
Evaluating Public Response to the Young Forest Initiative on Wildlife Management Areas: Surveys of New York Residents and Small Game Hunters



August 2018
CCSS Series No 18-3

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CENTER FOR CONSERVATION SOCIAL SCIENCES PUBLICATION SERIES

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Connelly, N.A., T.B. Lauber, R.C. Stedman, and S.B. Allred. 2018. Evaluating Public Response to the Young Forest Initiative on Wildlife Management Areas (WMAs): Surveys of New York Residents and Small Game Hunters. Center for Conservation Social Sciences Publ. Series 18-3. Dept. of Nat. Resources., Coll. Agric. and Life Sci., Cornell Univ., Ithaca, NY. 16 pp.

This report is available electronically at: <https://ccss.dnr.cals.cornell.edu/>

ACKNOWLEDGMENTS

We wish to thank Dan Rosenblatt, Marcelo del Puerto, Mike Putnam, Sandy Van Vranken, Mike Wasilco, and Jim Farquhar from the New York State Department of Environmental Conservation who provided extensive input into the study design, and reviewed questionnaires as well as the final report.

We thank Mike Schiavone, from the New York State Department of Environmental Conservation, who provided the data from the 2018 Small Game Hunter survey. The Survey Research Institute at Cornell University conducted the Empire Poll.

This work was supported by Federal Aid in Wildlife Restoration Grant WE-173-G.

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INTRODUCTION

The New York State Department of Environmental Conservation (DEC), Division of Fish and Wildlife has begun a habitat management program to significantly increase young forest habitat in Wildlife Management Areas (WMAs) across New York State. The purpose of the program is to provide habitat for those species that depend on young forest, such as Golden-winged Warbler, New England cottontail, American Woodcock, and Ruffed Grouse.

As part of their evaluation of this program, called the Young Forest Initiative (YFI), DEC asked the Center for Conservation Social Sciences (CCSS) at Cornell University to undertake research to provide DEC with information from key stakeholders regarding their awareness of and support for the program. Additional goals were: (1) to understand users and their use of WMAs, their satisfaction with the recreation opportunities available at WMAs, their desire for additional opportunities, their awareness of and support for habitat management activities in addition to young forest management, and their satisfaction with access to WMAs; and (2) to understand the general public's level of awareness of public land management goals in New York. This research will provide a baseline against which changes in stakeholder opinions can be measured as more management activities take place.

CCSS engaged in three research efforts in 2017 and 2018 to address the goals listed above. The first research effort was a survey of New York State (NYS) residents to assess general awareness of land management and WMAs in NYS. The information was gathered via several questions on an annual survey of New York State residents conducted by Cornell University. The second effort involved assessing awareness of and support for WMAs and the YFI through the addition of questions to DEC's annual small game hunter survey. The results of these two research efforts are described in this report. The third effort, a survey of hunters and landowners living near four WMAs, is described in a separate report.

Results from each research activity are discussed in the next two sections of the report. The final section of the report synthesizes these results and makes some general recommendations.

RESEARCH EFFORT 1: NEW YORK STATE RESIDENTS' VIEWS ON LAND MANAGEMENT AND WILDLIFE MANAGEMENT AREAS

Objective

The purpose of this brief survey was to gain some insights on the views of New York State (NYS) residents regarding public land management for wildlife, and assess their awareness of Wildlife Management Areas (WMAs) in particular.

Methods

Five questions were developed to: (1) assess the perceived importance of managing public land to create wildlife habitat, (2) measure support for three management actions that could create habitat for wildlife, and (3) assess awareness of WMAs. (See Appendix A at the end of this document for the exact wording of the questions.) The questions were included as part of the 2018 Empire State Poll (ESP 2018). The poll, conducted by telephone by the Survey Research Institute (SRI) at Cornell University, was a general survey of NYS residents aged 18 and over. It was an omnibus survey combining an annual core of community, economic, and social science modules and questions submitted by academic researchers.

The survey sample consisted of a random digit dial sample covering both cellular and land-line exchanges for New York State. The phone numbers were purchased from Marketing Systems Group. Once a household was sampled, every adult in the household had an equal chance of being included in the poll. The random sampling frame used within the ESP 2018 allows the poll results to be generalized to the entire state. Interviews were conducted with 800 people, 400 upstate and 400 downstate. (Downstate was defined as residents of Bronx, Kings, Nassau, New York, Richmond, Rockland, Queens, Suffolk, and Westchester Counties.) Statewide generalizations were made by weighting the data according to the population living in each region.

Telephone survey data collection began on February 8, 2018 and ended on April 5, 2018. Interviews were conducted in English or Spanish using a Computer Assisted Telephone Interviewing software system.

Responses to the five questions were categorized using the socio-demographic characteristics available on the questionnaire. These included gender, race, age, marital status, employment status, education level, household income, political ideology, and political party affiliation. Only results with statistically significant differences are reported.

Results

Over 8,000 telephone numbers were included in the initial sample. From those numbers, 1,625 telephone contacts were made. Almost half of the contacts (49%) resulted in completed interviews. Twenty-one percent refused to be interviewed. The remaining contacts were deemed ineligible because the person lived outside of New York State, did not speak English or Spanish, the telephone number was not a household, or the telephone number connected to a minor's cell phone.

By design, half of the respondents came from upstate counties and the other half from downstate counties. When the data were weighted to reflect the population of NYS residents, the respondent distribution consisted of almost equal numbers of men and women, was two-thirds white, with a mean age of 47, and a diverse range of education levels (Table 1). The socio-demographic characteristics of gender, race, education, and age had statistically significant relationships with the five questions about land management. The other socio-demographic characteristics - marital status, employment status, household income, political

ideology, and political party affiliation – were not significantly correlated with any of the five questions. Results for these five questions are presented in subsequent tables with the overall response to the question first, followed by responses categorized by other variables with which the responses were significantly correlated.

Table 1. Socio-demographic characteristics of our sample of NYS residents.

	Percent
<u>Gender</u>	
Male	49.3
Female	50.7
<u>Race</u>	
White	62.7
Non-white	37.3
<u>Education</u>	
Less than high school	9.6
High school grad	18.4
Some college	24.9
College grad	28.1
Graduate degree	19.0
<u>Marital status</u>	
Married	45.4
Divorced, separated	12.4
Widowed	3.8
Single	38.2
<u>Employment status</u>	
Employed	63.1
Unemployed	19.3
Retired	13.9
Disabled	3.3
Unable to work	0.4
<u>Political ideology</u>	
Liberal	34.1
Middle of the road	39.6
Conservative	26.3

Table 1 (cont.)

	Percent
<u>Political party affiliation</u>	
Democrat	37.1
Independent	45.0
Republican	16.2
Other party	1.7
<u>Household income</u>	
\$0 to < \$50,000	34.5
\$50,000 to < \$100,000	36.8
\$100,000 to < \$150,000	13.9
More than \$150,000	14.8
<u>Mean age</u>	47.0

We found that over half of NYS residents thought it was very important to create habitat for wildlife on NYS public lands (Table 2). Very few people (8%) thought it was not at all important to do so. Upstate residents were more likely than downstate residents to think it was very important to create habitat. Two-thirds of those who had heard of WMAs thought it was very important to create habitat for wildlife on public lands; just over 40% of those who had not heard of WMAs thought it was very important to create habitat.

The perceived importance of creating habitat for wildlife varied by race and education level, but not by other socio-demographic variables (Table 2). Almost two-thirds of white residents thought it was very important to create habitat, compared with fewer than half of non-white residents. We also found that those who had not graduated from high school thought it was less important to create habitat than did those with at least some college education.

We asked how strongly residents would support or oppose three management actions that could be used to create habitat for wildlife – mowing to maintain grasslands, adjusting water levels on small ponds to maintain wetlands, and cutting a patch of trees to allow smaller trees and shrubs to grow back. Two-thirds or more of NYS residents supported these actions on NYS public lands (Table 3). Forty-four percent supported all three actions and another 30% supported two of the three actions. About 10% of residents were opposed to mowing and adjusting water levels. Nearly one-fifth of residents (17%) were opposed to cutting trees. Support for each of these actions was stronger among those who thought it was very important to create habitat for wildlife. These individuals were less likely to be neutral toward these management practices and more likely to be supportive, but neither more nor less likely to be opposed.

Table 2. NYS residents' views on the importance of creating habitat for wildlife on NYS public lands – overall and by variables with a statistically significant relationship.

	Perceived importance of creating habitat for wildlife on NYS public land (%)			
	Not at all important	Slightly important	Moderately important	Very important
Overall	7.8	13.2	23.1	55.9
<u>NYS Region*</u>				
Downstate	9.3	15.0	23.0	52.7
Upstate	5.3	10.0	23.3	61.4
<u>Heard of WMAs*</u>				
Yes	5.6	8.4	20.2	65.8
No	10.7	19.1	27.0	43.2
Unsure	4.9	11.5	19.7	63.9
<u>Race*</u>				
White	5.5	10.2	22.6	61.7
Non-white	11.6	18.4	23.9	46.1
<u>Education</u>				
Less than high school ^a	19.5	13.0	27.3	40.2
High school graduate ^{a, b}	10.3	15.1	26.7	47.9
Some college ^b	7.5	14.1	19.6	58.8
College graduate ^b	3.1	13.0	22.9	61.0
Graduate degree ^b	6.0	10.6	23.2	60.2

*Significant difference in level of importance between groups at $p < 0.05$ using chi-square test.

^{a,b} Values without a letter in common are significantly different from each other at $p < 0.05$ using Scheffe's test.

No differences in support for each of these actions was found between upstate and downstate residents. Furthermore, the only socio-demographic variable that influenced support for any of the management actions was gender (Table 3). Women were more likely to strongly support cutting trees than men, but the difference was not substantial and is probably of little significance for management.

Table 3. Support for various actions to create habitat for wildlife on NYS public lands – overall and by variables with a statistically significant relationship.

	Support for actions to create habitat for wildlife on NYS public lands (%)				
	Strongly oppose	Somewhat oppose	Neither support nor oppose	Somewhat support	Strongly support
<u>Mowing to maintain grasslands</u>					
Overall	4.5	5.3	19.4	29.8	41.0
For those who thought creating habitat was very important*	5.6	5.0	15.5	25.9	48.0
<u>Adjusting water levels on small ponds to maintain wetlands</u>					
Overall	5.4	5.6	16.8	31.3	40.9
For those who thought creating habitat was very important*	4.0	4.0	12.4	28.3	51.3
<u>Cutting a patch of trees to allow smaller trees and shrubs to grow back</u>					
Overall	7.4	10.1	17.1	32.8	32.6
For those who thought creating habitat was very important*	7.4	10.7	13.4	31.6	36.9
Men**	9.4	8.6	15.9	35.9	30.2
Women	5.4	11.6	18.0	29.9	35.1

*Significant difference between those who thought creating habitat was very important and those who did not at $P < 0.05$ using chi-square test.

**Significant difference between men and women at $P < 0.05$ using chi-square test.

Almost half of NYS residents had heard of WMAs, and the remainder were either uncertain or had not heard of them (Table 4). There were significant differences in awareness between upstate and downstate residents. Seventy percent of upstate residents had heard of WMAs, compared with less than 40% of downstate residents. Very few people were unsure if they had heard of WMAs. Those who thought it was moderately or very important to create habitat for wildlife on public land were more likely to have heard of WMAs compared with those who thought it was slightly or not at all important to create habitat. White and more highly educated residents were more likely to have heard of WMAs compared with their counterparts. Those who had heard of WMAs were older (mean age = 50.2) than those who had not (44.2) or were unsure (42.8).

Table 4. Awareness of Wildlife Management Areas by NYS residents – overall and by variables with a statistically significant relationship.

	Ever heard of Wildlife Management Areas (%)		
	Yes	No	Unsure
Overall	49.2	43.1	7.7
<u>NYS Region*</u>			
Downstate	37.5	54.0	8.5
Upstate	70.0	23.7	6.3
<u>Perceived importance of creating habitat for wildlife on NYS public lands*</u>			
Not at all important	35.5	59.7	4.8
Slightly important	31.1	62.3	6.6
Moderately important	42.9	50.6	6.5
Very important	57.9	33.4	8.7
<u>Race*</u>			
White	58.8	34.1	7.1
Non-white	33.8	58.7	7.5
<u>Education*</u>			
Less than high school	31.6	59.2	9.2
High school graduate	46.3	46.3	7.4
Some college	47.5	42.9	9.6
College graduate	52.5	39.9	7.6
Graduate degree	57.0	37.7	5.3

*Significant difference in awareness of WMAs between groups at $P < 0.05$ using chi-square test.

Discussion and Conclusions

These survey findings provide us, for the first time, with estimates of awareness of WMAs and support for certain wildlife-related management actions among the general public in New York. Our findings suggest that support for creating habitat for wildlife on public lands in New York is widespread – at least in the abstract. Predictable subgroups of residents were more likely to be supportive – upstate residents, white residents, those with some college education, and those who had heard of WMAs. A majority also supported the three management actions we inquired about, but there were little to no differences in support based on socio-demographic characteristics. The degree of support, and relative lack of difference in support for different actions and support by different socio-demographic groupings, was surprising to us. Perhaps people support these actions when they are attached to a desirable management goal (creating habitat for wildlife) and presented in the abstract. The level of support, however, might vary in more concrete situations in specific WMAs. Awareness of WMAs was relatively high, with almost half of NYS residents indicating they had heard of them. Awareness was, predictably, higher upstate compared with downstate.

RESEARCH EFFORT 2: NEW YORK STATE SMALL GAME HUNTERS' VIEWS ON YOUNG FOREST MANAGEMENT AND WILDLIFE MANAGEMENT AREAS

Objective

The purpose of this survey was to assess licensed small game hunters': (1) awareness and use of WMAs, and (2) awareness of the Young Forest Initiative (YFI) and support for this type of program taking place on WMAs.

Methods

Five questions were developed and added to the questionnaire used in the annual small game hunter survey conducted by DEC. DEC uses this survey to collect data from small game hunters about their effort and harvest of a variety of small game species. Some of these species, such as grouse and cottontail rabbit, could particularly benefit from the YFI. One question we added asked respondents to indicate whether they hunted woodcock – another species that potentially could benefit from the YFI – which was not covered in DEC's portion of the questionnaire. The other four questions we added assessed awareness and use of WMAs and awareness and support for young forest management. (See Appendix B at the end of this document for the exact wording of the questions.)

DEC implemented the survey in April, 2018. It was sent to a sample of 3,111 small game hunters who were identified by a screening survey conducted over the previous three years. The hunters in the sample indicated they had hunted small game in the year previous to the screening survey and were willing to fill out an additional questionnaire about their small game hunting effort and harvest. Those hunters who were willing to complete the questionnaire online provided DEC with their email addresses. Approximately half of the sample accessed the survey online (47%);

the other half received it by mail. Up to three follow-up contacts, via email or mail, were made with non-respondents during April and May to encourage their response.

Data were analyzed using SPSS (IBM SPSS Statistics 24). Pearson's chi-square test and Scheffe's test were used to test for statistically significant differences between question responses, and between hunting participation and the four questions.

Results

Of the 3,111 surveys sent, 131 were undeliverable and 1,734 were completed. The response rate, adjusted for undeliverable surveys (bad addresses or deceased hunter) was 58%. Of those who responded to the survey, 60% (n=1,037) indicated they hunted small game during the 2017-18 season and were asked to answer the subsequent questions on the questionnaire. These 1,037 individuals form the sample for our analysis.

We used the data to assess the extent to which hunters who targeted popular species to hunt, such as squirrels, or species that need early successional habitat (ESH) provided by the YFI, such as rabbit and woodcock, used WMAs and were aware of and supportive of the YFI. We categorized hunters by whether or not they spent any time in 2017-18 hunting for the above species (Table 5). We found half (51%) of the hunters went afield for squirrel. Over 40% hunted cottontail rabbit, one-third (32%) spent time hunting predator species such as fox and coyote, and almost one third (28%) hunted pheasant. Two species of birds (ruffed grouse and woodcock), which benefit from the type of habitat provided by the YFI, were hunted by 9% (woodcock) and 45% (ruffed grouse) of hunters. We found that responses to our four questions by hunters hunting these two species (hereafter referred to as ESH-reliant birds) were very similar, so we created a group that contained hunters who hunted for at least one of these species (47% of all small game hunters).

Table 5. Percent of small game hunters who hunted at least 1 day during 2017-2018 for various species or species groups.

Species or species group	Percent spending 1 day or more hunting in 2017-2018
<i>Wildlife species</i>	
Squirrel	51.0
Cottontail rabbit	43.5
Predator group (Red fox, Grey fox, Coyote, Bobcat)	32.3
<i>Bird species</i>	
Ruffed grouse	44.6
Pheasant	28.5
Woodcock	8.7
ESH-reliant birds (Ruffed grouse, Woodcock)	46.6

Awareness and Use of WMAs

Over three-quarters (78%) of small game hunters had heard of WMAs (Table 6). A slightly greater percentage of those who hunted ESH-reliant birds were aware of WMAs (83%). Of those who were aware of WMAs, almost half (48%) had hunted on a WMA in the past 5 years, and over half (53%) of those who hunted for ESH-reliant birds had done so. If we look at all small game hunters, not just those who were aware of WMAs, 38% had hunted on a WMA in the past 5 years and 49% of those who hunted for ESH-reliant birds had done so. Those hunting cottontail rabbit did not differ from other small game hunters in terms of awareness or use of WMAs.

Table 6. Awareness and use of WMAs – overall and by those who hunted for ESH-reliant birds.

WMA awareness and use	Percent
Heard of WMAs, run by DEC Division of Fish and Wildlife	
Overall	
Yes	78.4
No	13.8
Unsure	7.8
Hunted ESH-reliant birds in NY*	
Yes	82.9
No	11.6
Unsure	5.5
Of those who had heard of WMAs, percent who hunted a WMA in past 5 years	
Overall	48.0
Hunted ESH-reliant birds in NY*	52.7

*Significant difference between those who hunted for ESH-reliant birds and those who did not at $P < 0.05$ using chi-square test.

Hunters were asked to specify the region of New York hunted most often by species (Figure 1). We chose to look for regional differences in awareness and use of WMAs for ruffed grouse hunters, as this was the most popular early successional bird species, and the only one for which this regional information was available. The Long Island region does not have a grouse season, so this region was not included in our analysis. We found no differences in awareness or use of WMAs between ruffed grouse hunters who hunted in the remaining three regions.

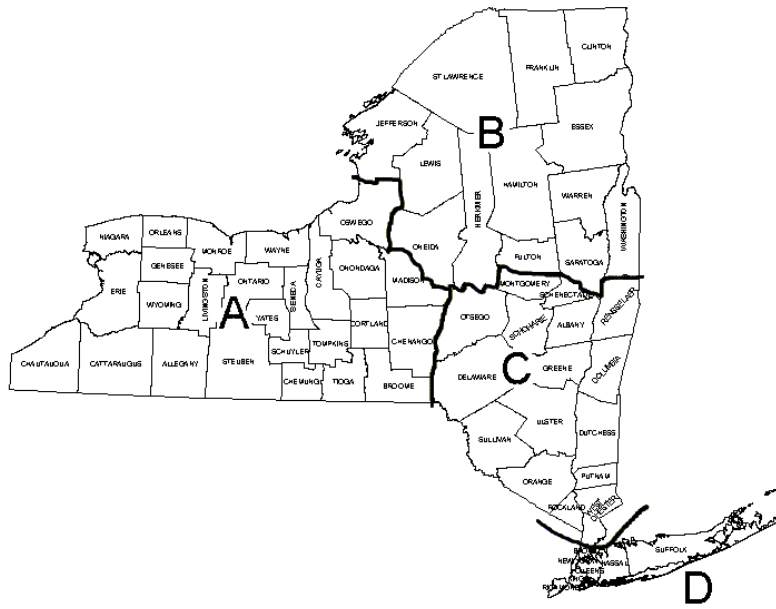


Figure 1. NYS small game hunting regions as depicted in the small game hunter questionnaire (A = Western NY, B = Northern NY, C = Southeastern NY, D = Long Island).

Awareness and Support for Young Forest Management

Almost one-third (29%) of small game hunters indicated they were aware of the YFI taking place on WMAs in New York State (Table 7). Awareness was higher for those who hunted for species that will benefit from the program (36% for those hunting ESH-reliant birds and 34% for those hunting cottontail rabbits), and those who hunted on WMAs in the past 5 years (42%). As expected, those who were not familiar with WMAs were unlikely to know about the program. We found a higher level of awareness of the YFI among ruffed grouse hunters in Western NY (42%) than hunters in Northern NY (30%). Southeastern NY hunters were intermediate at 34%.

Table 7. Awareness of the Young Forest Initiative (YFI) – overall and by key variables.

Aware of YFI	Percent
Overall	29.4
Hunted ESH-reliant birds in NY*	35.9
Hunted cottontail rabbit in NY*	33.6
Aware of WMAs*	
Yes	34.9
No	8.2
Unsure	9.2
Hunted on WMA in past 5 years*	41.9
Ruffed grouse hunters by region*	
Western NY	42.1
Northern NY	29.6
Southeastern NY	34.0

*Significant difference in awareness of the YFI between hunters in each category at $P < 0.05$ using chi-square test.

Support for young forest habitat management on WMAs among small game hunters was very high, with over 80% supporting this type of management to some degree (Table 8). Fifty-eight percent strongly supported young forest habitat management; less than 5% opposed it. Those who hunted species that would benefit most from this type of management (cottontail rabbit, ESH-reliant birds) were a bit more likely to support it (84%). Those aware of the program (before receiving the questionnaire) and those aware of WMAs were, as expected, more likely to be supportive of young forest habitat management. Hunters who had hunted on WMAs in the past 5 years were not significantly more likely to be supportive than those who had not. Ruffed grouse hunters who hunted most often in Western and Southeastern NY were more likely to be supportive than those hunting in Northern NY.

Table 8. Support for young forest habitat management on WMAs – overall and by key variables.

	Support for young forest habitat management on WMAs (%)				
	Strongly oppose	Somewhat oppose	Neither oppose or support	Somewhat support	Strongly support
Overall	1.4	1.0	16.9	22.9	57.8
Hunted ESH-reliant birds in NY	1.1	0.9	14.5	22.6	61.0
Hunted cottontail rabbit in NY*	1.1	1.1	13.2	24.4	60.1
Aware of YFI*					
Yes	2.1	0.3	7.6	19.0	71.0
No	1.1	1.3	20.7	24.3	52.5
Aware of WMAs					
Yes ^a	1.3	0.7	14.9	21.9	61.2
No ^b	3.0	2.3	24.8	22.6	47.4
Unsure ^{a,b}	0.0	2.6	21.1	34.2	42.1
Hunted on WMA in past 5 years	1.1	0.6	12.4	21.5	64.5
Ruffed grouse hunters by region					
Western NY ^a	0.5	0.9	11.8	20.9	65.9
Northern NY ^b	1.5	1.5	20.0	27.4	49.6
Southeastern NY ^a	2.1	0.0	11.6	20.0	66.3

*Significant difference in level of support between hunters in each category at P<0.05 using t-test.

^{a,b} Values without a letter in common are significantly different from each other at P<0.05 using Scheffe's test.

Discussion and Conclusions

These survey findings provide us with estimates of awareness and use of WMAs and support for the young forest habitat management among small game hunters. The results show that most small game hunters are aware of WMAs, and many take advantage of the hunting opportunities they provide, especially those seeking species which will benefit from the YFI. Overall

awareness of the YFI, however, was limited among small game hunters, with just under one-third indicating familiarity with the program. Awareness was somewhat higher among those who had hunted on a WMA recently. Support for young forest habitat management was high across all small game hunters. Support was slightly higher among those who would benefit most from the increased hunting opportunities likely to come from this type of habitat management.

SYNTHESIS AND RECOMMENDATIONS

Comparisons between the two survey efforts were possible because of several similarly worded questions. Both questionnaires had a question on awareness of WMAs, with 37% of downstate residents, 70% of upstate residents, and 78% of small game hunters indicating they were aware of WMAs. (This awareness may just be familiarity with the term and not any deeper understanding of what WMAs are or how they are managed.) The low level of awareness of downstate residents was expected. The relatively high level of awareness of upstate residents compared with small game hunters suggests that upstate residents might be aware of WMAs as opportunities for non-hunting recreation. If the level of awareness of WMAs was increased among small game hunters, more small game hunters (perhaps as many as 11% of small game hunters) might be able to take advantage of the hunting opportunities that WMAs provide, especially now with the YFI underway.

Support for management to create habitat for wildlife on public lands was strong among the general public, with 92% indicating some level of support and 56% indicating it was very important to create habitat. More specifically, small game hunters supported young forest habitat management on WMAs (81%), with 58% strongly supporting it. The level of support, however, might vary when specific management actions are undertaken, as some actions might be more or less acceptable in more concrete situations in specific WMAs.

These survey findings provide us, for the first time, with estimates of awareness of WMAs and support for certain wildlife-related management actions among the general public and small game hunters in New York. Results from these surveys will also be compared with similarly worded questions contained in the survey of landowners and hunters living near four WMAs, where reactions to more concrete management actions can be examined. These findings will be included in a report prepared later in 2018 when the results from all three surveys will be available.

APPENDIX A: 2018 EMPIRE POLL QUESTIONS

1. The State of New York owns large areas of land. It manages these lands for different purposes. One of the things the State does is create habitat for wildlife. How important is it to you that New York State creates habitat for wildlife on public land?

☐ Not at all important
☐ Slightly important
☐ Moderately important
☐ Very important

2. Now I am going to list some ways New York State creates habitat for wildlife on public land. How strongly would you support or oppose the State's use of each of the following actions:
 - a. Mowing to maintain grasslands
☐ Strongly oppose
☐ Somewhat oppose
☐ Neither oppose or support
☐ Somewhat support
☐ Strongly support

 - b. Cutting a patch of trees to allow smaller trees and shrubs to grow back
☐ Strongly oppose
☐ Somewhat oppose
☐ Neither oppose or support
☐ Somewhat support
☐ Strongly support

 - c. Adjusting water levels on small ponds to maintain wetlands
☐ Strongly oppose
☐ Somewhat oppose
☐ Neither oppose or support
☐ Somewhat support
☐ Strongly support

3. Have you ever heard of Wildlife Management Areas, which are run by the New York State Department of Environmental Conservation?

☐ Yes
☐ No
☐ Unsure

APPENDIX B: QUESTIONS ADDED ONTO THE DEC SMALL GAME HUNTER SURVEY

6. Did you hunt woodcock during the 2017 season (Oct. 1 - Nov. 14, 2017)?

☐ Yes ☐ No

7. Have you ever heard of Wildlife Management Areas (WMAs), which are run by DEC, Division of Fish and Wildlife?

☐ Yes -> CONTINUE TO Q8 ☐ No -> SKIP TO Q9
☐ Unsure -> SKIP TO Q9

8. Have you hunted on a WMA in the past 5 years?

☐ Yes ☐ No

9. DEC has begun a habitat management program to restore young forest habitat to WMAs as a way to provide food and cover for birds and mammals. Young forest contains tree seedlings, saplings, woody vines, and shrubs up to about 10 years old. Have you heard about this program, called the "Young Forest Initiative?"

☐ Yes ☐ No

10. How strongly do you oppose or support this type of habitat management program on WMAs?

☐ Strongly oppose ☐ Somewhat oppose ☐ Neither oppose or support
☐ Somewhat support ☐ Strongly support