41%	1.2 ± 80%	2.7 ± 55%
Eastern Region Total	62,700 ± 24%	49,600 ± 23%	28,700	28,300	115,400 ± 18%	99,200 ± 32%		
Alabama	600 ± 90%	200 ± 134%	1,800 ± 183%	200 ± 64%	2,200 ± 149%	500 ± 81%	0.4 ± 204%	1.3 ± 148%
Arkansas	600 ± 194%	10,100 ± 183%	1,500 ± 182%	2,500 ± 187%	4,700 ± 178%	7,700 ± 180%	0.4 ± 266%	4.1 ± 262%
Illinois	400 ± 142%	0	100 ± 75%	<50 ± 194%	300 ± 84%	100 ± 194%	3.0 ± 161%	0
Indiana	1,500 ± 142%	200 ± 136%	1,100 ± 70%	100 ± 78%	2,900 ± 68%	200 ± 92%	1.4 ± 158%	1.8 ± 157%
Iowa	1,900 ± 179%	0	1,000 ± 116%	0	2,400 ± 111%	0	1.8 ± 214%	0
Kansas	100 ± 120%	100 ± 192%	<50 ± 74%	100 ± 0%	100 ± 80%	200 ± 0%	4.0 ± 141%	1.5 ± 192%
Kentucky	900 ± 68%	300 ± 107%	100 ± 31%	100 ± 77%	800 ± 40%	300 ± 99%	7.1 ± 75%	3.8 ± 132%
Louisiana	9,900 ± 181%	10,600 ± 112%	3,500 ± 81%	5,200 ± 84%	14,500 ± 96%	11,100 ± 94%	2.8 ± 199%	2.0 ± 140%
Michigan	66,100 ± 31%	59,600 ± 34%	24,100 ± 18%	29,300 ± 25%	122,800 ± 24%	135,800 ± 46%	2.7 ± 36%	2.0 ± 42%
Minnesota	26,700 ± 37%	22,500 ± 34%	11,900 ± 35%	10,400 ± 39%	45,700 ± 35%	41,500 ± 46%	2.2 ± 51%	2.2 ± 52%
Mississippi	400 ± 123%	400 ± 121%	1,600 ± 132%	100 ± 92%	2,400 ± 135%	400 ± 117%	0.2 ± 180%	4.3 ± 152%

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

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Table 16 (continued). Preliminary estimates of American woodcock harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Woodcock Harvest		Active Woodcock Hunters ²		Woodcock Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Missouri	200 ± 64%	200 ± 130%	900 ± 170%	100 ± 130%	1,300 ± 115%	200 ± 161%	0.2 ± 182%	2.0 ± 184%
Nebraska	0	0	<50 ± %	0	100 ± 0%	0	0	0
Ohio	400 ± 90%	600 ± 123%	1,900 ± 84%	500 ± 49%	5,000 ± 71%	800 ± 71%	0.2 ± 123%	1.3 ± 133%
Oklahoma	0	100 ± 193%	0	<50 ± 193%	0	600 ± 193%	0	3.0 ± 272%
Tennessee	100 ± 193%	300 ± 158%	1,300 ± 187%	200 ± 104%	2,600 ± 183%	600 ± 105%	< 0.1 ± 268%	1.7 ± 189%
Texas	0	0	12,100 ± 138%	0	12,100 ± 138%	0	0	0
Wisconsin	31,100 ± 29%	25,500 ± 33%	11,700 ± 29%	10,800 ± 37%	52,400 ± 29%	45,900 ± 40%	2.7 ± 41%	2.4 ± 50%
Central Region Total	140,900 ± 22%	130,600 ± 25%	74,600	59,500	272,400 ± 16%	246,000 ± 29%		
United States Total	203,500 ± 17%	180,200 ± 19%	103,300	87,800	387,700 ± 13%	345,100 ± 22%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 17. Preliminary estimates of snipe harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Snipe Harvest		Active Snipe Hunters ²		Snipe Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Connecticut	<50 ± 164%	100 ± 187%	100 ± 181%	<50 ± 187%	200 ± 186%	<50 ± 187%	0.5 ± 245%	5.0 ± 264%
Delaware	<50 ± 180%	0	<50 ± 180%	0	<50 ± 180%	0	1.0 ± 255%	0
Florida	14,300 ± 88%	18,900 ± 108%	2,100 ± 87%	1,600 ± 65%	4,800 ± 92%	6,700 ± 84%	6.7 ± 124%	11.7 ± 126%
Georgia	0	0	0	0	0	0	0	0
Maine	100 ± 193%	0	600 ± 162%	1,700 ± 182%	1,400 ± 144%	5,000 ± 184%	0.2 ± 252%	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	100 ± 174%	0	<50 ± 121%	0	<50 ± 136%	0	12.5 ± 212%	0
New Hampshire	300 ± 127%	0	200 ± 107%	0	800 ± 124%	0	1.4 ± 166%	0
New Jersey	0	800 ± 139%	100 ± 195%	200 ± 176%	100 ± 195%	1,400 ± 169%	0	4.4 ± 224%
New York	600 ± 116%	0	100 ± 77%	100 ± 195%	400 ± 96%	100 ± 195%	4.5 ± 139%	0
North Carolina	0	50,100 ± 196%	0	1,100 ± 196%	0	7,600 ± 196%	0	46.0 ± 277%
Pennsylvania	11,000 ± 177%	0	2,200 ± 138%	100 ± 131%	8,800 ± 142%	100 ± 156%	5.0 ± 224%	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	1,600 ± 144%	600 ± 145%	100 ± 77%	100 ± 129%	400 ± 98%	100 ± 129%	12.2 ± 164%	5.5 ± 195%
Vermont	100 ± 122%	200 ± 119%	<50 ± 65%	<50 ± 117%	100 ± 82%	200 ± 133%	5.2 ± 138%	7.0 ± 166%
Virginia	<50 ± 186%	0	200 ± 176%	0	800 ± 181%	0	< 0.1 ± 256%	0
West Virginia	200 ± 183%	<50 ± 189%	100 ± 123%	<50 ± 189%	200 ± 114%	100 ± 189%	3.3 ± 220%	1.0 ± 268%
Atlantic Flyway Total	28,500 ± 82%	70,800 ± 142%	5,900	4,900	17,900 ± 75%	21,500 ± 87%		
Alabama	200 ± 195%	700 ± 195%	100 ± 195%	300 ± 113%	200 ± 195%	4,700 ± 168%	2.0 ± 276%	2.0 ± 226%
Arkansas	200 ± 194%	0	100 ± 194%	2,800 ± 196%	100 ± 194%	2,800 ± 196%	3.0 ± 275%	0
Illinois	800 ± 195%	0	1,000 ± 181%	0	2,100 ± 169%	0	0.8 ± 266%	0
Indiana	200 ± 94%	100 ± 98%	100 ± 45%	1,000 ± 182%	200 ± 53%	12,900 ± 193%	3.2 ± 104%	0.1 ± 206%
Iowa	100 ± 116%	<50 ± 132%	500 ± 182%	<50 ± 93%	1,600 ± 179%	100 ± 99%	0.2 ± 216%	0.5 ± 162%
Kentucky	0	0	0	0	0	0	0	0
Louisiana	600 ± 138%	0	800 ± 157%	0	800 ± 157%	0	0.7 ± 209%	0
Michigan	900 ± 152%	4,800 ± 196%	1,300 ± 163%	4,800 ± 196%	1,400 ± 152%	19,200 ± 196%	0.7 ± 223%	1.0 ± 277%
Minnesota	100 ± 195%	900 ± 140%	900 ± 147%	1,500 ± 154%	3,200 ± 171%	2,300 ± 119%	< 0.1 ± 244%	0.6 ± 208%
Mississippi	0	0	300 ± 196%	0	300 ± 196%	0	0	0
Missouri	700 ± 195%	0	100 ± 195%	0	100 ± 195%	0	9.0 ± 275%	0

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

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Table 17 (continued). Preliminary estimates of snipe harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Snipe Harvest		Active Snipe Hunters ²		Snipe Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Ohio	900 ± 177%	0	200 ± 127%	0	900 ± 177%	0	6.0 ± 218%	0
Tennessee	0	0	2,400 ± 196%	0	2,400 ± 196%	0	0	0
Wisconsin	1,100 ± 196%	2,500 ± 196%	1,100 ± 196%	2,500 ± 196%	1,100 ± 196%	2,500 ± 196%	1.0 ± 277%	1.0 ± 277%
Mississippi Flyway Total	5,700 ± 66%	9,000 ± 119%	8,700	13,000	14,400 ± 65%	44,600 ± 104%		
Colorado	500 ± 145%	200 ± 195%	400 ± 160%	100 ± 195%	500 ± 145%	200 ± 195%	1.2 ± 216%	2.0 ± 276%
Kansas	0	0	0	1,900 ± 196%	0	1,900 ± 196%	0	0
Nebraska	400 ± 196%	0	400 ± 196%	0	400 ± 196%	0	1.0 ± 277%	0
New Mexico	0	0	<50 ± 180%	0	<50 ± 180%	0	0	0
North Dakota	1,500 ± 174%	100 ± 89%	900 ± 129%	1,000 ± 182%	1,900 ± 127%	1,100 ± 175%	1.6 ± 217%	< 0.1 ± 203%
Oklahoma	1,300 ± 196%	100 ± 195%	1,700 ± 142%	100 ± 195%	3,700 ± 166%	200 ± 195%	0.8 ± 242%	1.0 ± 276%
South Dakota	100 ± 178%	0	<50 ± 124%	<50 ± 189%	<50 ± 127%	<50 ± 189%	4.5 ± 217%	0
Texas	0	0	0	400 ± 196%	0	2,200 ± 196%	0	0
Wyoming	300 ± 104%	300 ± 107%	200 ± 121%	200 ± 122%	800 ± 147%	400 ± 125%	1.3 ± 160%	1.2 ± 163%
Central Flyway Total	4,000 ± 94%	700 ± 84%	3,600	3,800	7,300 ± 93%	6,000 ± 100%		
Arizona	<50 ± 193%	0	1,200 ± 186%	0	3,600 ± 188%	0	< 0.1 ± 268%	0
California	2,600 ± 91%	2,000 ± 86%	1,500 ± 101%	200 ± 77%	3,600 ± 113%	800 ± 87%	1.7 ± 137%	11.2 ± 115%
Idaho	0	0	0	0	0	0	0	0
Montana	200 ± 134%	300 ± 135%	100 ± 72%	100 ± 91%	100 ± 92%	200 ± 110%	3.5 ± 153%	5.0 ± 163%
Nevada	200 ± 183%	0	100 ± 173%	0	100 ± 137%	0	1.9 ± 252%	0
Oregon	600 ± 195%	100 ± 195%	1,000 ± 181%	200 ± 104%	1,500 ± 142%	1,800 ± 176%	0.6 ± 266%	0.3 ± 221%
Utah	400 ± 138%	300 ± 196%	300 ± 153%	300 ± 196%	300 ± 140%	300 ± 196%	1.5 ± 206%	1.0 ± 277%
Washington	300 ± 96%	200 ± 90%	100 ± 46%	900 ± 162%	200 ± 51%	1,000 ± 144%	2.2 ± 106%	0.2 ± 185%
Pacific Flyway Total	4,300 ± 64%	2,900 ± 65%	4,300	1,700	9,400 ± 87%	4,100 ± 88%		
Alaska	0	200 ± 194%	0	100 ± 194%	0	200 ± 194%	0	4.0 ± 275%
United States Total	42,400 ± 57%	83,600 ± 121%	22,500	23,400	49,100 ± 40%	76,400 ± 66%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 18. Preliminary estimates of coot harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Coot Harvest		Active Coot Hunters ²		Coot Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Connecticut	<50 ± 164%	0	<50 ± 164%	0	100 ± 164%	0	5.0 ± 232%	0
Delaware	300 ± 195%	700 ± 195%	100 ± 195%	100 ± 195%	100 ± 195%	100 ± 195%	4.0 ± 275%	5.0 ± 276%
Florida	2,600 ± 158%	5,100 ± 150%	300 ± 110%	500 ± 134%	300 ± 110%	1,100 ± 134%	8.3 ± 192%	9.5 ± 201%
Georgia	1,900 ± 168%	0	200 ± 110%	0	300 ± 114%	0	9.3 ± 200%	0
Maine	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	<50 ± 174%	<50 ± 181%	<50 ± 174%	<50 ± 181%	<50 ± 174%	<50 ± 181%	2.0 ± 246%	1.0 ± 257%
New Hampshire	100 ± 195%	0	100 ± 195%	0	700 ± 195%	0	1.0 ± 275%	0
New Jersey	0	900 ± 169%	0	<50 ± 128%	0	400 ± 173%	0	22.5 ± 212%
New York	100 ± 192%	0	300 ± 168%	100 ± 195%	400 ± 142%	2,800 ± 195%	0.4 ± 255%	0
North Carolina	8,800 ± 196%	0	600 ± 196%	0	1,800 ± 196%	0	15.0 ± 277%	0
Pennsylvania	0	100 ± 192%	0	<50 ± 192%	0	<50 ± 192%	0	2.0 ± 272%
Rhode Island	0	200 ± 195%	0	100 ± 195%	0	100 ± 195%	0	2.0 ± 275%
South Carolina	2,600 ± 192%	4,600 ± 191%	800 ± 183%	1,200 ± 187%	1,900 ± 157%	1,200 ± 187%	3.3 ± 266%	3.9 ± 267%
Vermont	<50 ± 103%	100 ± 190%	100 ± 170%	<50 ± 190%	200 ± 129%	<50 ± 190%	0.3 ± 198%	6.0 ± 269%
Virginia	200 ± 136%	0	<50 ± 105%	<50 ± 192%	200 ± 114%	<50 ± 192%	5.7 ± 172%	0
West Virginia	<50 ± 183%	0	100 ± 123%	<50 ± 189%	200 ± 129%	<50 ± 189%	0.3 ± 220%	0
Atlantic Flyway Total	16,700 ± 112%	11,600 ± 102%	2,600	2,200	6,200 ± 78%	5,800 ± 105%		
Alabama	0	0	1,700 ± 196%	200 ± 195%	1,700 ± 196%	4,200 ± 195%	0	0
Arkansas	100 ± 194%	0	100 ± 194%	0	100 ± 194%	0	1.0 ± 275%	0
Illinois	1,200 ± 195%	0	100 ± 195%	0	100 ± 195%	0	15.0 ± 275%	0
Indiana	6,000 ± 193%	1,100 ± 109%	900 ± 130%	100 ± 62%	3,300 ± 127%	300 ± 79%	6.7 ± 233%	14.7 ± 125%
Iowa	300 ± 104%	100 ± 99%	500 ± 178%	<50 ± 93%	1,700 ± 167%	200 ± 125%	0.6 ± 207%	1.3 ± 136%
Kentucky	0	0	0	0	0	0	0	0
Louisiana	29,200 ± 98%	14,600 ± 196%	3,600 ± 76%	500 ± 196%	28,300 ± 117%	1,000 ± 196%	8.0 ± 124%	30.0 ± 277%
Michigan	200 ± 195%	200 ± 196%	200 ± 134%	200 ± 196%	600 ± 137%	500 ± 196%	1.0 ± 237%	1.0 ± 277%
Minnesota	4,900 ± 117%	1,400 ± 195%	1,700 ± 113%	200 ± 195%	3,200 ± 105%	1,000 ± 195%	2.8 ± 163%	8.0 ± 276%
Mississippi	0	3,700 ± 196%	0	900 ± 196%	0	900 ± 196%	0	4.0 ± 277%
Missouri	100 ± 195%	0	100 ± 195%	0	100 ± 195%	0	1.0 ± 275%	0

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

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Table 18 (continued). Preliminary estimates of coot harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Coot Harvest		Active Coot Hunters ²		Coot Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Ohio	200 ± 195%	800 ± 195%	100 ± 195%	200 ± 195%	100 ± 195%	200 ± 195%	2.0 ± 275%	5.0 ± 276%
Tennessee	0	0	0	0	0	0	0	0
Wisconsin	33,800 ± 184%	0	2,100 ± 138%	0	4,200 ± 138%	0	16.0 ± 230%	0
Mississippi Flyway Total	75,900 ± 92%	21,900 ± 136%	11,100	2,300	43,200 ± 79%	8,300 ± 107%		
Colorado	3,600 ± 125%	0	1,000 ± 105%	0	1,900 ± 117%	0	3.5 ± 163%	0
Kansas	0	0	0	0	0	0	0	0
Nebraska	400 ± 196%	0	400 ± 196%	0	400 ± 196%	0	1.0 ± 277%	0
New Mexico	100 ± 113%	600 ± 98%	<50 ± 90%	100 ± 75%	100 ± 104%	100 ± 78%	3.5 ± 144%	10.0 ± 123%
North Dakota	500 ± 64%	1,200 ± 154%	100 ± 38%	1,000 ± 181%	600 ± 76%	1,500 ± 130%	5.7 ± 74%	1.2 ± 237%
Oklahoma	0	200 ± 195%	0	100 ± 195%	0	300 ± 195%	0	2.0 ± 276%
South Dakota	400 ± 72%	100 ± 189%	100 ± 55%	<50 ± 189%	200 ± 76%	<50 ± 189%	7.3 ± 91%	4.0 ± 267%
Texas	800 ± 142%	400 ± 196%	100 ± 107%	400 ± 196%	1,200 ± 161%	400 ± 196%	7.0 ± 177%	1.0 ± 277%
Wyoming	300 ± 113%	300 ± 110%	200 ± 157%	300 ± 119%	300 ± 108%	500 ± 128%	1.6 ± 193%	1.1 ± 162%
Central Flyway Total	6,000 ± 78%	2,800 ± 78%	1,900	1,900	4,800 ± 65%	2,800 ± 79%		
Arizona	0	0	0	0	0	0	0	0
California	10,300 ± 66%	34,900 ± 127%	2,600 ± 77%	3,100 ± 90%	13,100 ± 138%	12,700 ± 135%	4.0 ± 101%	11.4 ± 155%
Idaho	700 ± 147%	0	500 ± 180%	0	1,100 ± 180%	0	1.3 ± 232%	0
Montana	500 ± 180%	<50 ± 132%	500 ± 180%	<50 ± 106%	1,900 ± 191%	<50 ± 106%	1.0 ± 255%	0.7 ± 170%
Nevada	1,800 ± 87%	0	200 ± 109%	0	500 ± 105%	0	9.0 ± 139%	0
Oregon	0	0	100 ± 195%	200 ± 133%	100 ± 195%	1,700 ± 185%	0	0
Utah	3,300 ± 76%	12,000 ± 143%	1,200 ± 64%	900 ± 88%	5,800 ± 102%	4,700 ± 127%	2.8 ± 99%	12.7 ± 168%
Washington	1,800 ± 67%	300 ± 89%	300 ± 32%	100 ± 54%	1,100 ± 59%	200 ± 58%	6.7 ± 74%	2.6 ± 104%
Pacific Flyway Total	18,400 ± 41%	47,300 ± 100%	5,300	4,400	23,400 ± 83%	19,400 ± 95%		
United States Total	117,100 ± 62%	83,600 ± 69%	20,900	10,800	77,700 ± 51%	36,300 ± 59%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 19. Preliminary estimates of gallinule harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Gallinule Harvest		Active Gallinule Hunters ²		Gallinule Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Delaware	0	0	0	0	0	0	0	0
Florida	0	1,600 ± 195%	0	200 ± 195%	0	200 ± 195%	0	10.0 ± 276%
Georgia	100 ± 193%	0	<50 ± 193%	0	100 ± 193%	0	2.0 ± 273%	0
New Jersey	0	300 ± 190%	0	<50 ± 190%	0	100 ± 190%	0	15.0 ± 269%
New York	500 ± 191%	0	<50 ± 191%	0	100 ± 191%	0	21.0 ± 271%	0
North Carolina	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0
West Virginia	0	0	0	<50 ± 183%	0	<50 ± 183%	0	0
Atlantic Flyway Total	500 ± 167%	1,800 ± 170%	100	200	200 ± 138%	300 ± 130%		
Alabama	0	0	0	100 ± 195%	0	2,200 ± 195%	0	0
Arkansas	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0
Louisiana	6,500 ± 136%	0	2,000 ± 105%	0	10,700 ± 158%	0	3.3 ± 172%	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	0	0	1,200 ± 196%	0	1,200 ± 196%	0	0
Mississippi	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Mississippi Flyway Total	6,500 ± 136%	0	2,000	1,300	10,700 ± 158%	3,300 ± 143%		
New Mexico	0	0	0	0	0	0	0	0
Oklahoma	0	0	0	100 ± 195%	0	100 ± 195%	0	0
Texas	5,300 ± 196%	0	2,600 ± 196%	0	7,900 ± 196%	0	2.0 ± 277%	0
Central Flyway Total	5,300 ± 196%	0	2,600	100	7,900 ± 196%	100 ± 195%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

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Table 19 (continued). Preliminary estimates of gallinule harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Gallinule Harvest		Active Gallinule Hunters ²		Gallinule Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Arizona	0	0	0	0	0	0	0	0
California	400 ± 186%	600 ± 196%	700 ± 135%	600 ± 196%	1,700 ± 156%	1,700 ± 196%	0.5 ± 230%	1.0 ± 277%
Nevada	<50 ± 152%	0	100 ± 187%	0	400 ± 192%	0	< 0.1 ± 241%	0
Pacific Flyway Total	400 ± 183%	600 ± 196%	800	600	2,200 ± 130%	1,700 ± 196%		
United States Total	12,600 ± 108%	2,400 ± 138%	5,400	2,100	21,000 ± 110%	5,400 ± 108%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 20. Preliminary estimates of rail harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Rail Harvest		Active Rail Hunters ²		Rail Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Connecticut	100 ± 114%	100 ± 181%	100 ± 169%	<50 ± 181%	200 ± 183%	<50 ± 181%	2.4 ± 205%	21.0 ± 256%
Delaware	0	0	0	0	0	0	0	0
Florida	0	2,200 ± 195%	0	200 ± 195%	0	500 ± 195%	0	14.0 ± 276%
Georgia	900 ± 193%	0	<50 ± 193%	0	100 ± 193%	0	24.0 ± 273%	0
Maine	500 ± 184%	0	500 ± 184%	0	500 ± 184%	0	1.0 ± 260%	0
Maryland	0	0	0	0	0	0	0	0
Massachusetts	<50 ± 176%	100 ± 195%	<50 ± 176%	100 ± 195%	<50 ± 176%	100 ± 195%	4.0 ± 250%	1.0 ± 276%
New Jersey	2,900 ± 84%	900 ± 127%	300 ± 101%	100 ± 63%	500 ± 101%	300 ± 102%	10.0 ± 131%	8.3 ± 142%
New York	0	0	<50 ± 191%	0	<50 ± 191%	0	0	0
North Carolina	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	0	0
South Carolina	3,800 ± 88%	1,600 ± 194%	100 ± 74%	1,200 ± 185%	300 ± 79%	1,200 ± 176%	26.0 ± 115%	1.4 ± 269%
Virginia	3,600 ± 52%	1,900 ± 75%	400 ± 107%	100 ± 53%	1,500 ± 125%	300 ± 65%	10.2 ± 119%	15.5 ± 92%
West Virginia	0	<50 ± 183%	0	<50 ± 183%	0	100 ± 183%	0	3.0 ± 259%
Atlantic Flyway Total	11,800 ± 42%	6,900 ± 82%	1,400	1,600	3,200 ± 70%	2,400 ± 99%		
Alabama	0	0	0	200 ± 97%	0	2,400 ± 163%	0	0
Arkansas	0	0	0	0	0	0	0	0
Illinois	0	0	0	0	0	0	0	0
Indiana	<50 ± 105%	100 ± 124%	<50 ± 53%	600 ± 186%	100 ± 58%	2,300 ± 185%	1.4 ± 117%	0.1 ± 223%
Iowa	2,700 ± 182%	5,300 ± 187%	400 ± 188%	1,000 ± 190%	1,300 ± 190%	2,200 ± 185%	6.2 ± 262%	5.1 ± 266%
Kentucky	0	0	0	0	0	0	0	0
Louisiana	100 ± 195%	0	700 ± 178%	0	900 ± 144%	0	< 0.1 ± 263%	0
Michigan	0	0	0	0	0	0	0	0
Minnesota	0	2,200 ± 183%	0	1,400 ± 160%	0	2,700 ± 120%	0	1.5 ± 244%
Mississippi	0	0	0	0	0	0	0	0

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

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Table 20 (continued). Preliminary estimates of rail harvest and hunter activity during the 2017 and 2018 hunting seasons. ¹

	Rail Harvest		Active Rail Hunters ²		Rail Hunter Days Afield		Seasonal Harvest Per Hunter	
	2017	2018	2017	2018	2017	2018	2017	2018
Missouri	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0
Mississippi Flyway Total	2,800 ± 176%	7,600 ± 141%	1,100	3,200	2,300 ± 123%	9,600 ± 81%		
Colorado	0	0	0	0	0	0	0	0
Kansas	0	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0	0
New Mexico	0	0	0	0	0	0	0	0
Oklahoma	0	100 ± 195%	0	100 ± 195%	0	100 ± 195%	0	2.0 ± 275%
Texas	0	0	0	100 ± %	0	700 ± 0%	0	0
Wyoming	0	0	0	<50 ± 189%	0	<50 ± 189%	0	0
Central Flyway Total	0	100 ± 195%	0	200	0	900 ± 29%		
United States Total	14,600 ± 48%	14,600 ± 83%	2,600	5,100	5,500 ± 65%	12,900 ± 63%		

¹ Variance estimates are presented as the 95% confidence interval as a percent of the point estimate.

² Hunter number estimates at the management unit and national levels may be biased high, because the HIP sample frames are state specific; therefore hunters are counted more than once if they hunt in >1 state. Variance inestimable.

Table 21. Preliminary estimates of rail harvest during the 2017 and 2018 hunting seasons. Species-specific estimates were derived from 5-year running averages of species composition estimates from the Migratory Bird Wing Collection Survey.

Flyway	Sora		Virginia		Clapper		King	
	2017	2018	2017	2018	2017	2018	2017	2018
Atlantic	1,300	600	100	100	10,500	6,200	0	0
Mississippi	2,700	7,400	0	<50	100	100	0	0
Central	0	0	0	100	0	0	0	0
U.S. Total	4,000	8,000	100	200	10,500	6,300	0	0

Appendix A. Names and affiliations of people who coordinate the Harvest Information Program or help provide hunter name and address data to the USFWS.

Amy Silvano, Alabama Department of Conservation and Natural Resources
Destinee Green, Alaska Department of Fish and Game
Johnathon O'dell, Arizona Game and Fish Department
Susan Porter, Arkansas Game and Fish Commission
Tony Straw, California Department of Fish and Game
Ed Gorman, Colorado Parks and Wildlife
Min Huang, Connecticut Department of Environmental Protection
Justyn Foth, Delaware Department of Natural Resources and Environmental Control
Andrew Fanning, Florida Fish and Wildlife Conservation Commission
David Neyhart, Georgia Department of Natural Resources
Craig Weidmeier, Idaho Department of Fish and Game
Randy Smith, Illinois Department of Natural Resources
Karl Eliason, Indiana Department of Natural Resources
Orrin Jones, Iowa Department of Natural Resources
Mary Becker, Kansas Department of Wildlife, Parks, and Tourism
John Brunjes, Kentucky Department of Fish and Wildlife Resources
Michelle Rayburn, Louisiana Department of Wildlife and Fisheries
Bill Swan, Maine Department of Inland Fisheries and Wildlife
Brent Evans, Maryland Wildlife and Heritage Service
Rick Kennedy and H Heussman, Massachusetts Division of Fisheries and Wildlife
Kristen Kosloski, Michigan Department of Natural Resources
Margaret Dexter, Minnesota Department of Natural Resources
Jason Thompson, Mississippi Department of Wildlife, Fisheries and Parks
Julie Fleming, Missouri Department of Conservation
Phil Schroeder, Montana Fish, Wildlife and Parks
Mark Vrtiska, Nebraska Game and Parks Commission
Russell Woolstenhulme, Nevada Department of Wildlife
Susan Perry, New Hampshire Fish and Game Department
Barbara Stoff, New Jersey Division of Fish and Wildlife
Mason Cline, New Mexico Department of Game and Fish
Vicky Wagenbaugh, New York Department of Environmental Conservation
Bobby Dunn, North Carolina Wildlife Resources Commission
Chad Parent, North Dakota Game and Fish Department
Andrew Burt, Ohio Department of Natural Resources
Rodney Derrick, Oklahoma Department of Wildlife Conservation
Brandon Reishus, Oregon Department of Fish and Wildlife
Terry Heckrote, Pennsylvania Game Commission
Jenny Kilburn, Rhode Island Division of Fish and Wildlife
Stephen Robinson, South Carolina Department of Natural Resources
Corey Huxoll, South Dakota Game, Fish, and Parks
Gary Clouse, Tennessee Wildlife Resources Agency
Kevin Kraii, Texas Parks and Wildlife Department
Heather Bernales, Utah Division of Wildlife Resources

Kris Nolan, Vermont Fish and Wildlife Department
Bob Ellis and Gary Costanzo, Virginia Department of Game and Inland Fisheries
Treg Christopher, Washington Department of Fish and Wildlife
Michael Peters, West Virginia Division of Natural Resources
Jessica Rees Lohr, Wisconsin Department of Natural Resources
Matthew Barnes, Wyoming Game and Fish Department

Appendix B. Names and affiliations of waterfowl wingbee participants.

Atlantic Flyway Wingbee, Laurel, MD January 28 to February 1, 2019

D. Barrineau, South Carolina Department of Natural Resources; J. Bennett, Maryland Department of Natural Resources - Wildlife and Heritage Service; N. Bosco, Volunteer; P. Bosco, USFWS – OLE; K. Brenner, USFWS; M. Cancellare, Delaware Division of Fish and Wildlife; S. Catino, USFWS - DMBM/BMDM; S. Chandler, USFWS - DMBM/BMDM; C. Collison, Maryland Department of Natural Resources - Wildlife and Heritage Service; J. Dooley, USFWS - DMBM/PHAB; K. Fleming, USFWS - DMBM/BHS; M. Giles, Pennsylvania Game Commission; K. Harvey, Delaware Division of Fish and Wildlife; M. Kneece, South Carolina Department of Natural Resources; K. Liccione, Maryland Department of Natural Resources - Wildlife and Heritage Service; J. Malpass, U.S. Geological Survey - Bird Banding Laboratory; K. McCargo, North Carolina Wildlife Resources Commission; K. McGrew, University of Delaware; N. Millette, USFWS; P. Padding, USFWS - DMBM/Atlantic Flyway; B. Raftovich, USFWS - DMBM/BMDM; W. Rhodes, USFWS - DMBM/MBSB; M. Roach, U.S. Geological Survey - Bird Banding Laboratory; B. Rosamond, USFWS; M. Schummer, SUNY – ESF; J. Stanton, USFWS; J. Stempka, Pennsylvania Game Commission; J. Sullivan, U.S. Geological Survey - Patuxent Wildlife Research Center; J. Thompson, SUNY – ESF; S. Yannuzzi, North Carolina Wildlife Resources Commission.

Mississippi Flyway Wingbee, Carbondale, IL February 4 to February 8, 2019

C. Alger, Iowa Department of Natural Resources; J. Bolser, USFWS; L. Bonczek, Louisiana State University; P. Bosco, USFWS – OLE; A. Brown, Ohio Department of Natural Resources - Division of Wildlife; J. Capps, Missouri Department of Conservation; J. Carbaugh, Arkansas Game and Fish Commission; S. Catino, USFWS - DMBM/BMDM; S. Chandler, USFWS - DMBM/BMDM; R. Colvis, Kentucky Department of Fish and Wildlife Resources; S. Dainko, Indiana Department of Natural Resources; B. Davis, Minnesota Department of Natural Resources; K. Delahunt, Illinois Department of Natural Resources; J. Dooley, USFWS - DMBM/PHAB; B. Finissi, Ohio Department of Natural Resources - Division of Wildlife; M. Garrick, Iowa Department of Natural Resources; M. Griffin, USFWS; J. Hanks, Louisiana Department of Wildlife and Fisheries; J. Hartleb, USFWS; J. Hayer, Kentucky Department of Fish and Wildlife Resources; G. Knutsen, USFWS; K. Legleu, Louisiana Department of Wildlife and Fisheries; C. Maratz, USFWS; W. Mason, Kentucky Department of Fish and Wildlife Resources; D. McClain, Ohio Department of Natural Resources - Division of Wildlife; P. Padding, USFWS - DMBM/Atlantic Flyway; J. Poore, Tennessee Wildlife Resources Agency; D. Rave, Minnesota Department of Natural Resources; J. Swanson, Iowa Department of Natural Resources; C. Terry, Louisiana State University; G. Wilkerson, USFWS.

Central Flyway Wingbee, Emporia, KS February 19 to February 22, 2019

L. Alford, Texas Parks and Wildlife Department; O. Best, Texas Parks and Wildlife Department; T. Bidrowski, Kansas Department of Wildlife, Parks, and Tourism; J. Black, Kansas Department of Wildlife, Parks, and Tourism; S. Catino, USFWS - DMBM/BMDM; S. Chandler, USFWS - DMBM/BMDM; L. Chermak, Kansas State University; M. Cline, New Mexico Department of Game and Fish; J. Coulter, Kansas Department of Wildlife, Parks, and Tourism; A. Dinges, North Dakota Game and Fish Department; P. Doherty, Colorado State University; J. Dooley, USFWS - DMBM/PHAB; J. Dubovsky, USFWS - DMBM/Central Flyway; A. Friesen, Kansas Department of Wildlife, Parks, and Tourism; J. Gammonley, Colorado Parks and Wildlife; K. Gaston, Nebraska Game and Parks Commission; M. Grovijahn, South Dakota Game, Fish, and Parks; K. Hand, Texas Parks and Wildlife Department; J. Harbit, Kansas Department of Wildlife, Parks, and Tourism; M. Haugen, Nebraska Game and Parks Commission; N. Huck, Wyoming Game and Fish Department; D. Kahl, Texas Parks and Wildlife Department; K. Karrow, Kansas Department

of Wildlife, Parks, and Tourism; K. Kraai, Texas Parks and Wildlife Department; K. Kriegel, Texas Parks and Wildlife Department; R. Kroll, Texas Parks and Wildlife Department; K. Kruse, USFWS - Region 2; J. Lang, Texas Parks and Wildlife Department; T. Liddick, USFWS - DMBM/MBSB; K. Mahlmeister, Kansas State University; L. May, Wyoming Game and Fish Department; S. McDowell, Texas Parks and Wildlife Department; T. Menard, USFWS; B. Mitchell, USFWS - R3; J. Morel, Texas Tech University; K. Mower, New Mexico Department of Game and Fish; R. Murano, South Dakota Game, Fish, and Parks; J. Neal, Oklahoma Department of Wildlife Conservation; M. Peek, Kansas Department of Wildlife, Parks, and Tourism; A. Penson, USFWS - DMBM/BMDM; J. Richardson, Oklahoma Department of Wildlife Conservation; K. Schoonover, Oklahoma Department of Wildlife Conservation; R. Schultheis, Kansas Department of Wildlife, Parks, and Tourism; R. Schutes, USFWS; T. Stahlecker, Nebraska Game and Parks Commission; R. Stutheit, Nebraska Game and Parks Commission; M. Szymanski, North Dakota Game and Fish Department; C. Thornton, USFWS; P. Thorpe, USFWS - DMBM/MBSB; J. Tromza, Texas Parks and Wildlife Department; M. Vrtiska, Nebraska Game and Parks Commission; R. Warhurst, North Dakota Natural Resources Trust.

Pacific Flyway Wingbee, Anderson, CA February 25 to March 1, 2019

T. Akimoff, Oregon Department of Fish and Wildlife; K. Armstrong, California Department of Fish and Wildlife; J. Basiato, California State University at Chico; C. Cain, USFWS - DMBM/BMDM; M. Carpenter, USFWS; S. Catino, USFWS - DMBM/BMDM; S. Chandler, USFWS - DMBM/BMDM; S. Cordes, California Department of Fish and Wildlife; B. Daniels, USFWS; T. Dimarzio, Alaska Department of Fish and Game; J. Dooley, USFWS - DMBM/PHAB; P. Fitzmorris, USFWS; A. Geahry, USFWS; G. Gerstenberg, California Department of Fish and Wildlife; M. Guzma, California Department of Fish and Wildlife and U.S. Geological Survey; V. Harris, Washington Department of Fish and Wildlife; L. Hawk, Washington Department of Fish and Wildlife; H. Johnson, Arizona Game and Fish Department; C. Johnston, Arizona Game and Fish Department; J. Laughlin, U.S. Department of Agriculture - APHIS/Wildlife Services; M. Lawrence, USFWS; A. Maliguire, California Department of Fish and Wildlife and U.S. Geological Survey; I. Metcalf, Nevada Department of Wildlife; C. Moore, Washington Department of Fish and Wildlife; A. Mott, U.S. Geological Survey; C. Nicolai, USFWS; J. O'Dell, Arizona Game and Fish Department; S. Olson, USFWS - DMBM/Pacific Flyway; M. Pacioretty, Idaho Department of Fish and Game; T. Peterson, Idaho Department of Fish and Game; S. Quigley, Oregon Department of Fish and Wildlife; B. Reishus, Oregon Department of Fish and Wildlife; W. Rhodes, USFWS - DMBM/MBSB; O. Rocha, California Department of Fish and Wildlife; E. Rowan, Washington Department of Fish and Wildlife; N. Saake, Nevada Department of Wildlife (retired); J. Sands, USFWS - Region 1; B. Sedinger, University of Nevada at Reno; R. Shinn, California Department of Fish and Wildlife and U.S. Geological Survey; B. Shults, USFWS - Region 7/Migratory Birds; D. Skalos, California Department of Fish and Wildlife; K. Steinberg, California Department of Fish and Wildlife and U.S. Geological Survey; D. Van Baren, California Department of Fish and Wildlife; A. Vande Voort, Utah Division of Wildlife Resources; M. Wilson, Washington Department of Fish and Wildlife.

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