

2024 Waterfowl Hunter Survey

Technical Report



California Department of Fish and Wildlife
Wildlife Branch
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California Waterfowl Hunter Survey Technical Report

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Introduction

During the spring of 2024 the California Department of Fish and Wildlife's (CDFW) Lands Program, in cooperation with the Office of Communications, Education, and Outreach, developed and conducted a survey of California waterfowl hunters and their experiences accessing Type A public waterfowl hunting areas. Type A areas include state-owned wildlife areas and federally owned national wildlife refuges. The purpose of the survey was to inform CDFW regulations, policies, and procedures, with goals of improving waterfowl hunting experiences and identifying barriers that may inhibit hunters from accessing Type A areas.

Survey Background and Methodology

To generate the pool of respondents for the survey, contact information for all California residents who had purchased a California Duck Validation in the past five years (license years 2019/20 through 2023/24) were queried using CDFW's online license database. Out-of-state residents were not included. Hunters who purchased a California Duck Validation for multiple years were only included once in the population pool. This produced a population pool of 128,321 adult hunters, of which 97,501 had provided an email address to which the survey email could be sent.

The survey was conducted from April to July of 2024, with two separate random samples of 10,000 individuals from the population pool, for a total sample size of 20,000. The survey email was delivered to 19,693 email addresses

(307 email addresses produced undeliverable error messages). The first group of 10,000 email addresses received the survey email on April 18th, and the second group on May 16th. Reminder emails were sent to each sample group to maximize respondent participation, and the survey was closed on July 11th, 2024. Of the 19,693 survey emails delivered, 11,380 emails (17.2%) were opened, and 1,962 hunters (10%) completed the survey.

The survey had two sections of questions, divided across general waterfowl hunting and public land hunting. All questions were optional, which produced a varying number of responses for each question. The general waterfowl sections, which included Questions 1 – 7 and 23 – 27, were provided to all respondents. Only respondents who identified themselves as public land hunters (Question 7) were prompted to answer questions related to waterfowl hunting on Type A hunting areas (Questions 8 – 22). The survey covered a five-year period from the 2019/20 to 2023/24 seasons, during which there was an average of 64,548 California Duck Validations sold annually, with an additional 15,287 lifetime validations, for a total of 79,835 adult licensed hunters. Responses from Question 7 indicated that 53.3% of respondents primarily hunted public lands. By extrapolating this percentage to the larger annual pool of 79,835 adult waterfowl hunters, we estimated that 42,552 of them primarily hunted public land. For the general waterfowl hunting questions, a minimum response rate of 1,054 was needed for statistical significance (95% confidence level, 3% margin of error). For the public land hunting questions, a minimum response rate of 1,042

was required for statistical significance (95% confidence level, 3% margin of error).

Survey Results

Q1 - What counties do you generally waterfowl hunt in the most?

Response Highlights:

- Over 13% of respondents waterfowl hunted in Colusa County.
- 42% of respondents waterfowl hunted in counties within the Sacramento Valley.
- 13% of respondents waterfowl hunted in counties within the San Joaquin Valley.

Respondents (n = 1,933) were presented with a complete list of California counties and were allowed to select multiple counties. The highest selected county was Colusa (13.19%), and four of the five top selected counties were within the Sacramento Valley (Table 1).

Table 1: Top five counties' waterfowl hunted by respondents

County	% of Respondents	Number of Respondents
Colusa	13.19%	545
Merced	9.20%	380
Butte	8.71%	360
Yolo	5.52%	228
Glenn	5.49%	227

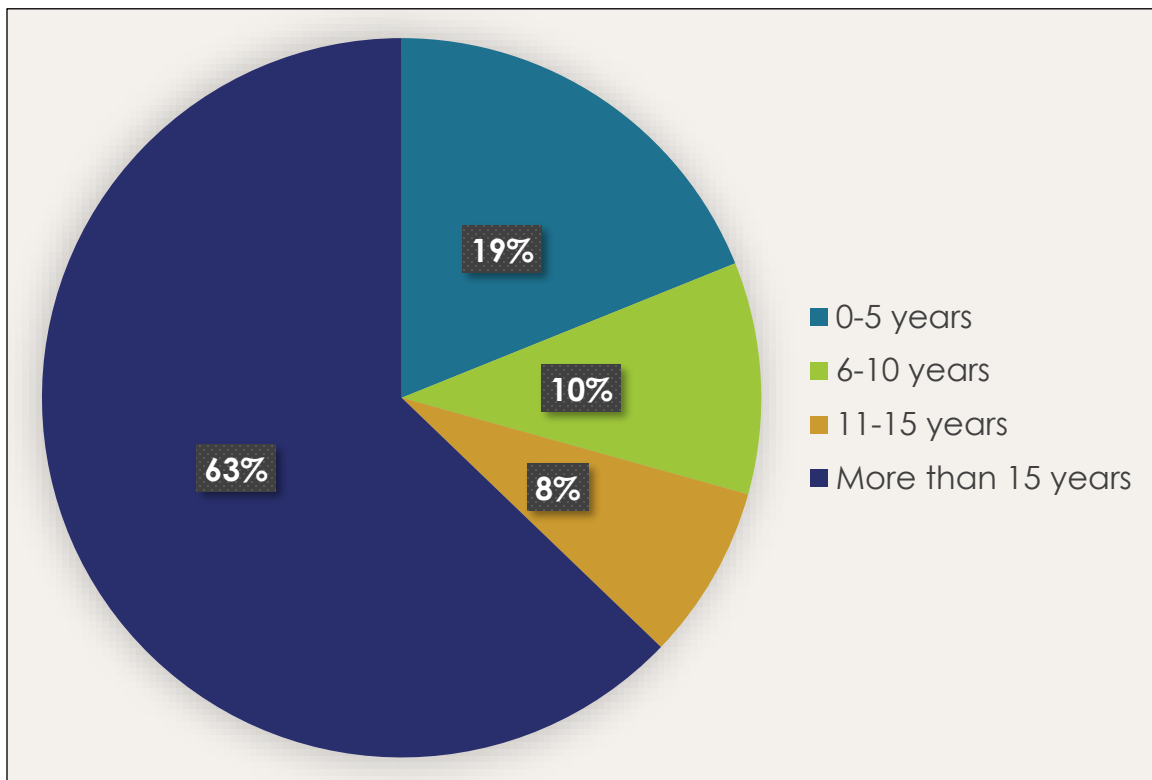
Q2 - How many years have you been waterfowl hunting in California?

Response Highlights:

- 63% of respondents have waterfowl hunted in California for more than 15 years.
- Almost 20% of respondents have only hunted waterfowl in California between one and five years.

Respondents (n = 1,947) were presented with four options: 1) 0 to 5 years, 2) 6 to 10 years, 3) 11 to 15 years, 4) More than 15 years (Figure 1). The majority (71%) of respondents have hunted waterfowl for more than 10 years, while almost 20% were new hunters and have been waterfowl hunting for five years or less.

Figure 1: How many years have you been waterfowl hunting in California?



Q3 and Q4 - How many children (aged 15 and under) live in your household, and you are the parent/guardian of. If you do have children, do they hunt, or do you plan on teaching them to hunt?

Response Highlights:

- 71% of respondents have no children 15 and under within their household.
- Of respondents that do have children, 59% stated the children already hunt, or they plan on teaching them to hunt.

Respondents (n = 1,954) were presented with five options for Question 3: 1) 1, 2) 2 to 4, 3) More than 4, 4) None, 5) Prefer not to say (Figure 2), and three options for Question 4: 1) Yes, 2) No, 3) Not applicable (Figure 3). Over 71% of respondents did not have children or did not have children under 15 years of age within their households. Of the 26% of respondents with one or more children aged 15 or younger, 59% said their children already hunt or they plan on teaching them to hunt.

Figure 2: How many children (aged 15 and under) live in your household, and you are the parent/guardian of?

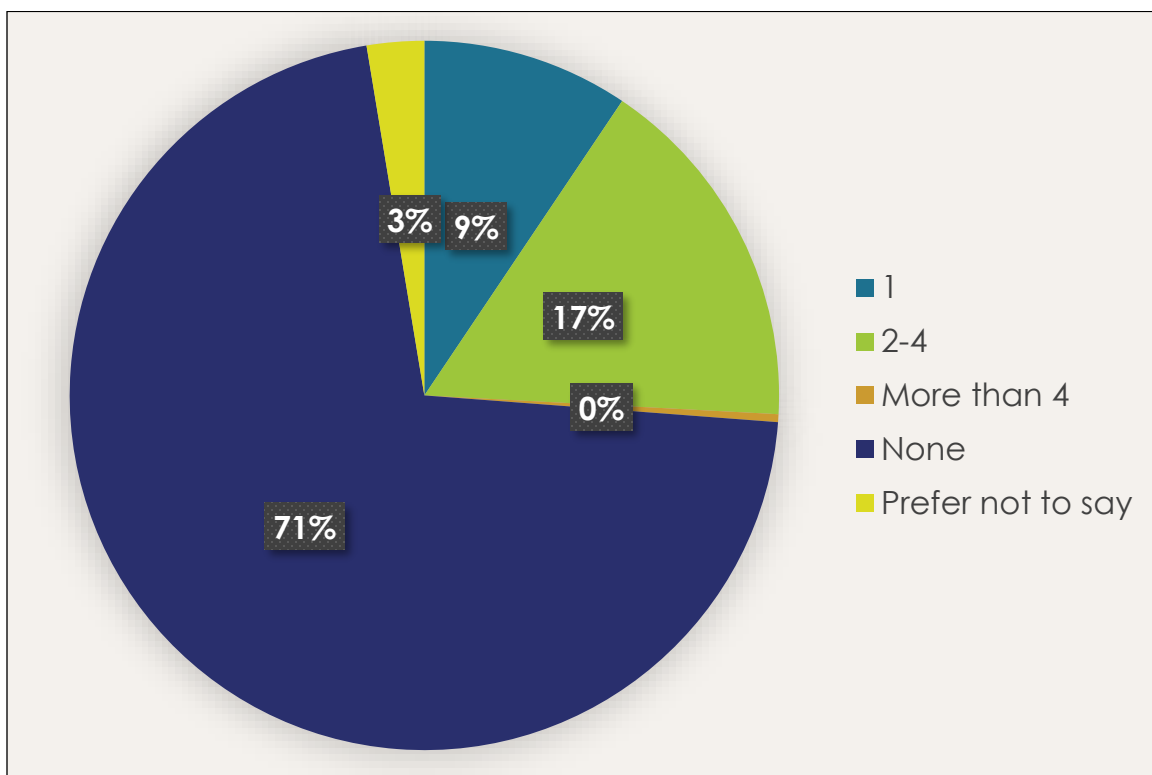
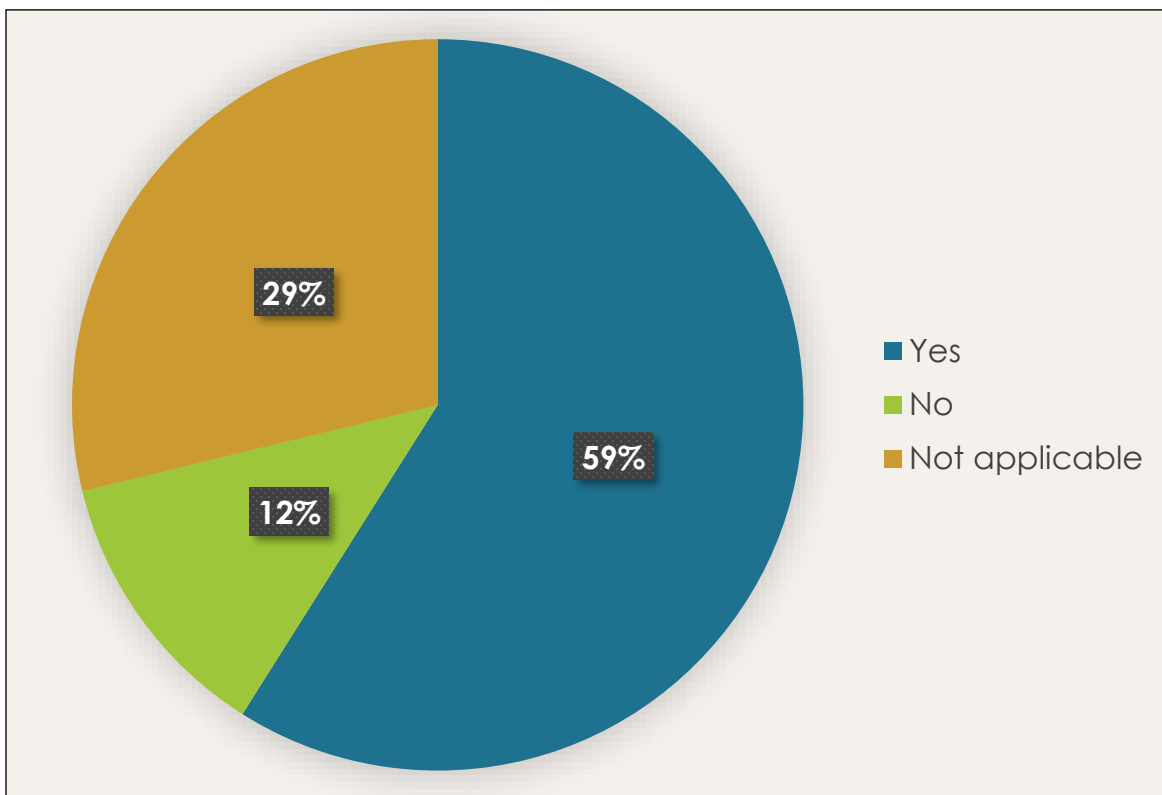


Figure 3: Do your children hunt, or do you plan on teaching them to hunt?



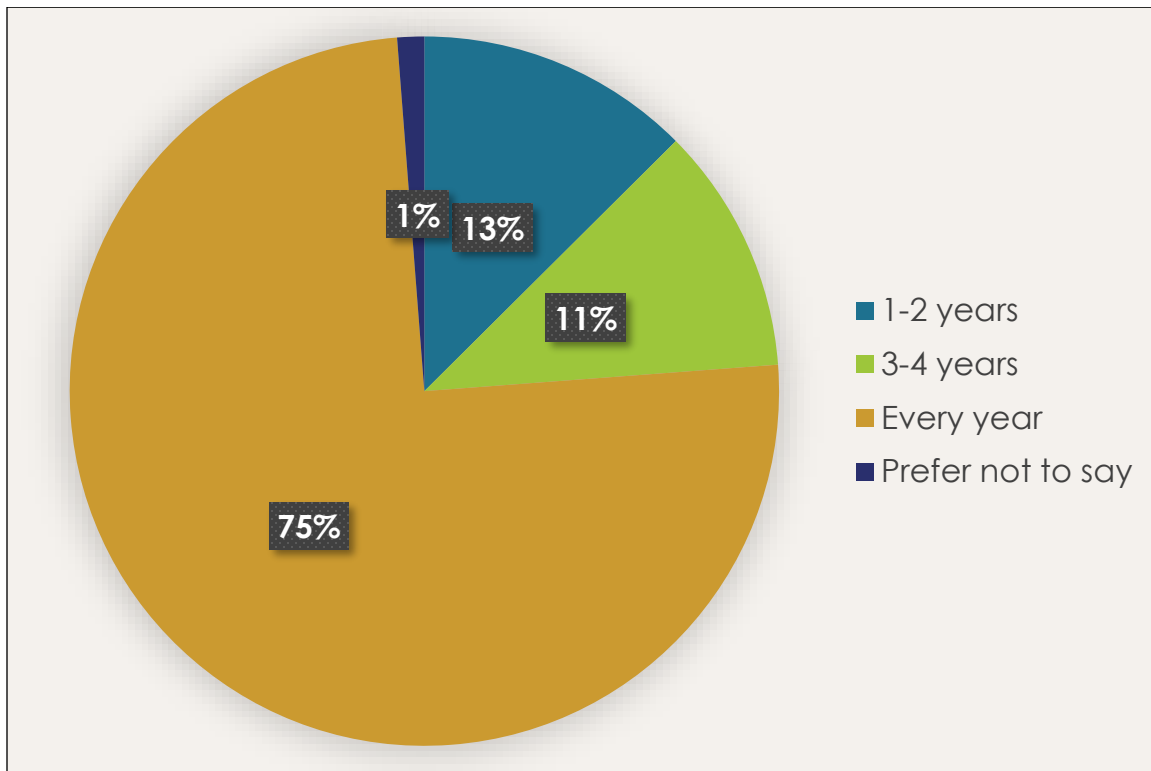
Q5 - In the last five years, how many years have you purchased a California Duck Validation?

Response Highlights:

- 75% of respondents have purchased a California Duck Validation every year over the last five years.

Respondents (n = 1,953) were presented with four options: 1) 1 to 2 years, 2) 3 to 4 years, 3) Every year, 4) Prefer not to say (Figure 4). Over 75% of respondents stated they had purchased a California Duck Validation every year over the last five years, while 24% of respondents purchased validations less frequently.

Figure 4: In the last five years, how many years have you purchased a California Duck Validation?



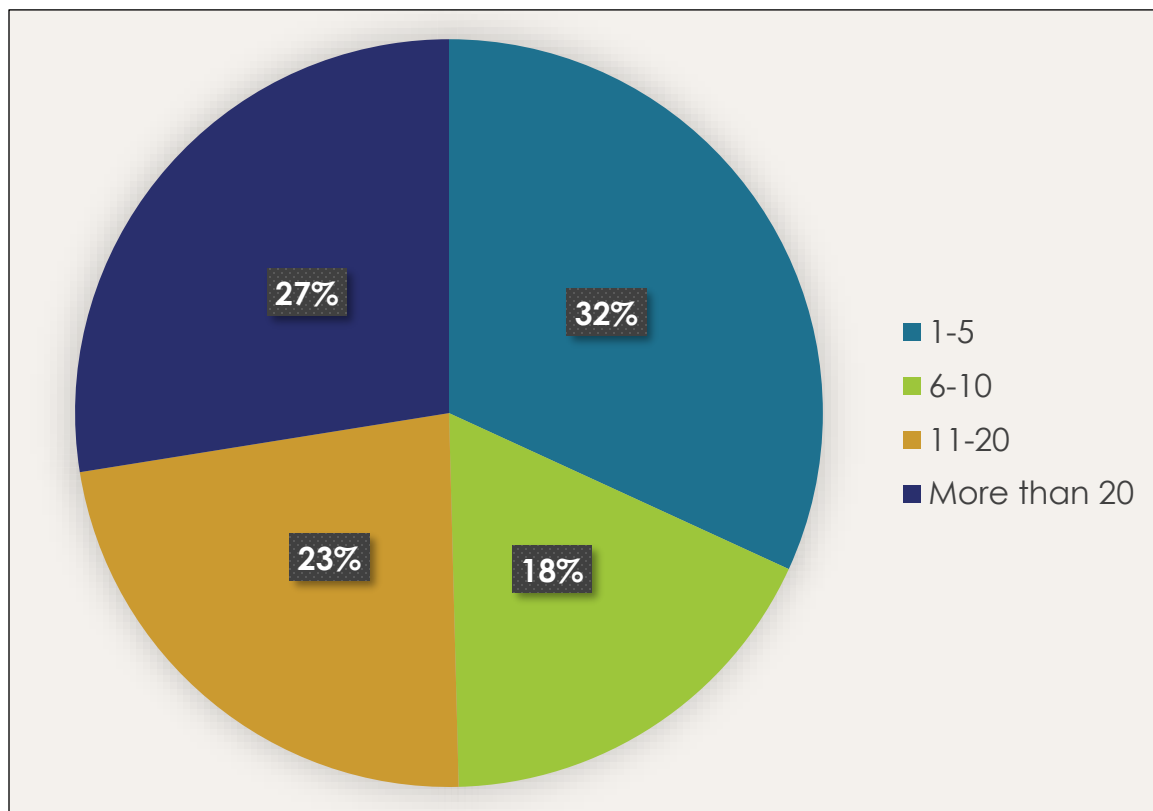
Q6 - How many times did you hunt waterfowl during the 2023-24 season?

Response Highlights:

- 32% of respondents only hunted between one and five times during the season.
- 27% of respondents hunted more than 20 times during the season.

Respondents (n = 1,573) were presented with four options: 1) 1 to 5, 2) 6 to 10, 3) 11 to 20, 4) More than 20 (Figure 5). Responses show half of last year's hunters hunted fewer than 10 times, while the other half hunted more than 10 times.

Figure 5: How many times did you hunt waterfowl during the 2023-24 season?



Q7 - What type of lands have you primarily used for waterfowl hunting within California during the last five years?

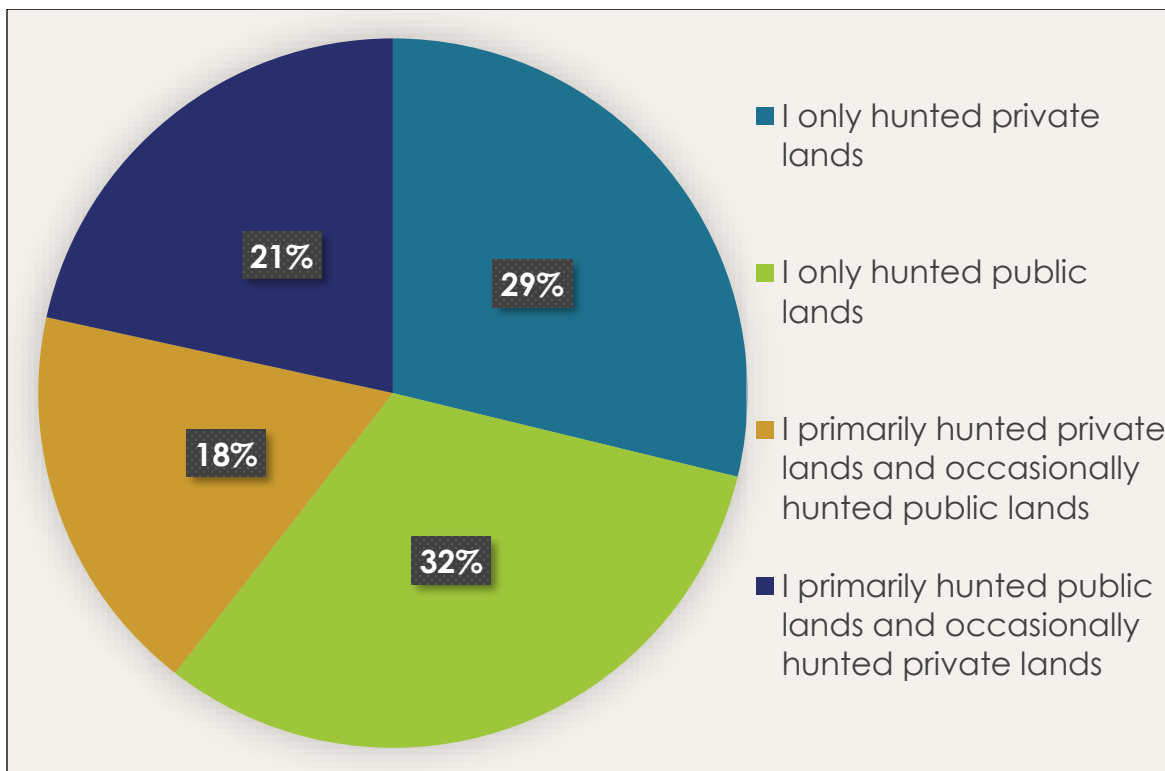
Response Highlights:

- 53% of respondents primarily hunted public lands.
- 47% of respondents primarily hunted private lands.

Respondents (n = 1,938) were presented with four options: 1) *I only hunted public lands*, 2) *I only hunted private lands*, 3) *I primarily hunted public lands and occasionally hunted private lands*, 4) *I primarily hunted private lands and occasionally hunted public lands* (Figure 6). The majority of respondents (53%) primarily hunted public lands (32% indicated they only hunted public and 21%

primarily hunted public but occasionally hunted private lands as well). Only 29% of respondents indicated they only hunted private lands.

Figure 6: What type of lands have you primarily used for waterfowl hunting within California during the last five years?



Note: Survey questions (8 - 23) were only available to respondents who indicated they hunted public lands in Question 7. The public land hunting questions required a response rate of 1,051 for statistical significance (95% confidence level, 3% margin of error), which was met for all questions, except for Questions 14 and 15.

Q8 - Please select which public areas you waterfowl hunted in 2023-24 (respondents could select more than one option).

Response Highlights:

- Delevan National Wildlife Refuge ranked as the top Type A area used by respondents to hunt during the 23-24 season.
- Open access public areas ranked as the third most selected.

Respondents (n = 1,282) were presented with the following options: 1) *all Type A areas*, 2) *open-access areas (e.g., rivers, lakes)*, 3) *prefer not to say* (Table 2).

Delevan National Wildlife Refuge ranked as the top Type A area used by respondents during the 2023-24 season, with Sacramento National Wildlife Refuge being a close second. Open-access areas ranked as third most used.

Table 2: Public areas ranked from most to least used by respondents

Rank	Public Area	% of Respondents	Number of Respondents
1	Delevan National Wildlife Refuge	8.65%	247
2	Sacramento National Wildlife Refuge	7.91%	226
3	Open-access public areas	7.60%	217
4	Los Banos Wildlife Area	6.34%	181
5	Colusa National Wildlife Refuge	6.20%	177
6	Gray Lodge Wildlife Area	5.99%	171
7	Yolo Bypass Wildlife Area	5.71%	163
8	San Jacinto Wildlife Area	4.90%	140
9	Grizzly Island Wildlife Area	4.52%	129
10	Mendota Wildlife Area	4.48%	128
11	Imperial Wildlife Area	4.31%	123
12	Upper Butte Basin Wildlife Area	4.20%	120
13	San Luis National Wildlife Refuge	3.64%	104
14	Type C Wildlife Areas	3.50%	100
15	Kesterson National Wildlife Refuge	3.40%	97
16	Sutter National Wildlife Refuge	3.01%	86
17	Kern National Wildlife Refuge	2.80%	80
18	Merced National Wildlife Refuge	2.73%	78
19	North Grasslands Wildlife Area	2.28%	65
20	Prefer not to say	2.14%	61
21	Modoc National Wildlife Refuge	1.19%	34
22	Ash Creek Wildlife Area	0.98%	28
23	Tule Lake National Wildlife Refuge	0.77%	22
24	Butte Valley Wildlife Area	0.56%	16
25	Honey Lake Wildlife Area	0.53%	15
26	Lower Klamath National Wildlife Refuge	0.49%	14
27	Sonny Bono National Wildlife Refuge	0.42%	12
28	Willow Creek Wildlife Area	0.39%	11
29	Shasta Valley Wildlife Area	0.32%	9
30	Stone Lakes National Wildlife Refuge	0.07%	2

Q9 - Do you require Americans with Disabilities Act (ADA) compliant access to waterfowl hunt? If so, what are some of the access barriers you've faced on public lands (e.g., mobility impaired hunting opportunities, parking lot access, check station access)?

Response Highlights:

- 96% of respondents did not require ADA compliant access to waterfowl hunt.
- 31% of respondents that need ADA compliant access commented there were not enough ADA blinds or the existing ADA blinds that did exist were not maintained and/or placed in poor hunting areas.

Respondents (n = 1,323) were presented with a yes/no option. Most respondents (96%) did not require ADA access for hunting. However, of the 4% of hunters requiring ADA access (n = 49), 31% indicated the barriers they faced were related to issues with the ADA blinds (e.g., not enough blinds, blinds not maintained, blinds placed in poor hunting areas), and 16% indicated hunting access was difficult due to the distance of the parking lots to the hunting areas.

Q10 - Has inadequate cellphone service at a Type A Wildlife Area or National Wildlife Refuge check station ever interfered with your ability to waterfowl hunt on that land?

Response Highlights:

- 91% of respondents said inadequate cellphone service has never interfered with their ability to hunt on a Type A area.

Respondents (n = 1,325) were presented with a yes/no option. Most respondents (91%) have not had issues with poor cellphone service affecting their ability to hunt on Type A areas.

Q11 - What difficulties have you faced in utilizing the restroom facilities on Type A Wildlife Areas or National Wildlife Refuges? Select all that apply.

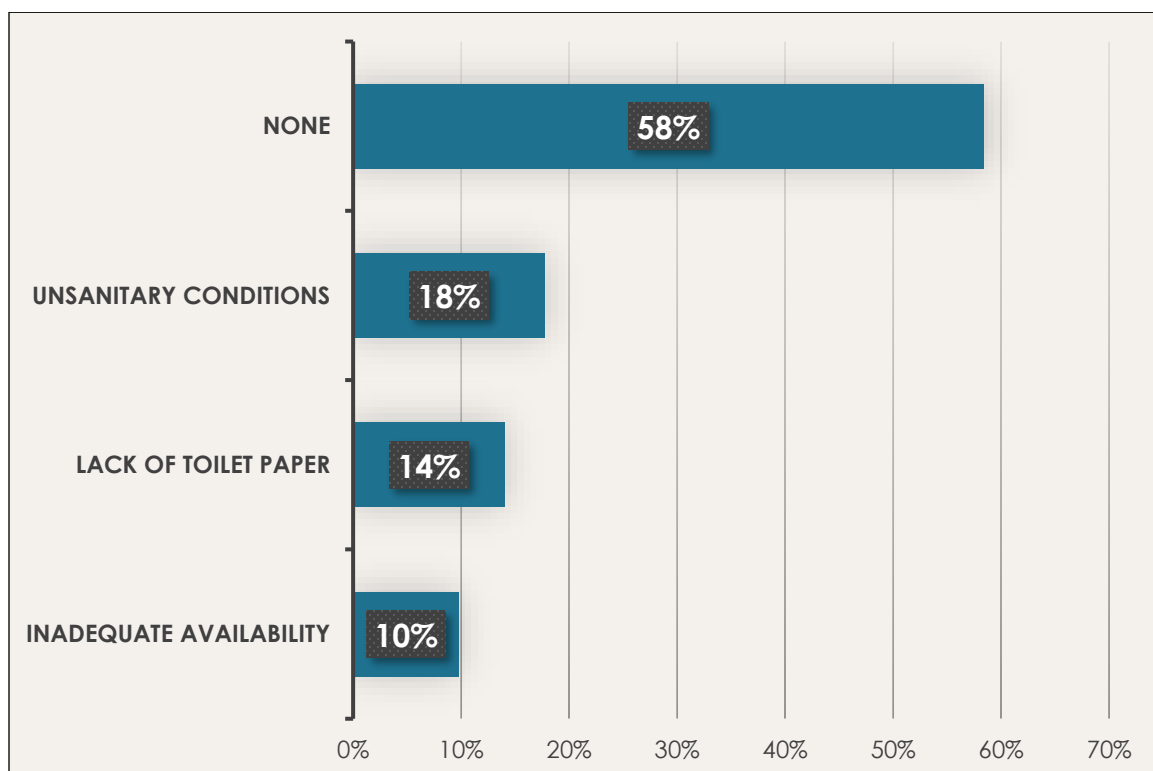
Response Highlights:

- 58% of respondents said they have not faced any difficulty in utilizing restroom facilities at Type A areas.
- 18% of respondents reported difficulties due to unsanitary conditions.

Respondents (n = 1,326) were presented with four options (Figure 7): 1) *Unsanitary conditions*, 2) *Lack of toilet paper*, 3) *Inadequate availability*, 4) *None*.

Respondents were instructed to select all options that apply. Most respondents (58%) have not faced difficulties with restroom facilities, however, some have encountered unsanitary conditions (18%) and lack of toilet paper (14%).

Figure 7: What difficulties have you faced in utilizing the restroom facilities on Type A Wildlife Areas or National Wildlife Refuges?



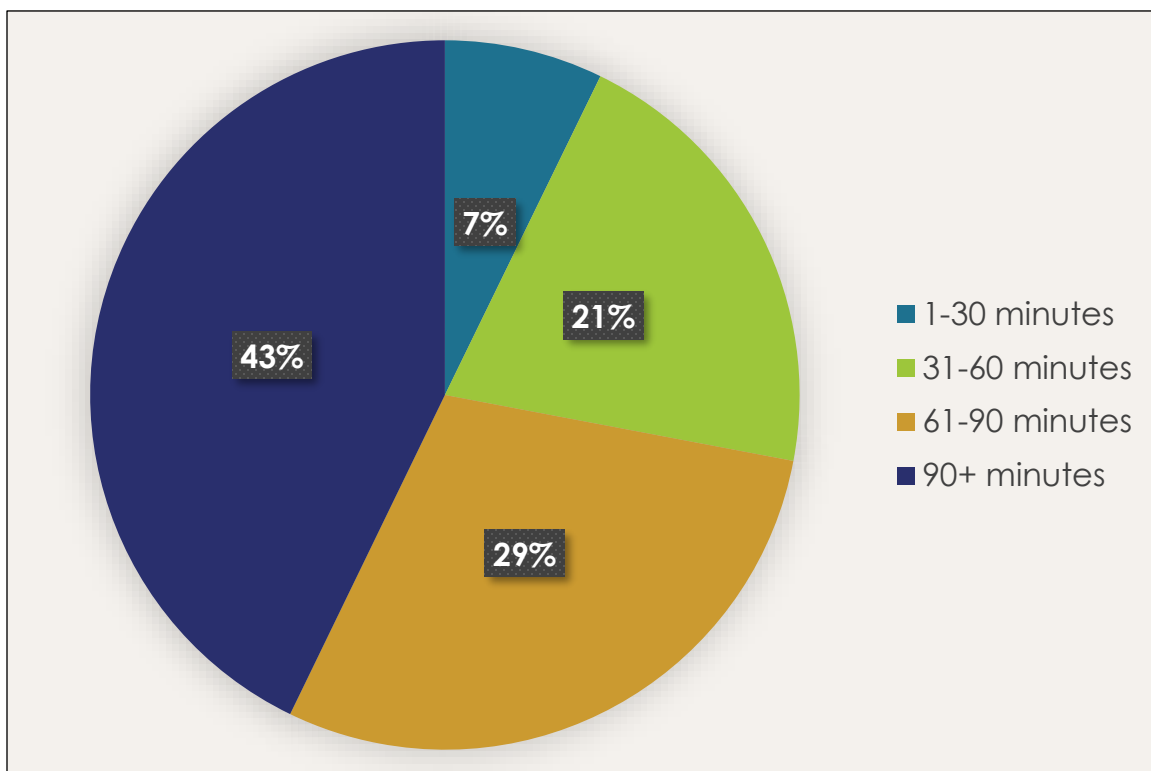
Q12 - What is the average time you travel from your main residence to waterfowl hunt on Type A Wildlife Areas or National Wildlife Refuges?

Response Highlights:

- 43% of respondents traveled on average 90+ minutes to waterfowl hunt Type A areas.

Respondents (n = 1,361) were presented with four options: 1) 90+ minutes, 2) 61-90 minutes, 3) 30-60 minutes, 4) 1-30 minutes (Figure 8). Almost three quarters of respondents (72%) traveled over an hour to hunt Type A areas, with 43% traveling over 90 minutes.

Figure 8: What is the average time you travel from your main residence to waterfowl hunt on Type A Wildlife Areas or National Wildlife Refuges?



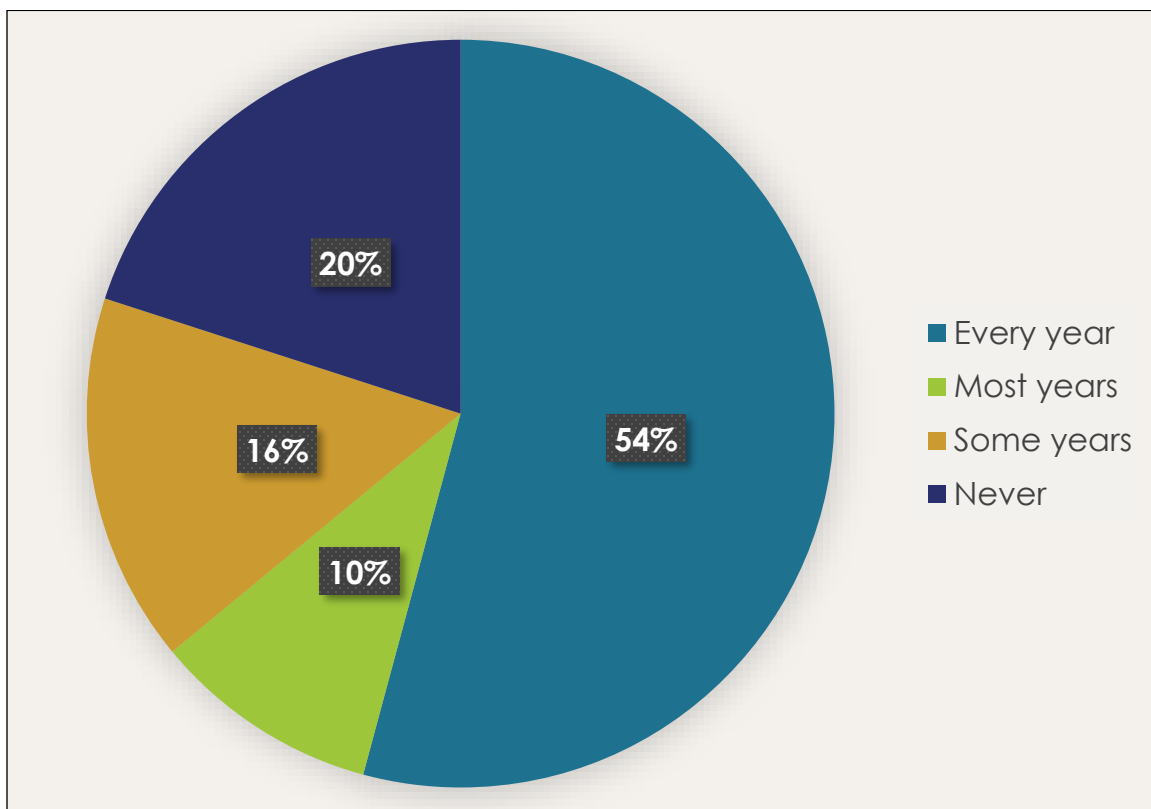
Q13 - How often do you apply for Type A Wildlife Area or National Wildlife Refuge waterfowl hunting reservations?

Response Highlights:

- 54% of respondents applied for waterfowl reservations for Type A areas every year.
- 20% of respondents never applied for waterfowl reservations.

Respondents (n = 1,334) were presented with four options: 1) *Never*, 2) *Some years*, 3) *Most years*, 4) *Every year* (Figure 9). Most respondents (54%) applied for waterfowl reservations every year, while 20% of respondents never applied for waterfowl reservations.

Figure 9: How often do you apply for Type A Wildlife Area or National Wildlife Refuge waterfowl hunting reservations?



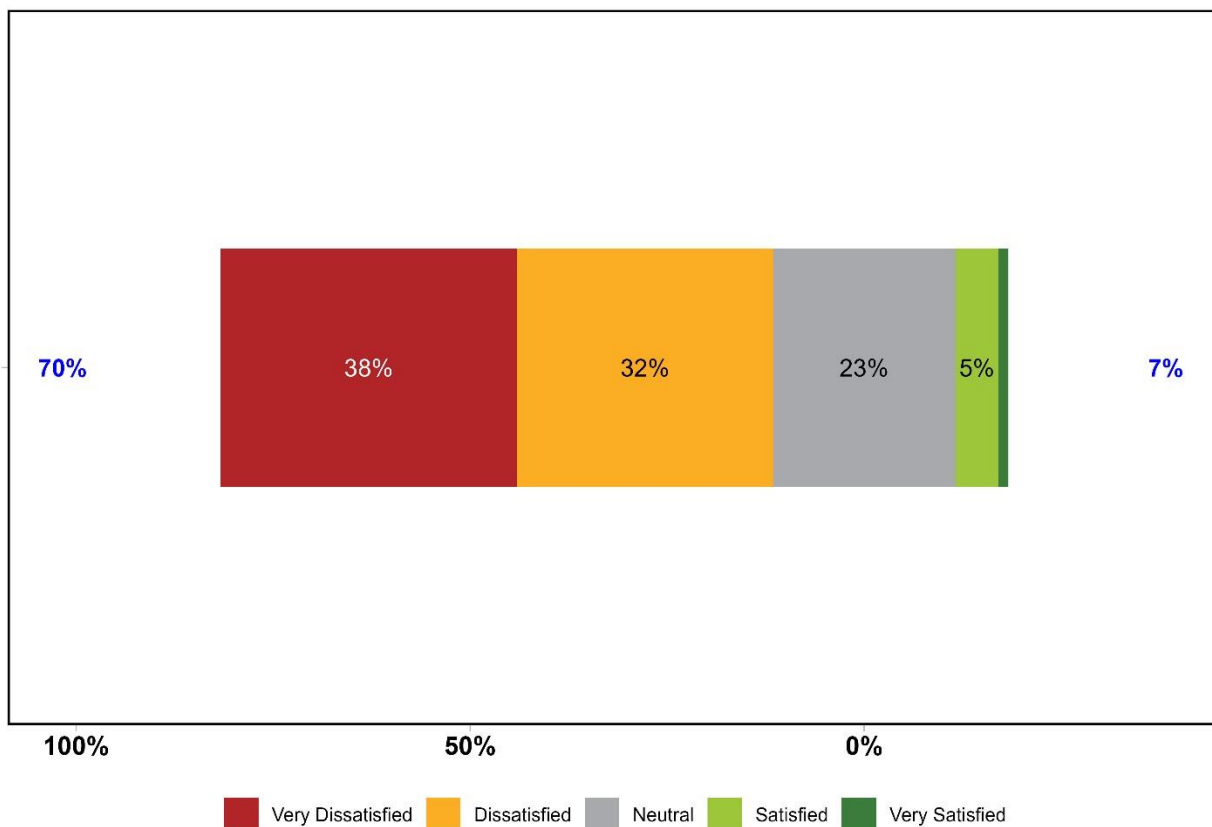
Q14 - Based on the number of applications you submit for Type A Wildlife Area or National Wildlife Refuge waterfowl hunting reservations each year, how satisfied are you with the number of reservations you draw?

Response Highlights:

- 70% of respondents were dissatisfied with the number of Type A reservations they draw each year.

Respondents (n = 1,041, which is below the sample size threshold for statistical significance) were presented with a rating response option (Figure 10). Most respondents (70%) were dissatisfied with the number of reservations they drew

Figure 10: Based on the number of applications you submit for Type A Wildlife Area or National Wildlife Refuge waterfowl hunting reservations each year, how satisfied are you with the number of reservations you draw?



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that are dissatisfied and satisfied, respectively.

annually (38% indicated they were “very dissatisfied” and 32% indicated they were “dissatisfied”), while only 7% were satisfied (5% indicated they were “satisfied” and 2% indicated they were “very satisfied”). While this question did not meet the sample size threshold for statistical significance, the results were heavily skewed toward dissatisfaction. Therefore, the data suggests there is general dissatisfaction with the number of Type A reservations public land hunters drew.

Q15 - I apply for waterfowl reservations at a specific Type A Wildlife Area or National Wildlife Refuge because ...

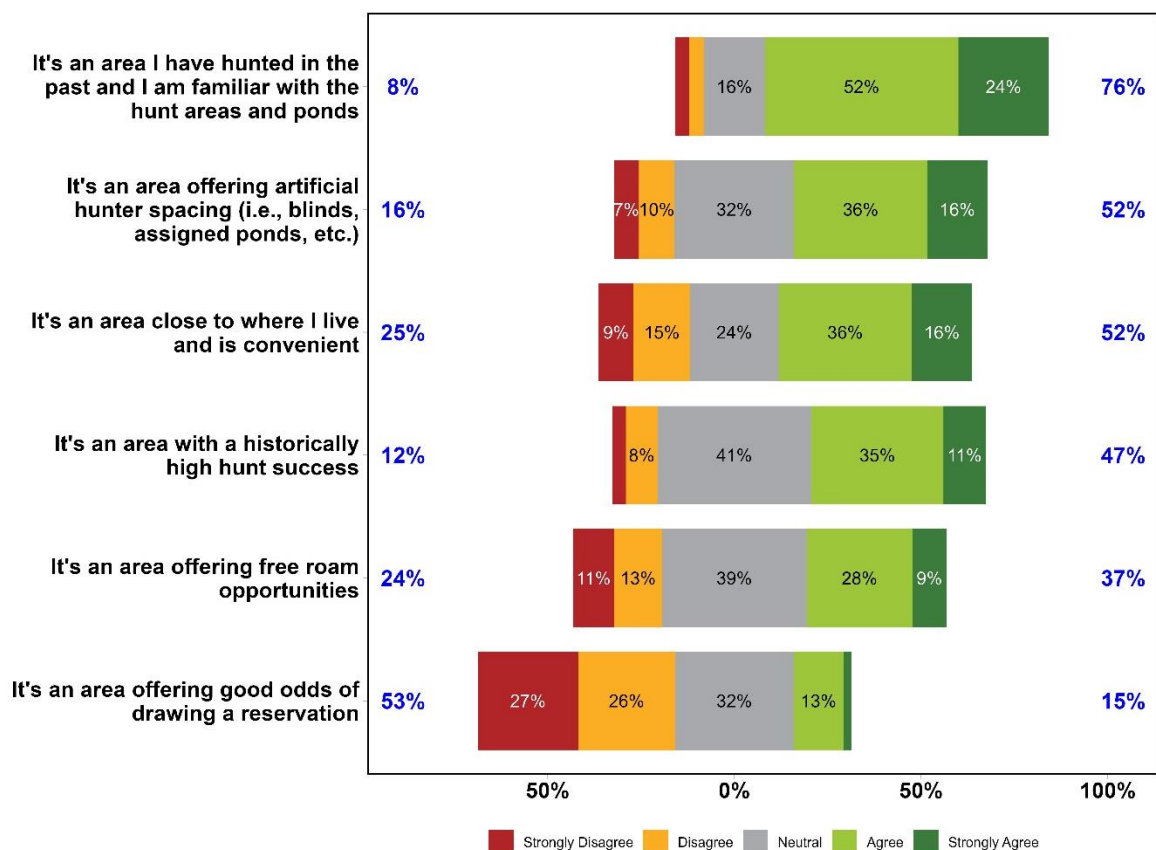
Response Highlights:

- 76% of respondents agreed they applied for waterfowl reservations at a specific Type A area because it is an area they have hunted in the past and are familiar with.

Respondents (n = 1,041, which is below the sample size threshold for statistical significance) were presented with seven options: 1) *It's an area close to where I live and is convenient*, 2) *It's an area I have hunted in the past and I am familiar with the hunt areas and ponds*, 3) *It's an area offering good odds of drawing a reservation*, 4) *It's an area offering artificial hunter spacing (i.e., blinds, assigned ponds, etc.)*, 5) *It's an area offering “free roam” opportunities*, 6) *It's an area with historically high hunt success*, 7) *Other* (Figure 11). Most respondents (76%) agreed they applied for reservations at a specific area because they have hunted there in the past and are familiar with it (52% indicated they “agreed” and 24% indicated they “strongly agreed”). Respondents also agreed they

applied for reservations at a specific Type A area because it offered artificial hunter spacing (52%) or it was close to where they live (52%). Most respondents disagreed (53%) they applied for an area because it offered good odds of drawing a reservation (27% indicated they “strongly disagreed” and 26% indicated they “disagreed”).

Figure 11: I apply for waterfowl reservations at a specific Type A Wildlife Area or National Wildlife Refuge because...



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

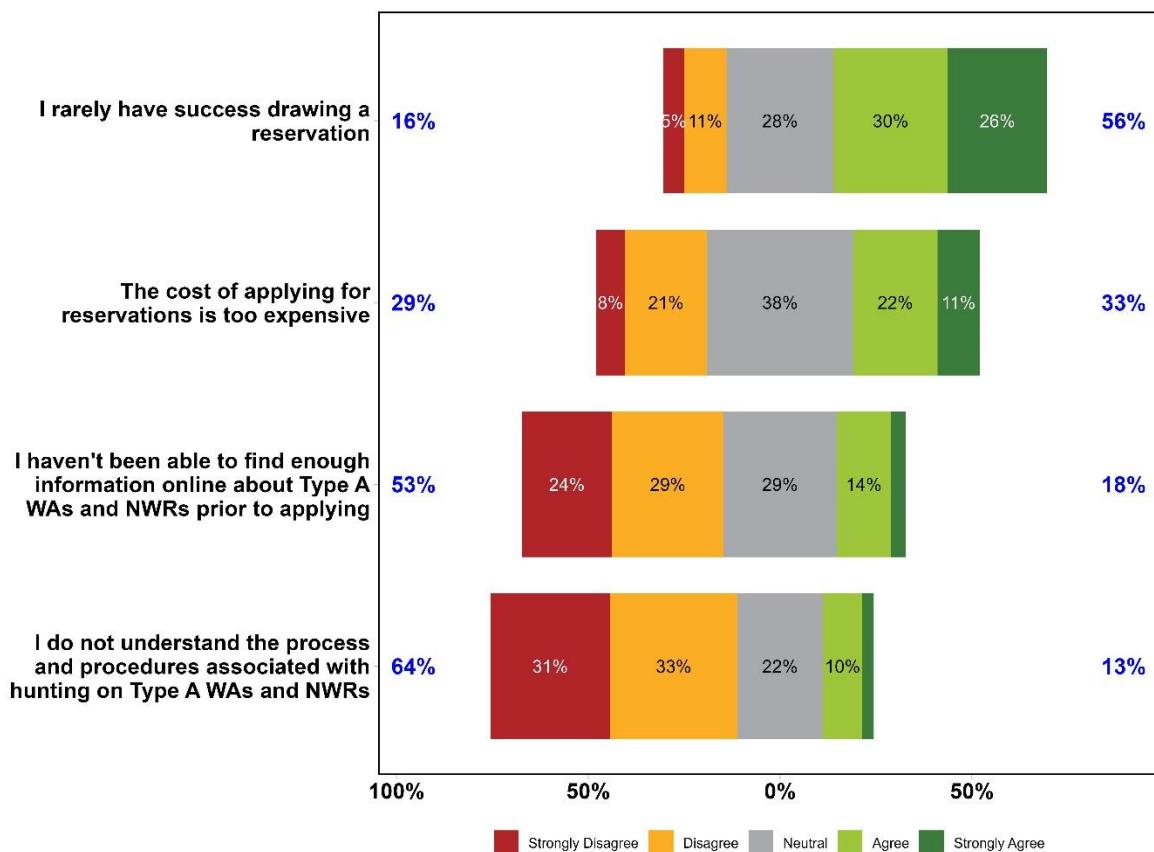
Q16 - I do not apply for more Type A Wildlife Area or National Wildlife Refuge waterfowl hunting reservations because...

Response Highlights:

- 56% of respondents agreed that the reason they did not apply for more waterfowl reservations is because they rarely have success drawing reservations.

Respondents (n = 1,120) were presented with five options: 1) *I rarely have had success drawing a reservation*, 2) *Applying for reservations is too expensive*, 3) *I do not understand the process and procedures associated with hunting on Type A wildlife areas and national wildlife refuges*, 4) *I haven't been able to find*

Figure 12: I do not apply for more Type A Wildlife Area or National Wildlife Refuge waterfowl hunting reservations because ...



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

enough information online about Type A wildlife areas and national wildlife refuges prior to applying, 5)Other (Figure 12). Most respondents (56%) agreed that they did not apply for more reservations because they rarely have success at being drawn (30% indicated they "agreed" and 26% indicated they "strongly agreed"). Most respondents (64%) disagreed that being unfamiliar with the procedures associated with hunting Type A areas prevented them from applying for more reservations (31% indicated they "strongly disagreed" and 33% indicated they "disagreed").

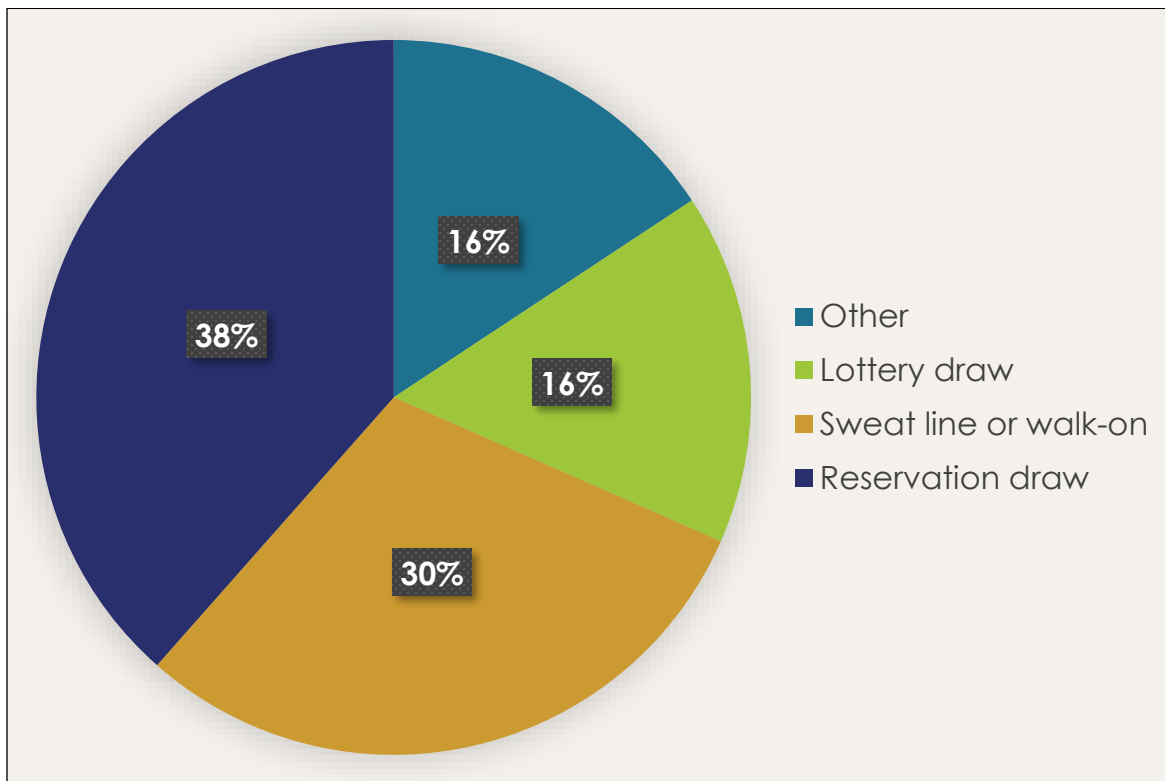
Q17 - For the 2023-24 waterfowl season what was the primary method you used to access Type A Wildlife Areas or National Wildlife Refuges for waterfowl hunting?

Response Highlights:

- 38% of respondents accessed Type A areas through a reservation draw during the 2023-24 waterfowl season.
- 30% of respondents accessed Type A areas through sweat line or walk-on.

Respondents (n = 1,120) were presented with four options: 1)Reservation draw, 2)Lottery draw, 3)Sweat line or walk-on, 4)Other (Figure 13). The largest percentage of respondents (38%) accessed Type A areas through a reservation draw, the second-most (30%) through sweat line or walk-on, and the third-most (16%) through a lottery draw.

Figure 13: For the 2023-24 waterfowl season what was the primary method you used to access Type A Wildlife Areas or National Wildlife Refuges for waterfowl hunting?



Q18 – “(Blank)” inhibits my use of Type A Wildlife Areas or National Wildlife Refuges for waterfowl hunting.

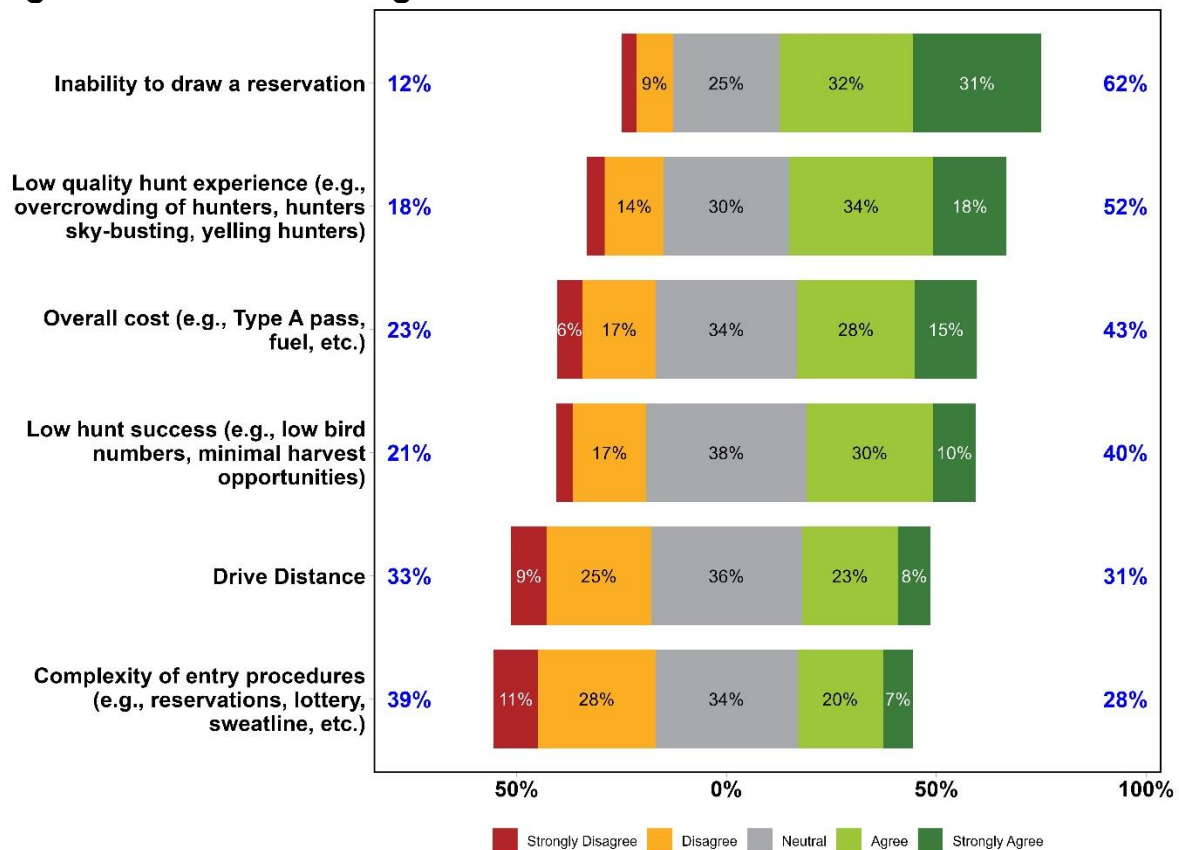
Response Highlights:

- 62% of respondents agreed that the inability to draw a reservation inhibited their use of Type A areas.
- 52% of respondents agreed that low quality hunt experience also inhibited use.

Respondents (n = 1,361) were presented with seven options: 1) *Inability to draw a reservation*, 2) *Drive distance*, 3) *Complexity of entry procedures (e.g., reservations, lottery, sweat line, etc.)*, 4) *Low quality hunt experience (e.g., overcrowding of hunters, hunters sky-busting, yelling hunters)*, 5) *Low hunt*

success (e.g., low bird numbers, minimal harvest opportunities), 6) Overall cost (e.g., Type A pass, fuel, etc.), 7) Other (Figure 14). Most respondents (62%) agreed that not drawing a reservation was a barrier to using Type A areas (32% indicated they “agreed” and 31% indicated they “strongly agreed”). Most respondents (52%) also agreed a low-quality hunt experience, such as overcrowding of hunters and hunters sky-busting at waterfowl (shooting at waterfowl that are not within the effective range of their shotgun), inhibited their use of areas (34% indicated they “agreed” and 18% indicated they “strongly agreed”).

Figure 14: “(Blank)” inhibits my use of Type A Wildlife Areas or National Wildlife Refuges for waterfowl hunting.



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

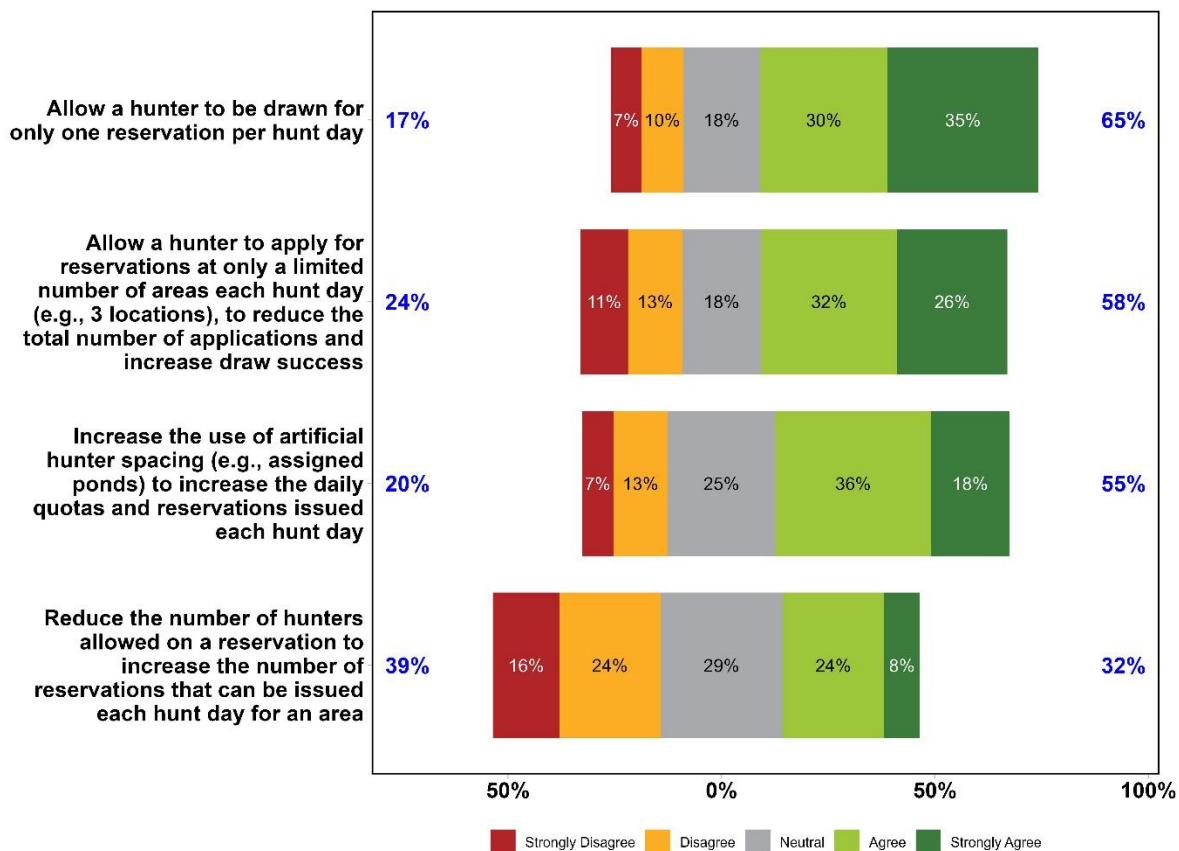
Q19 - What changes would you be in favor of to improve the waterfowl hunting reservation draw odds for Type A Wildlife Areas or National Wildlife Refuges?

Response Highlights:

- 65% of respondents agreed a hunter should only be drawn for one reservation per hunt day.
- 58% of respondents agreed hunters should be limited on the number of reservations they can submit per hunt day.
- 55% of respondents agreed that artificial hunter spacing should be increased to increase daily quotas and reservations.

Respondents (n = 1,148) were presented with five options: 1) *Reduce the number of hunters allowed on a reservation to increase the number of reservations that can be issued each hunt day for an area*, 2) *Increase the use of artificial hunter spacing (e.g., assigned ponds) to increase the daily quotas and reservations issued each hunt day*, 3) *Allow a hunter to be drawn for only one reservation per hunt day*, 4) *Allow a hunter to apply for reservations at only a limited number of areas each hunt day (e.g., 3 locations) to reduce the total number of applications and increase draw success*, 5) *Other* (Figure 15). Most respondents (65%) were in favor of allowing hunters to be drawn for only one reservation per hunt day (30% indicated they “agreed” and 35% indicated they “strongly agreed”). Most respondents (58%) were also in favor of allowing hunters to apply for reservations at a limited number of areas each shoot day (32% indicated they “agreed” and 26% indicated they “strongly agreed”), as well as using artificial hunter spacing on areas to increase daily reservations and quotas each hunt day (55%; 36% indicated they “agreed” and 18% indicated they “strongly agreed”).

Figure 15: What changes would you be in favor of to improve the waterfowl hunting reservation draw odds for Type A Wildlife Areas or National Wildlife Refuges?



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

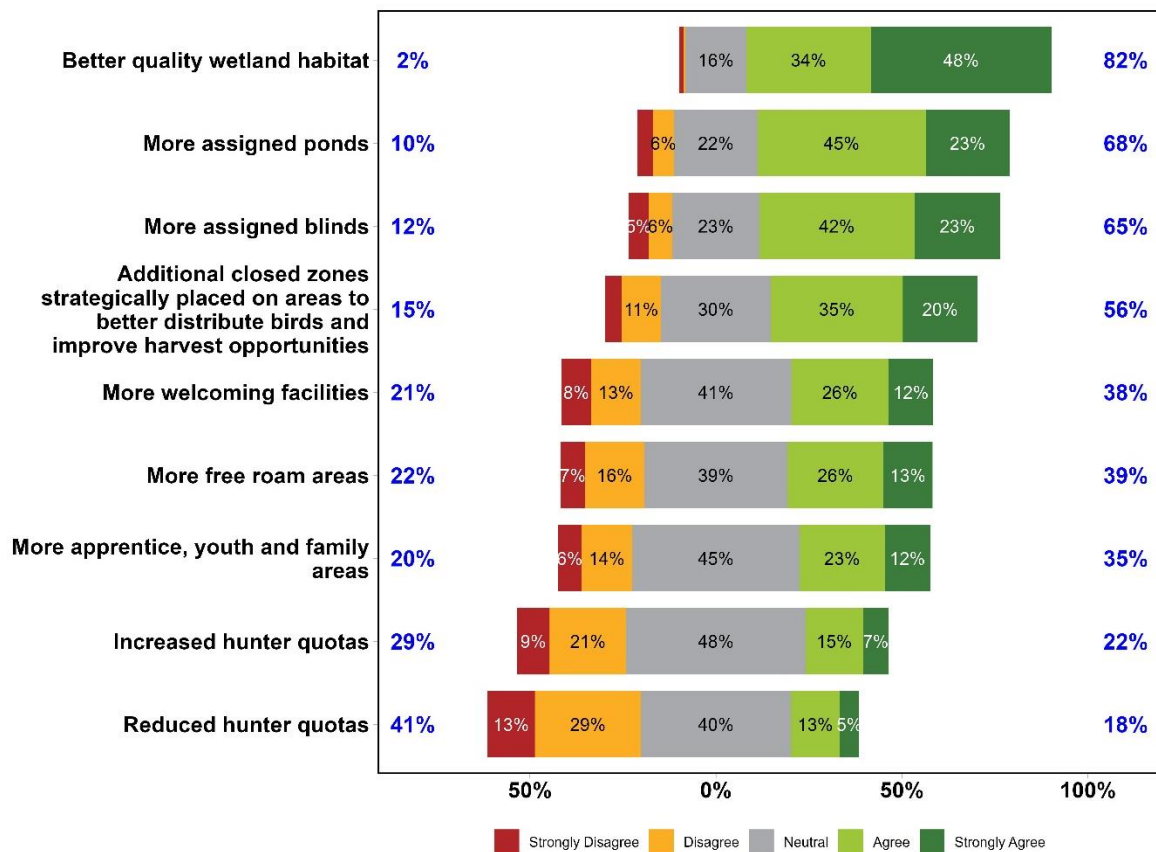
Q20 - What changes would you be in favor of to improve the waterfowl hunting experience on Type A Wildlife Areas or National Wildlife Refuges?

Response Highlights:

- 82% of respondents agreed providing better quality wetland habitat would improve their waterfowl hunting experience on Type A areas.
- 68% and 65% of respondents respectively agreed increasing assigned ponds and blinds would improve their experience.
- 56% of respondents agreed providing additional closed zones to better distribute birds and improve harvest opportunity would also improve their experience.

Respondents (n = 1,148) were presented with 10 options: 1)More assigned ponds, 2)More assigned blinds, 3)More free roam areas, 4)More apprentice, youth, and family areas, 5)Better quality wetland habitat, 6)Additional closed zones strategically placed on areas to better distribute birds and improve harvest opportunity, 7)Reduced hunter quotas, 8)Increased hunter quotas, 9)More welcoming facilities (e.g., wi-fi capabilities, better lighting, better restrooms, information boards, educational or directional signage, etc.), 10)Other (Figure 16). Most agreed (82%) providing better quality wetland habitat

Figure 16: What changes would you be in favor of to improve the waterfowl hunting experience on Type A Wildlife Areas or National Wildlife Refuges?



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

would improve their hunting experience (34% indicated they “agreed” and 48% indicated they “strongly agreed”). Respondents agreed (68% and 65% respectively) more assigned ponds (45% indicated they “agreed” and 23% indicated they “strongly agreed”) and more assigned blinds (42% indicated they “agreed” and 23% indicated they “strongly agreed”) would improve their hunting experience on Type A areas. Lastly, most respondents agreed (56%) their hunting experience would be improved if additional strategically placed closed zones were provided on areas to better distribute birds and improve harvest opportunities (35% indicated they “agreed” and 20% indicated they “strongly agreed”).

Q21 - What changes would you be in favor of to improve the waterfowl hunting entry system on Type A Wildlife Areas or National Wildlife Refuges?

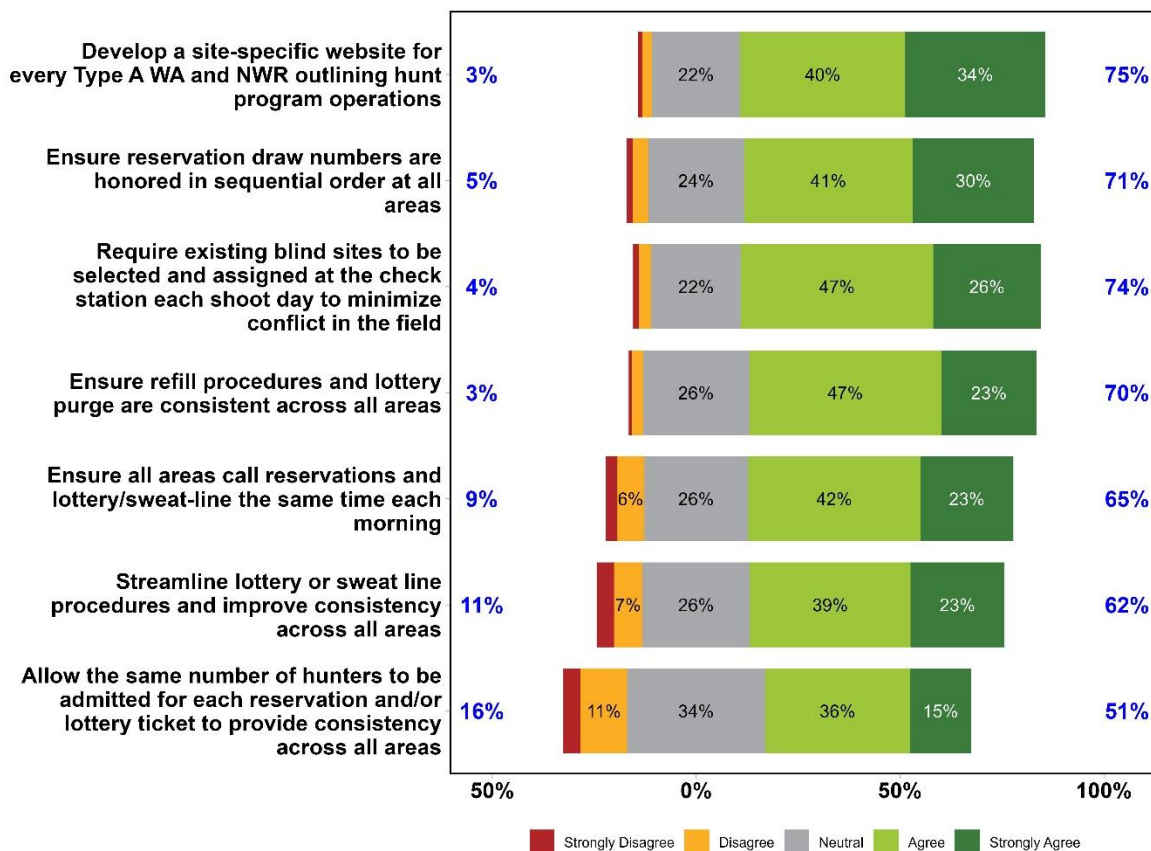
Response Highlights:

- 75% of respondents wanted to have a site-specific website developed for each Type A area outlining hunt program operations.
- 71% of respondents wanted to have reservation draw numbers called in sequential order.
- 74% of respondents wanted all existing blind sites to be selected and assigned at the check station.
- 70% of respondents wanted refill procedures and lottery purge consistent across all areas.
- 65% of respondents wanted all areas to call reservations and lottery/sweat-line the same time each morning.
- 62% of respondents wanted lottery/sweat line procedures to be streamlined and consistent across all areas.
- 51% of respondents wanted the same number of hunters to be admitted for each reservation/lottery ticket to provide consistency across all areas.

Respondents (n = 1,144) were presented with eight options: 1) *Ensure reservation draw numbers are honored in sequential order at all areas (some areas currently call reservations in batches or first come first serve)*, 2) *Ensure all areas call reservations and lottery/sweat-line the same time each morning (e.g., 2.5 hours and 1.5 hours respectively before shoot time)*, 3) *Allow the same number of hunters to be admitted for each reservation and/or lottery ticket to provide consistency across all areas*, 4) *Require existing blind sites (i.e., first come first serve pit blinds) to be selected and assigned at the check station each shoot day to minimize conflict in the field*, 5) *Streamline lottery or sweat line procedures and improve consistency across all areas (e.g., all areas have a lottery the night before a hunt day between 6:00 pm and 9:00 pm)*, 6) *Ensure refill procedures and lottery purge are consistent across all areas*, 7) *Develop a site-specific website for every Type A wildlife area and national wildlife refuge outlining hunt program operations (e.g., entry procedure, number of assigned ponds/blinds, hunter quota)*, 8) *Other* (Figure 17). Most respondents agreed with all options presented in the survey, however, 75% agreed a site-specific website should be developed for all Type A areas outlining hunt program operations (40% indicated they “agreed” and 34% indicated they “strongly agreed”). Most respondents (70%) also agreed that reservation draw numbers should be honored in sequential order (41% indicated they “agreed” and 30% indicated they “strongly agreed”), all blind sites should be selected and assigned at the check station (47% indicated they “agreed” and 26% indicated they “strongly

agreed"), and refill procedures and lottery purge operations should be consistent across all areas (47% indicated they "agreed" and 23% indicated they "strongly agreed").

Figure 17: What changes would you be in favor of to improve the waterfowl hunting entry system on Type A Wildlife Areas or National Wildlife Refuges?



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

Q22 - What changes to waterfowl hunting lottery and refill procedures would you be in favor of on Type A Wildlife Areas or National Wildlife Refuges?

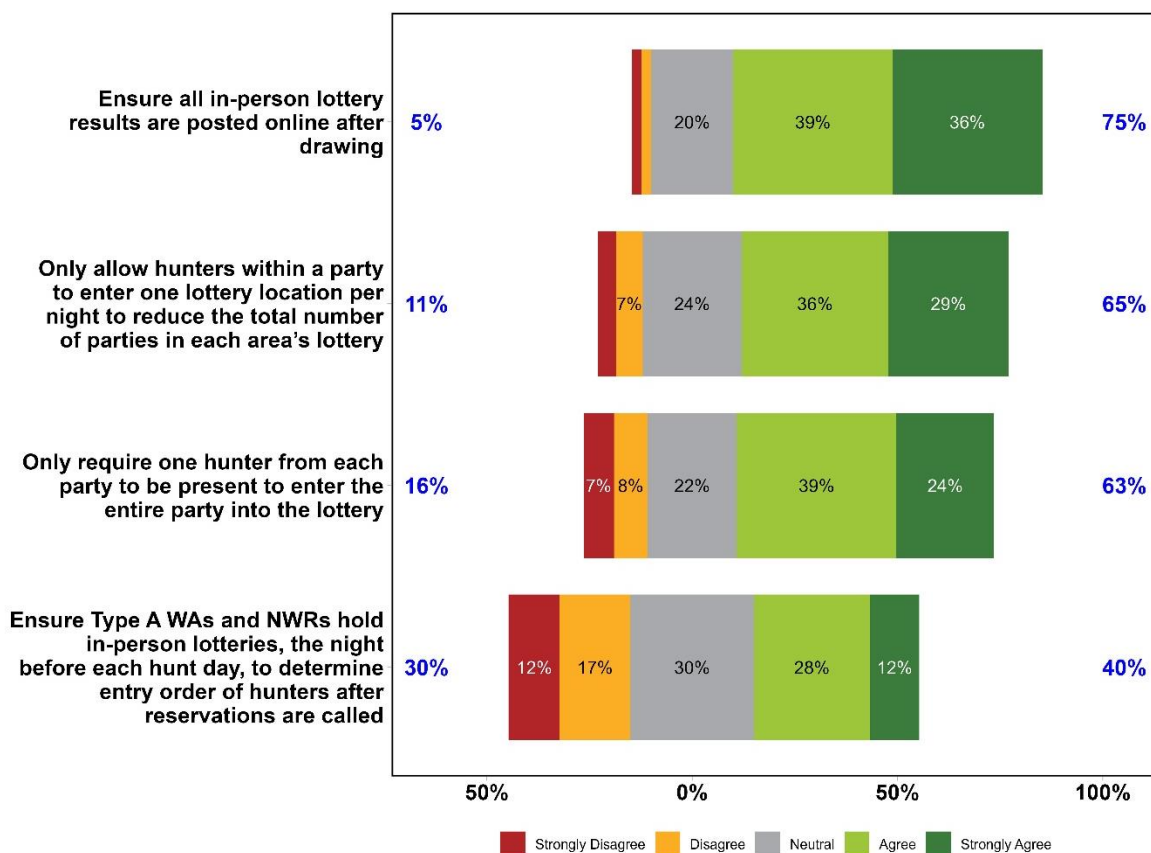
Response Highlights:

- 75% of respondents agreed that in-person lottery results should be posted online.
- 65% of respondents agreed hunters should only be allowed to enter one lottery location per night.
- 63% of respondents agreed that only one hunter needs to be present to enter a party into a lottery.

Respondents (n = 1,138) were presented with five options: 1) *Ensure Type A wildlife areas and national wildlife refuges hold in-person lotteries the night before each hunt day to determine entry order of hunters after reservations are called (i.e., replace sweat lines with in-person lotteries)*, 2) *Only require one hunter from each party to be present to enter the entire party into the lottery (similar to Sacramento and Delevan National Wildlife Refuge's current process)*, 3) *Only allow hunters within a party to enter one lottery location per night to reduce the total number of parties in each area's lottery (i.e., continue with current protocols that prohibit individuals from entering multiple Type A wildlife areas and national wildlife refuges lotteries per night)*, 4) *Ensure all in-person lottery results are posted online after drawing*, 5) *Other* (Figure 18). Most respondents (75%) agreed in-person lottery results should be posted online for public viewing after the random drawing has been conducted (39% indicated they "agreed" and 36% indicated they "strongly agreed"). Additionally, 65% and 63% of respondents respectively agreed that hunters within a party should

be allowed to enter only one area's lottery per night (36% indicated they "agreed" and 29% indicated they "strongly agreed"), and only one hunter needs to be present in-person to enter an entire party into a lottery (39% indicated they "agreed" and 24% indicated they "strongly agreed").

Figure 18: What changes to waterfowl hunting lottery and refill procedures would you be in favor of on Type A Wildlife Areas or National Wildlife Refuges?



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

Note: The remaining questions (23 – 27) were available to all survey respondents, regardless of the type of land they primarily hunted. As mentioned previously, for the general waterfowl hunting questions a sample size of 1,059 respondents is needed for statistical significance (95% confidence level, 3% margin of error).

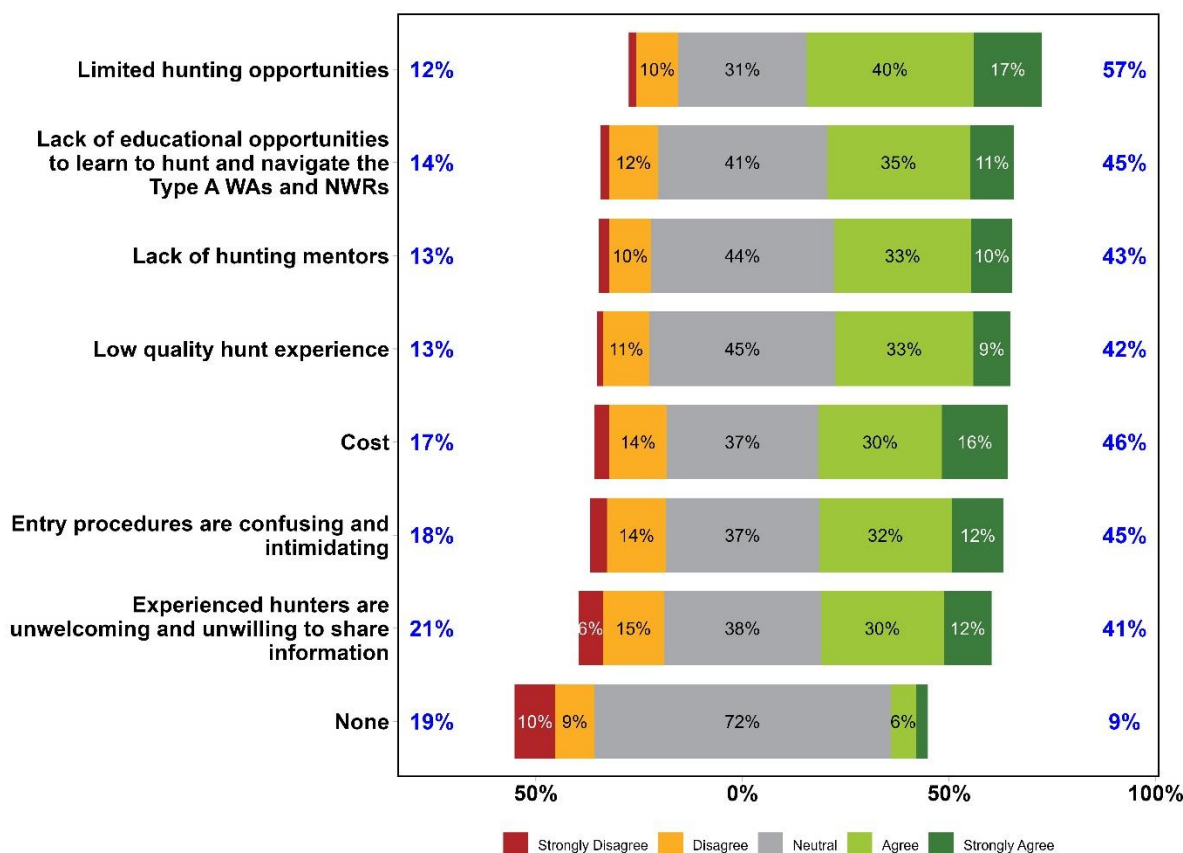
Q23 - In your opinion, what are the biggest hurdles for new waterfowl hunters in utilizing Type A Wildlife Areas or National Wildlife Refuges.

Response Highlights:

- 57% of respondents agreed limited hunting opportunities were a hurdle for new waterfowl hunters in utilizing Type A areas.

Respondents (n = 1,598) were presented with nine options: 1)Entry procedures are confusing and intimidating, 2)Experienced hunters are unwelcoming and unwilling to share information, 3)Low quality hunt experience, 4)Limited hunting opportunities, 5)Cost, 6)Lack of hunting mentors, 7)Lack of educational

Figure 19: In your opinion, what are the biggest hurdles for new waterfowl hunters in utilizing Type A Wildlife Areas or National Wildlife Refuges.



Note: Blue numbers left and right of the bar graph correspond to the total percentage of respondents that disagree and agree, respectively.

opportunities to learn to hunt and navigate the Type A wildlife areas and national wildlife refuges, 8)None, 9)Other (Figure 19). Most respondents agreed or were neutral on the options presented. However, most agreed (57%) limited hunting opportunities inhibited new waterfowl hunters from utilizing Type A areas (40% indicated they “agreed” and 17% indicated they “strongly agreed”).

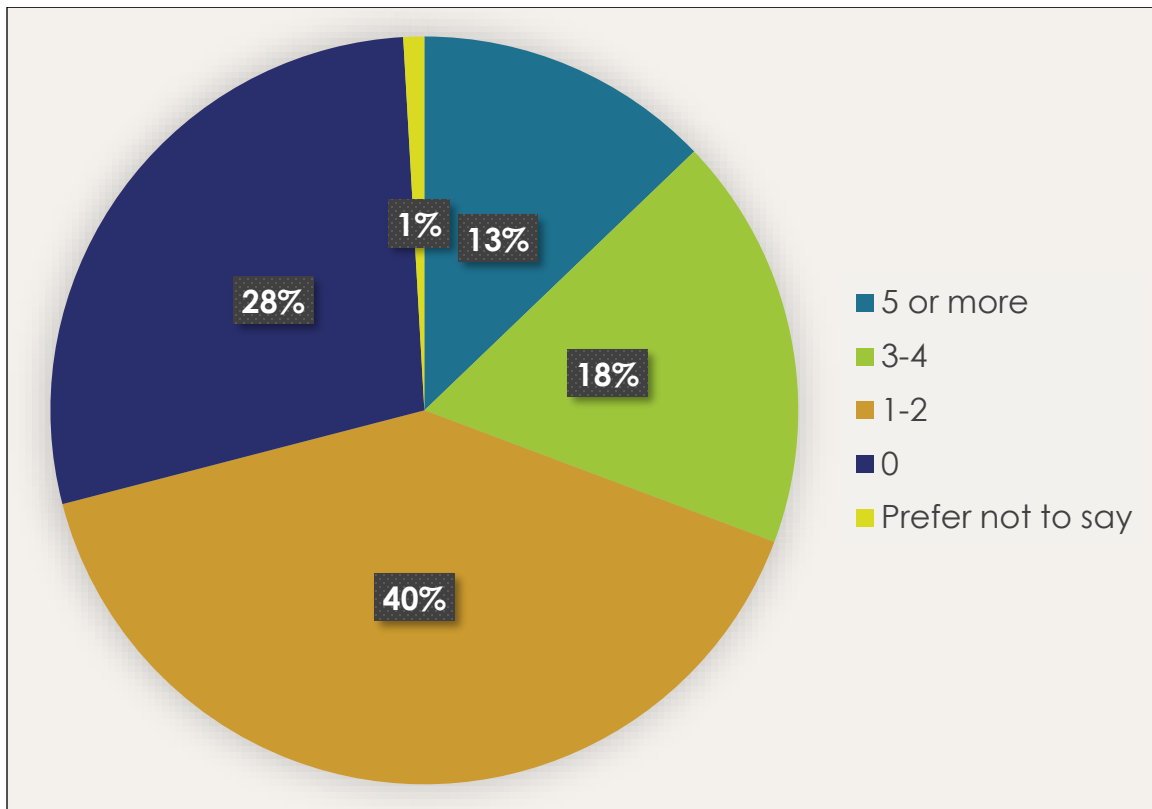
Q24 - Over the past five years, how many people have you introduced to hunting (i.e., they have taken a hunter education course, passed their hunter education certification exam, and purchased a hunting license)?

Response Highlights:

- 71% of respondents have introduced at least one person to hunting in the last five years.

Respondents (n = 1,660) were presented with five options: 1)5 or more, 2)3 to 4, 3)1 to 2, 4)0, 5)Prefer not to say (Figure 20). Most respondents (71%) have introduced at least one person to hunting in the last five years, with over 30% having introduced at least two or more people to hunting.

Figure 20: Over the past five years, how many people have you introduced to hunting?



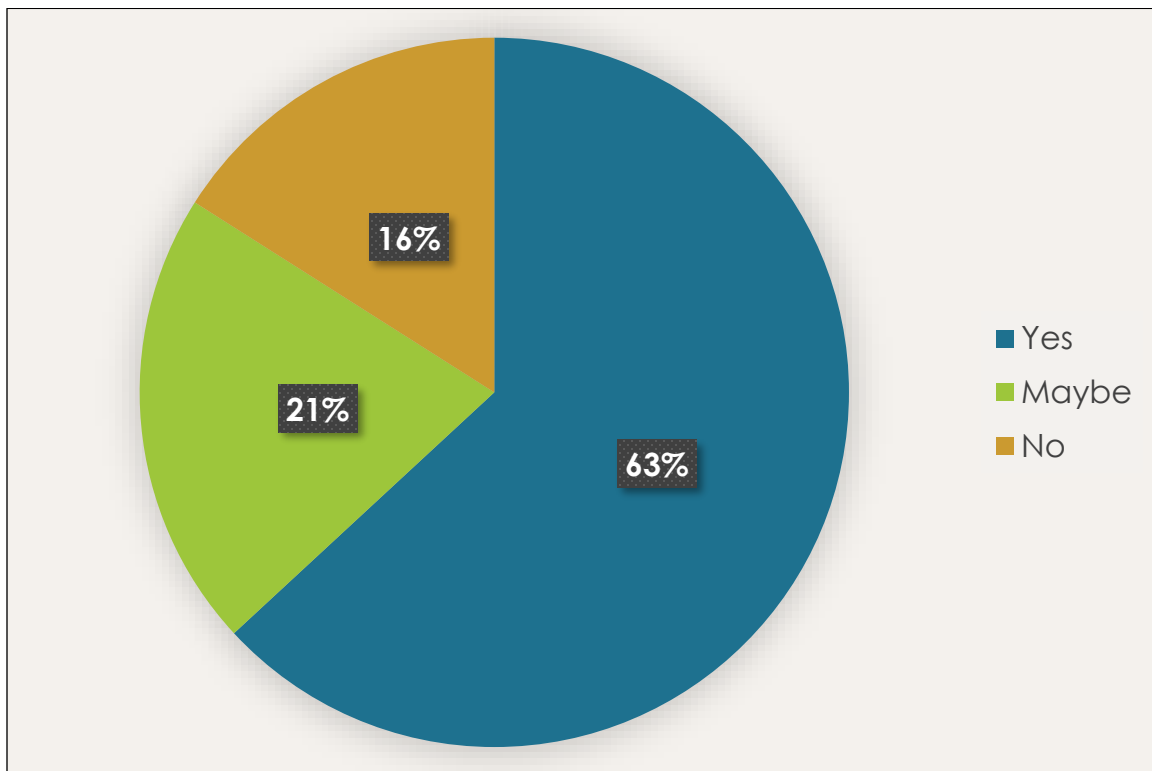
Q25 - If there were opportunities to hunt rice blinds within the Shared Habitat Alliance for Recreational Enhancement (SHARE) Program, would you be interested?

Response Highlights:

- 63% of respondents were interested in applying to hunt a rice blind offered through the SHARE Program.

Respondents (n = 1,662) were presented with three options: 1)Yes, 2)No, 3)Maybe (Figure 21). Most Respondents (63%) indicated that they would be interested in applying to hunt a rice blind.

Figure 21: If there were opportunities to hunt rice blinds within the Shared Habitat Alliance for Recreational Enhancement (SHARE) Program, would you be interested?



Q26 – Survey respondents’ race and ethnicities.

- Almost 75% of respondents selected “White or Caucasian” as their ethnicity

Respondents (n = 1,673) were presented with eight options: 1) *White or Caucasian*, 2) *Black or African American*, 3) *Latino or Hispanic*, 4) *Asian*, 5) *American Indian or Alaska Native*, 6) *Native Hawaiian or Other Pacific Islander*, 7) *Other*, 8) *Prefer not to say*. The Census (U.S. Census Bureau 2024) was used as a model to determine appropriate races and ethnicities to include (Table 3). Respondents selected “White or Caucasian” at the highest percentage (75%),

with the second highest selecting “Latino or Hispanic” (6%), and the third highest selecting “Asian” (3%).

Table 3: Survey respondents’ ethnicities

Respondents’ Race and Ethnicities	% of Respondents	Number of Respondents
White or Caucasian	74.88%	1300
Prefer not to say	11.69%	203
Latino or Hispanic	6.05%	105
Asian	3.05%	53
American Indian or Alaska Native	2.53%	44
Black or African American	1.09%	19
Native Hawaiian or Other Pacific Islander	0.69%	12

Q27 – Survey respondents’ household income.

- Over 50% of respondents make a household income of over \$100,000.

Respondents (n = 1,662) were presented with six options: 1) *Less than \$25,000*, 2) *\$25,000-\$50,000*, 3) *\$50,000-\$100,000*, 4) *\$100,000-\$200,000*, 5) *More than \$200,000*, 6) *Prefer not to say* (Table 4). Most respondents (32%) selected “\$100,000-\$200,000” as their income level, with “More than \$200,000” as the second highest selected income level (21%), and “\$50,000-\$100,000” as the third highest selected (19%).

Table 4: Survey respondents’ household income

Respondents’ Household Income	% of Respondents	Number of Respondents
\$100,000-\$200,000	32.08%	536
Prefer not to say	22.32%	373
More than \$200,000	20.95%	350
\$50,000-\$100,000	18.73%	313
\$25,000-\$50,000	4.91%	82
Less than \$25,000	1.02%	17

Discussion

This was the first survey conducted by CDFW's Lands Program to assess hunter use and satisfaction on Type A wildlife areas. The Lands Program is committed to improving habitat conditions for waterfowl and providing high quality hunting experiences for hunters. The data provided in this survey helps CDFW to understand barriers public land hunters may face and what these hunters view as important opportunities to improve the hunting experience on Type A areas.

For each question, except for Questions 14 and 15, enough responses were collected to ensure statistically significant results. Most respondents identified as avid waterfowl hunters, with 75% of them having purchased a California Duck Validation every year for the previous five years (Figure 4), approximately 50% of them having hunted waterfowl ten or more times during the 2023-24 season (Figure 5), and 63% of them having hunted waterfowl in California for more than 15 years (Figure 1). While most respondents were experienced hunters, the survey also captured the preferences of new hunters, with almost 20% of respondents having hunted for 5 years or less (Figure 1). In addition to the variation in hunter experience, survey respondents also represented a diverse background of ethnicities (Table 3) and income levels (Table 4), although the largest percentage of respondents were middle-class (\$61,269-\$183,810; Pew Research Center 2024) Caucasians. These demographics are similar to those demonstrated in a national waterfowl survey

conducted by Slagle and Fulton (2018). This survey, as stated in the introduction, was largely focused on collecting data to guide policy changes to improve the waterfowl hunting experience and identify potential barriers that may inhibit hunters from accessing Type A areas in California. This survey captured nearly 2% (Range: 1.5-1.9%) of California's adult public land waterfowl hunters' opinions, preferences, and attitudes towards hunting Type A areas.

Hunter entry procedures and barriers inhibiting access to Type A areas were major themes found in several questions in the survey. Many hunters (38%) reported they primarily rely on drawing a reservation to access Type A areas to waterfowl hunt (Figure 13). However, 70% of respondents were dissatisfied or very dissatisfied with the number of reservations they drew each year (Figure 10). The low percentage of drawing a reservation was also identified as a reason most respondents (56%) did not apply for more reservations and is a significant barrier in accessing these areas for waterfowl hunting (Figure 14). Respondents also felt there were multiple changes that could be implemented to the reservation draw system to improve draw odds per shoot day, such as only allowing a hunter to be drawn for one reservation per day, as well as restricting the number of reservation applications a hunter can submit for each shoot day (Figure 15). While reservations are clearly important to hunters accessing Type A areas, it is important to note 46% of respondents indicated they had accessed these areas by either lottery, sweat line, or walk-on (Figure 13). This demonstrates

the importance of having a variety of opportunities to provide public land access for waterfowl hunters in California.

Regarding consistency among Type A areas, most respondents (51% to 75%, dependent upon the option) were supportive of changes to improve consistency on entry and refill procedures, such as ensuring reservation draw numbers are called in sequential order (Figure 17), posting all in-person lottery results online, and only requiring one hunter from each party to be present for in-person lotteries (Figure 18). However, respondents did not support implementing in-person lotteries for all areas to determine entry order after reservations, which would result in eliminating first come first serve entry where it is currently in use (e.g., sweat line; Figure 18).

In addition to identifying potential improvements to the reservation and entry system for Type A areas, a second goal for this survey was to collect information on hunters' experiences in the field. Respondents overwhelmingly agreed (82%) providing better quality wetland habitat would improve their overall hunting experience (Figure 16), although the survey did not request additional information regarding what respondents would consider to be better wetland quality (e.g., more waterfowl food, more loafing islands, more tule patches). CDFW may address this question in a future survey to better understand what habitat improvements hunters would like to see implemented.

Providing additional closed zones on areas to better distribute birds and improve harvest opportunities is another concept that requires further

investigation. While 56% of respondents were supportive of this (Figure 16), it was unclear if they would be willing to sacrifice hunting opportunities to create additional sanctuaries. Recent research (Blake-Bradshaw et al. 2023, Mastro et al. 2024) demonstrated close-proximity, low disturbance sanctuaries increased bird movements between sanctuaries and improved harvest opportunities for adjacent hunting areas. Providing additional sanctuaries may require hunting ponds to be converted to closed zones and could reduce hunter quota slightly. Although daily quota may be reduced on some areas, data suggests higher quality hunting opportunities (e.g., reduced hunter crowding, increased harvest opportunities) may increase over the season, as birds would be more evenly distributed across areas. An expansion of artificial hunter spacing (i.e., assigned blinds and ponds) could also be implemented to mitigate losses of hunting areas and still maintain hunter opportunities while increasing quality hunting experiences. Most respondents agreed providing more assigned blinds and ponds (65% and 68% respectively) would improve their overall hunting experience (Figure 16) and was one of the top factors that respondents considered before applying for reservations at specific Type A areas (Figure 11).

This survey has provided CDFW with tremendous insights into the preferences of waterfowl hunters that utilize Type A public areas. While not every issue or idea can be addressed, the responses will help CDFW's Lands Program to develop near and long-term goals to implement changes on Type A areas. Near-term goals would include changes not requiring any new infrastructure or

new regulations. In contrast, long-term goals may require changes to regulations, infrastructure improvements, or economic analysis and would take longer to implement. CDFW will consider additional future surveys to refine hunter responses where necessary and continue to gather information regarding hunter satisfaction.

CDFW appreciates the participants who generously provided their time and feedback to complete this survey. The information gathered from these surveys will allow CDFW to continually improve hunters' experiences on Type A areas for years to come. CDFW also requests patience and understanding as implementing changes can take time and may involve multiple iterations of improvements before being finalized. Waterfowl hunters provide significant support to wetland and waterfowl conservation in California, and support like this allows CDFW to manage these lands and provide opportunities for hunting and outdoor recreation.

References

- Blake-Bradshaw, A. G., Masto, N. M., Highway, C. J., Keever, A. C., Feddersen, J. C., Hagy, H. M., & Cohen, B. S. 2023. Influence of sanctuary disturbance, weather, and landscape characteristics on waterfowl harvest opportunity in western Tennessee. *The Journal of Wildlife Management*, 87(7), e22470.
- Masto, N. M., Keever, A. C., Highway, C. J., Blake-Bradshaw, A. G., Feddersen, J. C., Hagy, H. M., & Cohen, B. S. 2024. Proximity among protected area networks promotes functional connectivity for wintering waterfowl. *Scientific Reports*, 14(1), 17527.
- Pew Research Center. (May 31, 2024). *The State of the American Middle Class: Who is in it and key trends from 1970 to 2023*. URL: <https://www.pewresearch.org/race-and-ethnicity/2024/05/31/the-state-of-the-american-middle-class/>
- Slagle, K., Dietsch, A., & Fulton, D. 2018. *National Survey of Waterfowl Hunters: Summary Report Pacific Flyway. Report to the National Flyway Council from the Minnesota Cooperative Fish and Wildlife Research Unit, University of Minnesota and The Ohio State University*. St. Paul.
- U.S. Census Bureau. 2024. *2024 Census Survey*. URL: <https://www.census.gov/programs-surveys/decennial-census/decade/2030/planning-management/plan/research-and-testing/2024-census-survey.html>