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**Final Report**

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## **Executive Summary**

New Jersey Division of Fish and Wildlife (NJDFW) manages a system of 122 wildlife management areas (WMAs) covering 350,516 acres of the state. These lands were initially established as public hunting and fishing grounds, but have more recently expanded their role as areas where fish and wildlife habitat is protected and enhanced while simultaneously providing a wide range of consumptive and non-consumptive recreational and educational opportunities. Given the increasing demand for wildlife-related recreational opportunities, as well as shifting trends in recreational use, understanding who is using NJ WMAs, what they are doing in these areas, and how they feel these areas should be managed is critical to maintain a sustainable future for the state's WMAs.

Outside of a study of one of the largest WMAs in New Jersey (Assunpink Wildlife Management Area) in 1974, followed by a small pilot survey online in 2008, no comprehensive research has been conducted in the past 40 years to determine information about who is using WMAs. We conducted in-person intercept surveys as well as targeted focus groups to gain a more comprehensive understanding of WMA users in New Jersey by determining if people are primarily using the lands for consumptive or non-consumptive uses, how these different user groups feel about current WMA management practices, their overall satisfaction with WMA visits, and their opinions on financially contributing to the management of WMAs. We surveyed 1,986 individuals (representing 4,198 people) at 107 WMAs from May 2016-April 2017, and received input from 52 internal and external stakeholders at focus groups. Responses indicated overall satisfaction with the WMA system and a willingness to pay an additional fee to use these areas. A majority of surveyed users (53%) were participating in non-consumptive activities, demonstrating the need for managers to find a balance between consumptive and non-consumptive uses that maintains the integrity of the initial mission of WMAs as public hunting and fishing grounds, while simultaneously adapting and responding to the increasing demand for alternate, non-consumptive forms of outdoor recreation.

Results from this study highlight the need for improved education and outreach programs regarding the WMA system in New Jersey. Better online information, clear maps, improved signage, and specific site improvements would improve access and familiarity with NJDFW and its mission, and increase visitation and potential funding streams. Our results also showed varying degrees of understanding and support for various habitat management practices that are currently used on these lands, and continued outreach and education on these important practices would be beneficial as well. Developing online communities (e.g., cleanup groups, email blasts, Facebook groups) that support NJDFW or an individual WMA, would provide NJDFW the opportunity to collect additional data about current use, increase outreach and education efforts, and facilitate development of appropriate management plans for New Jersey's WMA system.



Based on the results of our survey, we provide 5 recommendations to NJDEP:

- Hold discussions within NJDFW to clearly define “core” users of WMAs and how user input should be weighted to determine appropriate management goals and actions for NJ WMAs.
- Explore additional sources of funding for NJ WMAs, including increasing recruitment and retention of license and permit holders (including outreach to underrepresented demographic groups), increasing current license fees, implementing a voluntary habitat stamp program, and imposing additional WMA access fees for designated high-use WMAs and parking areas.
- Continue and improve education and outreach efforts regarding habitat management practices, particularly timber harvesting and herbicide use.
- Increase access and availability of information on WMAs, including; locations of parking areas and other points of access, improved signage that includes lists of approved activities (including area and seasonal restrictions), habitat management practices, and any noteworthy, ongoing habitat management projects.
- Develop community partnerships (including online and local/state community groups) for stewardship of WMAs and future data collection and feedback.

## **Introduction**

New Jersey Division of Fish and Wildlife (NJDFW) manages a system of 122 wildlife management areas (WMAs), beginning with the purchase of the 387 acre Walpack Tract in Sussex County in 1932. Currently, these lands cover 350,516 acres, representing more than 44% of state-owned public lands. Initially, WMAs were established as public hunting and fishing grounds, but have more recently expanded their role as areas where fish and wildlife habitat is protected and enhanced while simultaneously providing a wide range of consumptive and non-consumptive recreational and educational opportunities (NJDFW, 2017d).

Although demand for wildlife-related recreational opportunities across the U.S. has grown significantly over the past 40 years, trends in the types of activities people participate in have shifted. In 2016, 101.6 million Americans (40%) ages 16 and older participated in some form of fishing, hunting, or wildlife-related recreation, up from 87.5 million (38%) in 2006 (USFWS, 2006). Although both the percent of anglers and wildlife watchers increased 19% and 21%, respectively, from 2006 to 2016, the percent of hunters declined by 8% (USFWS, 2017). In New Jersey, 30% of residents ages 16 and older participated in wildlife-related recreation in 2011 (lower than the 40% national average). Ten percent of New Jersey’s residents were sportspersons and 25% participated in wildlife watching, which are somewhat lower than the national averages of 16% and 30%, respectively (USFWS, 2011).

The shifting trends in outdoor recreation have increased public interest in WMAs and the preference for more diverse recreational opportunities (Carrozino et al, 2011). While some of the desired uses are compatible with the original goals of the WMA system (i.e., public hunting and fishing grounds), others are not. Specifically, New Jersey WMAs do allow for other forms of non-consumptive outdoor recreation (e.g., dog training, horseback riding, mountain biking), but with strict area and seasonal restrictions (NJDFW, 2017c). Currently, hunters and anglers support the maintenance and management of WMAs through their purchase of licenses and excise taxes on hunting and fishing equipment. In contrast, non-consumptive user groups do not contribute to the operational costs of WMAs.

The perception that some users are not financially contributing to management could create tension between consumptive and non-consumptive user groups, particularly when there is a discrepancy in recreation goals (Carrozino et al, 2011). Therefore, funding mechanisms for the acquisition, maintenance, and management of NJ WMAs may need to be revisited if the preference for more non-consumptive recreational opportunities continues to increase. However, it is important to note that many other types of public land in New Jersey are designated to provide more diverse, non-consumptive recreation opportunities, including state parks and forests, county and municipal parks, as well as national parks, national recreation areas, and national wildlife refuges.

Initially, lands purchased for the WMA system in New Jersey were funded entirely from the sale of hunting and fishing licenses. The first of several Green Acres Bond initiatives was approved in 1961, which enabled the participation of the general public in the continued expansion of the system (NJDFW, 2017d). Sixty-nine percent of the existing WMA lands were purchased through Green Acres Bonds (Table 1), which were designed to “achieve...a system of interconnected open spaces, whose protection will preserve and enhance New Jersey's natural environment and its historic, scenic, and recreational resources for public use and enjoyment” (NJDEP, 2017). Twenty percent of all WMA lands were purchased with hunting and fishing license revenue. An additional 11% of the acreage was acquired through the Wildlife and Sport Fish Restoration (WSFR) Program (NJDFW, 2017a), which is funded from the collection of excise taxes and import duties on equipment and gear manufactured for purchase by hunters, anglers, boaters, archers, and recreational shooters (Table 1). NJDFW operations, including habitat management efforts, are funded primarily by hunting and fishing license revenue and WSFR funds. As a condition of the Division’s participation and use of WSFR funding, hunting and fishing license revenue can only be used for administration of NJDFW, and the Division cannot allow any activities that interfere with the primary purpose for which WMAs are acquired, operated, or maintained (NJDFW, 2017a). Federal Aid, Green Acres, and General Fund Capital appropriations also typically fund capital projects such as boat ramps, dams, and parking lots (NJDFW, 2017d).

<b>Acquisition Source</b>	<b>Division of Fish and Wildlife</b>	<b>Wildlife and Sport Fish Restoration Program</b>	<b>Green Acres Bond Acts Program</b>	<b>Total Acreage as of Sept. 2017</b>
# of Acres	72,667	36,841	241,008	<b>350,516</b>
% of Land	20%	11%	69%	<b>100%</b>

Table 1. Funding sources for land acquisition of New Jersey Wildlife Management Areas, the number or acres of WMA land acquired from each funding source, and the percentage of total WMA acreage represented by each funding source. (NJDFW, 2017b)

Given the increasing demand for wildlife-related recreational opportunities, as well as shifting trends in recreational use, understanding who is using NJ WMAs, what they are doing in these areas, and how they feel these areas should be managed is critical to maintain a sustainable future for the state’s WMAs. Although a comprehensive study of one of the largest WMAs in New Jersey (Assunpink Wildlife Management Area) was completed in 1974, followed by a small pilot survey online in 2008, no comprehensive research has been conducted in the past 40 years to determine how much use various WMAs receive annually. With this research, we aim to gain a more comprehensive understanding of WMA users in New Jersey by determining if people are primarily using the lands for consumptive or non-consumptive uses, how these different user groups feel about current WMA management practices, their overall satisfaction with WMA visits, and their opinions on financially contributing to the management of WMAs.

This information could serve as a catalyst for changing how WMA lands are managed by NJDFW. Of particular interest is whether or not non-consumptive users should have more input into management practices and the types of outdoor recreational opportunities that WMAs allow and manage for. Results from this study will also provide insight into the need for outreach and education efforts to various demographic groups as well as information necessary to develop more comprehensive and appropriate management plans for New Jersey’s WMA system.

## **Methods**

We conducted in-person intercept surveys from May 1, 2016 to April 30, 2017 to ensure adequate sampling of WMAs across an entire calendar year. We designed the survey in conjunction with NJDFW staff to collect information on the type of recreational activities, visitation frequency, user satisfaction, user knowledge and opinion of habitat management practices, willingness to pay and opinions about fee structure, and basic demographic information (e.g. age, gender, zip code, etc.; Appendix A). The survey instrument satisfied the Stockton Internal Review Board requirements for research involving human subjects (IRB approval #576). Stockton and NJDFW staff conducted brief 3-5 minute interviews with WMA users as they arrived or departed the WMA. Surveys were recorded on iPads using iSurvey, an offline data collection application, and uploaded to a permanent, secure database once interviewers returned from the field.

Our target sampling universe for this study was adults (18 years of age or older) who visit one or more of the 122 Wildlife Management Areas (WMA) in New Jersey. Based on an adult population in NJ of ~6,828,000 individuals, we aimed to interview at least 1,800 WMA users over the course of the study, yielding a margin of error +/- 2.3% to 2.4% based on a 95% CL (Groves et al. 2004). We stratified the target population by region (North, Central, and South) and user type (consumptive vs. non-consumptive), aiming to sample at least 300 individuals from each strata. For purposes of this study, consumptive use represents hunting, fishing, and trapping activities, whereas non-consumptive use represents wildlife observation, photography, hiking, biking, kayaking, etc.), environmental education, and interpretation.

To attain an even distribution of sampling among different WMAs and seasons, we randomly selected 40 days to survey WMAs in each of 3 seasons (summer = 1 May-30 Sept, fall = 1 Oct-31 Dec, winter/spring = 1 Jan-30 April) for a total of 120 survey days. We then selected three WMAs (one from each region: north, central, and south) to survey each day (Appendix B). To ensure that sampling was proportional to use, we assigned high-use WMAs a higher (i.e., 3x greater) probability of being selected than low-use WMAs, and medium-use WMAs a 2x greater probability of being selected than low-use WMAs. This resulted in some WMAs being surveyed multiple times, and others not being surveyed at all. Estimated use (low, medium, high, or inaccessible) was provided by NJDFW. Similarly, we surveyed 2 weekend days for every weekday sampled since use is typically higher on weekends. After evaluating the number of completed surveys during the first month, we randomly selected 3 additional survey days (one weekday, one Saturday, and one Sunday) each month to make certain we met our goal of 1,800 responses. This brought our final total to 153 survey days.

We conducted surveys during daylight hours for four hour shifts. Shifts were randomly selected for each day and divided into morning (8:00am to 12:00pm), midday (12:00pm to 4:00pm), and evening (4:00pm to 8:00pm). Survey times were amended earlier or later to reflect daylight length at different times of the year so that technicians were not surveying after dark (Table 2). The times for morning shifts remained unchanged throughout the year.

While onsite, interviewers conducted as many surveys as possible during their pre-selected four hour shift. When WMA users arrived in groups (> one person), one person was randomly selected to represent the group based on the most recent birthday. To maximize the number of surveys completed, interviewers were trained in effective intercept strategies, wore identifying Stockton apparel and nametags, and posted a sign indicating surveys were being conducted. Interviewers kept a record log, including refusals and notes from the day, which they submitted within 24 hours after the survey shift. These records were crosschecked to confirm quality control with sampling. If users could not be intercepted, business reply postcards (Appendix C) were left on windshields of vehicles parked on the WMAs. The postcard contained abbreviated information on the activities, satisfaction, and demographics of these users. Postcard recipients

were instructed to fill out the postcard at their leisure and return them by prepaid mail to Stockton University.

<b>Date Range</b>	<b>AM Shift</b>	<b>Midday Shift</b>	<b>PM Shift</b>
8 May – 31 Aug	8:00 AM – 12:00 PM	12:00 PM – 4:00 PM	4:00 PM – 8:00 PM
1 Sep – 31 Oct	8:00 AM – 12:00 PM	10:00 AM – 2:00 PM	2:00 PM – 6:00 PM
1 Nov – 11 Mar	8:00 AM – 12:00 PM	10:00 AM – 2:00 PM	1:00 PM – 5:00 PM
12 Mar – 30 Apr	8:00 AM – 12:00 PM	12:00 PM – 4:00 PM	3:00 PM – 7:00 PM

Table 2. Shift times for in-person intercept surveys conducted at NJ WMAs from May 2016-April 2017. Times were adjusted to ensure surveys were conducted during daylight hours only.

The Stockton research team worked closely with NJDFW staff to identify optimal survey locations for each WMA based on past observations, taking into consideration the time of year and time of day of each shift. Depending on the possible survey locations at each WMA, there were three survey strategies: single location, 50/50 split, or roam. With a single location, interviewers would remain at that location for the entire shift (Appendix D, Figure D1). For a 50/50 split, interviewers would remain at the first location for 2 hours, and would proceed to the second location for the final 2 hours if no users remained at the first location (Figure D2). In some cases, the two locations at a WMA had distinct user groups that should be represented, so the interviewer would proceed to the second location after the first 2 hours, even if there were more people to survey at the first location. If there were no users at the second location after 30 minutes, interviewers would return to the first location. For roaming sites, interviewers followed a pre-planned route between several locations during the shift (Figure D3). NJDFW identified sampling locations and routes prior to sampling at all selected WMAs.

All technicians underwent a training session organized by Stockton University and Stockton’s William J. Hughes Center for Public Policy on April 23, 2016 at the Assunpink Wildlife Management Area. Yvonne Shands, Director of Data Collection Services for Survey Technology and Research, was hired as the training consultant. During the training, all technicians were briefed on the project background, oriented to the iPads used for surveys, trained on best practices for intercepting and surveying respondents in the field, and given ample time for observed and corrected role-playing scenarios. A variety of unique situations were presented in paired simulation and also in a group setting to maximize educational opportunities. An extensive training manual was provided to all technicians. In addition, instruction was provided on safety issues in the field, payroll, scheduling, reporting, and data management.

In addition to in-person surveys and postcards, we held two focus group meetings on May 11, 2017. The internal focus group meeting included representatives from each bureau within NJDFW. The external focus group meeting included stakeholders from federal, state, and local government, non-governmental organizations, businesses, and members of the general public. A complete list of attendees is included in Appendix E. A brief questionnaire was distributed

upon entry to collect general demographic information for each attendee (Appendix F). The meetings consisted of 90 minutes of brainstorming, discussion, and voting on a variety of questions regarding New Jersey’s WMAs, which included: appropriate WMA users and management practices, the extent and objectives of active management on New Jersey WMAs, the most pressing issues facing New Jersey WMAs, payment for access to New Jersey WMAs, and possible options for a fee collection system. Attendees recorded their votes and opinions on an additional form included in the questionnaire (Appendix F). After voting ended, attendees were invited to ask questions and share additional comments, which were recorded along with any that arose earlier in the meeting. Questionnaires and voting results were collected at the end of the meetings.

## **Results**

During the 12 months of sampling (May 2016-April 2017), we surveyed at 107 WMAs 459 times (Appendix G, Table G1). We completed a total of 1,986 surveys representing 4,198 people (3,654 adults and 544 children under the age of 18 who were visiting with adults). Average group size was 2 (range = 1-50 people). The majority (59%; Figure 1) of surveyed users visited the specific WMA where they were surveyed 10 times or less in the past 12 months (18% were visiting for the first time) and the average length of visit to the WMAs was 2.3 hours. We had only 96 survey refusals, corresponding to a response rate of 95%. Due to random selection or perceived zero usage by NJDFW, a total of 15 WMAs were not surveyed. Additional details on survey results, included regional breakdowns, can be found in Appendix G.

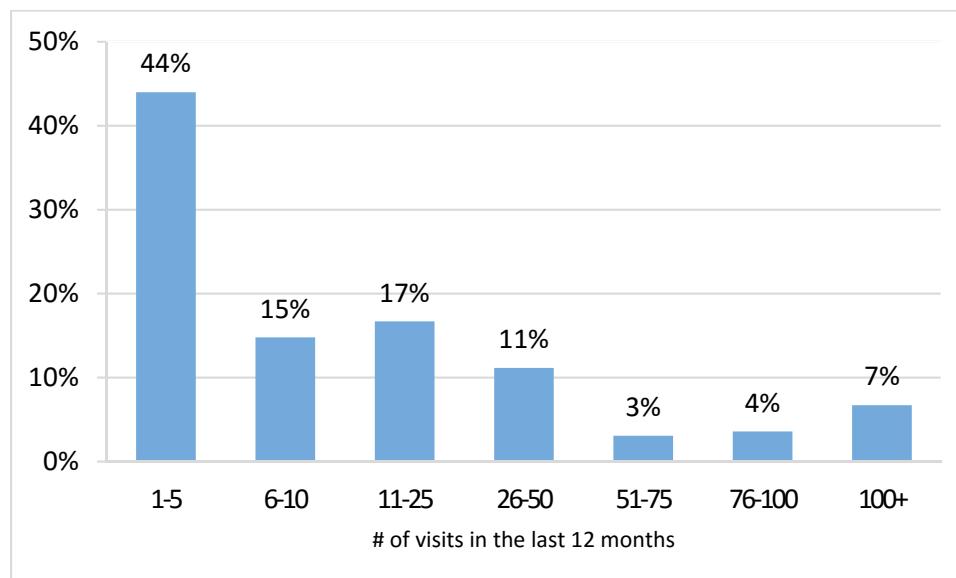


Figure 1. The number of times surveyed users visited the specific WMA where they were surveyed in the last 12 months. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1982).

## Demographics

Fifty-nine percent of surveyed WMA users self-identified as living in a suburban residence, 35% in rural areas, and 6% in urban areas (n = 1,979; Figure 2). Two surveyed users replied “no comment” when asked about the type of location they reside in. Seventy-four percent of surveyed WMA users were male and 26% were female (n = 1,975; Figure 3). The average age of all surveyed users was 48 years old (n = 1,978). The greatest number of surveyed users were between the ages of 45 and 64 (45%) and 32% were between the ages of 25 and 44 (Figure 4).

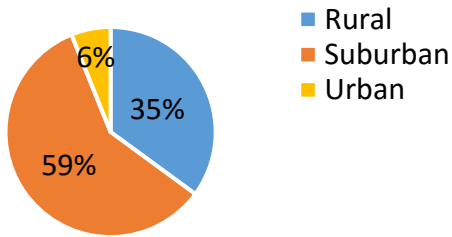


Figure 2. Residence types of surveyed WMA users. Results are from in-person intercept surveys from May 2016-April 2017

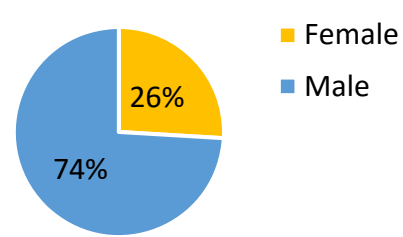


Figure 3. Gender of surveyed WMA users. Results are from in-person intercept surveys from May 2016-April 2017

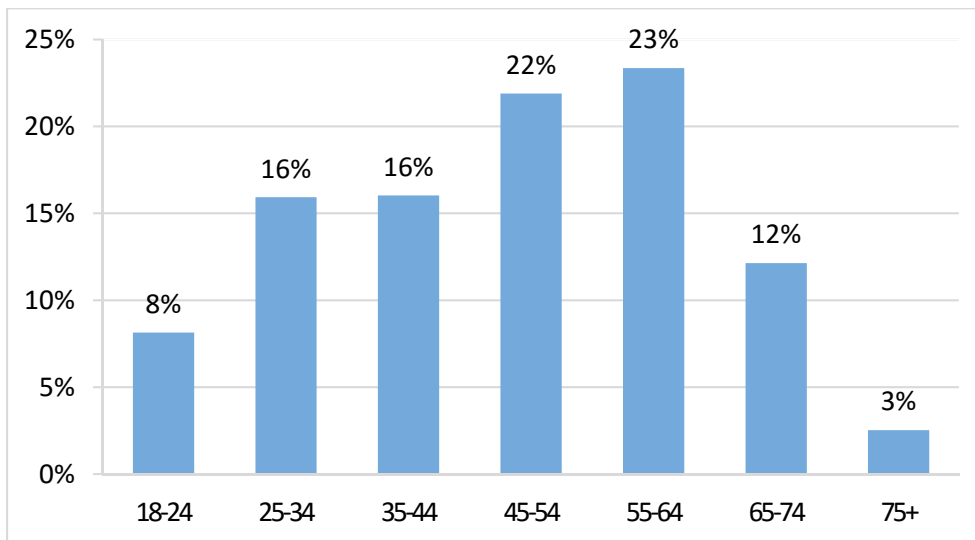


Figure 4. Age ranges of surveyed WMA users. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1,978).

## WMA Activities

Most surveyed WMA users (53%) participated in non-consumptive activities, followed by consumptive activities (36%) and range use (11%; Figure 5). The most common activities for the entire survey period were fishing, hiking/walking/running, and dog walking (45% of total surveyed users; Table 3). The percent of hunters changed notably from summer (< 1%) to fall (19%), then decreased again in winter/spring (3%). Hunting was the most common activity in the fall besides all range use when combined (21%). The shotgun range was consistently the most used of the three range types. Fishing decreased from the most common user activity in the summer (35%) to third highest in the fall (13%) then increased to the most common activity again in the winter/spring (22%). Dog walking was highest in the winter (14%) and lowest in the summer (5%). Activities that totaled under 1% for the entire survey period were not included in Figure 4 and Table 3. Some of these activities included visiting the beach, exploring, motor cycle riding, collecting rocks and shells, and scouting for consumptive uses. For analysis purposes, we assumed that all members of a group (> 1 individual) were participating in the same activity.

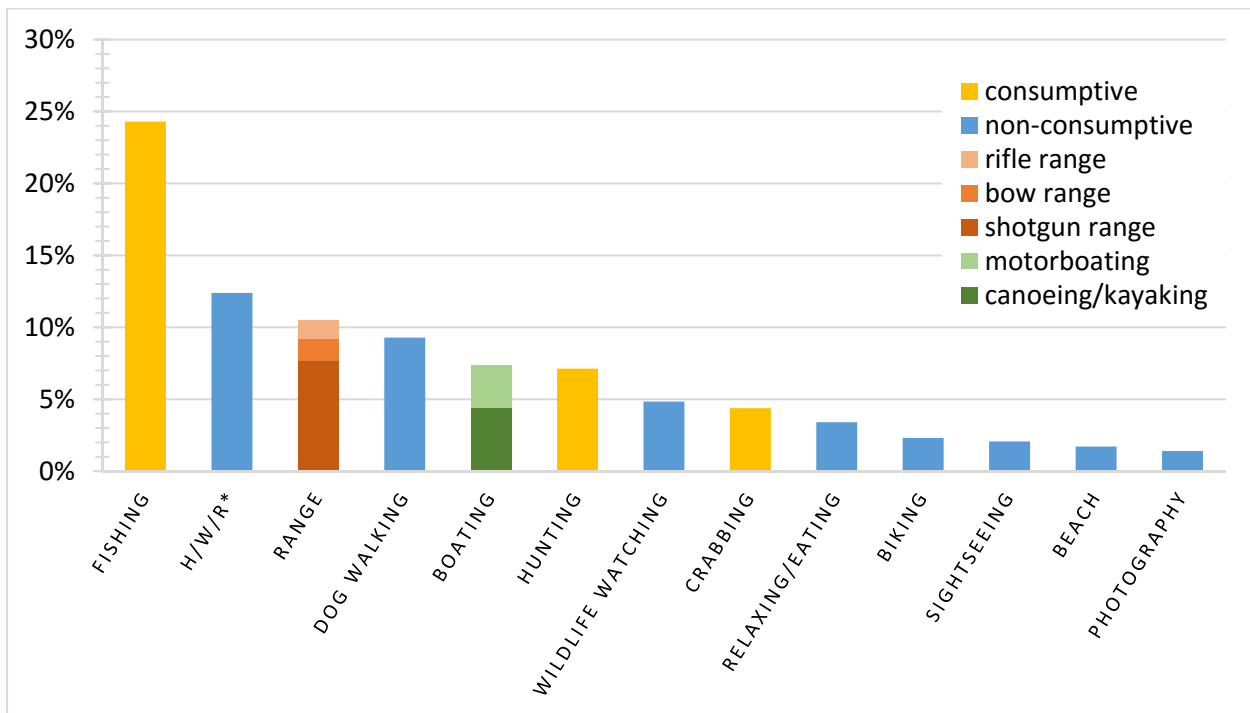


Figure 5. Activities of all surveyed WMA users accounting for group size. Boating and range activities are also considered non-consumptive. Results are from in-person intercept surveys from May 2016-April 2017 (n = 4,198). \*H/W/R = hiking/walking/running.



<b>Activity</b>	<b>Total (n = 4,198)</b>	<b>Summer (n = 1,730)</b>	<b>Fall (n = 1,372)</b>	<b>Winter/spring (n = 1,096)</b>
Fishing	24%	35%	13%	22%
Hiking/walking/running	12%	9%	12%	19%
Dog walking	9%	5%	12%	14%
Shotgun range	8%	2%	16%	6%
Hunting	7%	0%	19%	3%
Wildlife watching	5%	3%	3%	10%
Canoeing/kayaking	4%	8%	3%	1%
Crabbing	4%	9%	2%	1%
Relaxing/eating	3%	4%	2%	5%
Motor boating	3%	6%	1%	0%
Biking	2%	3%	1%	2%
Sightseeing	2%	1%	1%	5%
Beach	2%	4%	0%	1%
Bow range	2%	1%	3%	1%
Photography	1%	2%	1%	2%
Rifle range	1%	1%	2%	1%

Table 3. Activities of all surveyed WMA users accounting for group size. Results are from in-person intercept surveys from May 2016-April 2017 (n = 4,198).

We asked surveyed users who were primarily visiting a WMA for hunting or fishing to identify their target species. The top three most common targeted species by surveyed fisherman and their groups were bass (37%), trout (20%), and fluke/flounder (12%; Table 4). Species with percentages less than 1% were left out of Table 6; these species include: shark, tautog, kingfish, mackerel, walleye, croaker, eel, and snapper. More fisherman were targeting freshwater species (69%) than saltwater species (21%). Fourteen percent answered that they were not targeting a specific species. The top three most common target species by surveyed hunters and their groups were deer (45%), pheasant (40%), and rabbit (7%; Table 5).

<b>Fished Species</b>	<b>% of Responses</b>
Bass	37%
Trout	20%
Anything	14%
Fluke/Flounder	12%
Striped Bass	4%
Catfish/Bullheads	3%
Panfish	3%
Pickereel	2%
Bluefish	2%
White Perch	2%
Weakfish	1%

Table 4. Targeted species of surveyed WMA users that were fishing, accounting for group size. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1020).

<b>Hunted Species</b>	<b>% of Responses</b>
Deer	45%
Pheasant	40%
Rabbit	7%
Turkey	3%
Squirrel	2%
Waterfowl/Ducks/Geese	2%
Game Birds (Grouse, Woodcock)	1%

Table 5. Targeted species of surveyed WMA users that were hunting, accounting for group size. Results are from in-person intercept surveys from May 2016-April 2017 (n = 299).

**Percent of Surveyed Users Holding NJ Permits**

Fifty-nine percent of surveyed users self-identified as holding a NJ hunting, fishing, trapping permit or boat ramp license within the past 12 months, while 41% stated they did not (Table 6). The activities that had the most surveyed users holding permits were hunting (98%), bow range (94%) and fishing (92%) and the activities with the least permit holders were visiting the beach (0%), photography (13%), and dog walking (26%; Table 7). The percent of surveyed users holding a permit was much higher in summer and fall compared to winter/spring, and more males (71%) than females (27%) held permits (Figure 6). Eighty-nine percent of all surveyed range users held permits.

Permit?	Total	Summer	Fall	Winter/Spring
Yes	59%	62%	64%	49%
No	41%	38%	36%	51%

Table 6. Percent of surveyed WMA users holding hunting, fishing, trapping, or boat ramp permits, including seasonal breakdowns. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1,984).

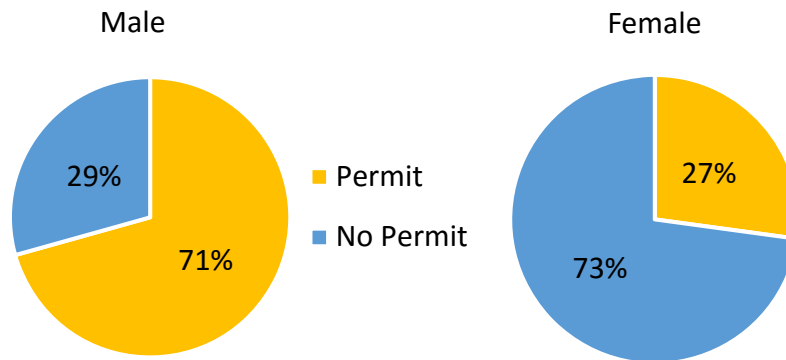


Figure 6. Percent of surveyed male (n = 1,462) and female (n = 512) WMA users holding hunting, fishing, trapping, or boat ramp permits. Results are from in-person intercept surveys from May 2016-April 2017.

Although the majority of surveyed WMA users participated in non-consumptive activities, 35% of those non-consumptive users held NJ permits or licenses within the past 12 months as well. The surveyed non-consumptive users holding permits (n = 386) participated the most in hiking, walking, and running (17%), dog walking (17%), wildlife watching (13%), and canoeing and kayaking (11%). There were a total of 63 (9%) consumptive users that were not holding permits; 45 of these (6.4%) were crabbing, saltwater fishing, or fishing over age 70, all of which do not require a permit. Two hunters and 16 freshwater anglers, who presumably should have had a permit of some sort, indicated they did not have one.

Activity	% holding permits
Hunting (n = 115)	98%
Bow range (n = 33)	94%
Fishing (n = 505)	92%
Rifle range (n = 27)	89%
Shotgun range (n = 108)	86%
Motor boating (n = 44)	77%
Crabbing (n = 75)	68%
Relaxing/eating (n = 72)	47%
Canoeing/kayaking (n = 92)	45%
Wildlife watching (n = 130)	39%
Sightseeing (n = 28)	32%
Biking (n = 50)	30%
Hiking/walking/running (n = 240)	28%
Dog walking (n = 250)	26%
Photography (n = 24)	13%
Beach (n = 18)	0%

Table 7. Percentage of users holding permits for the top 16 most common activities. Results are from in-person intercept surveys from May 2016-April 2017.

### **Knowledge of Managing Agency**

Just over one-third (37%) of surveyed users responded correctly that the New Jersey Division of Fish and Wildlife (NJDFW) owns and manages New Jersey WMAs (Figure 7). Twenty-nine percent of surveyed users were not sure who owns and manages the WMAs, while another 20% responded that the State of New Jersey, New Jersey DEP, or NJ Fish and Game owns and manages the WMAs, which we categorized as “close to correct.” Fourteen percent of surveyed users replied with an answer that was incorrect. Some of the incorrect answers included Wildlife Management, County Park systems, PSEG, National Wildlife Service, Audubon Society, The Nature Conservancy and Green Acres.

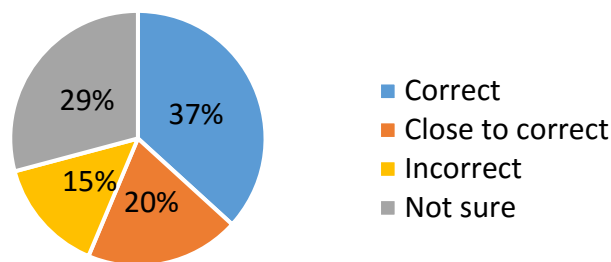


Figure 7. Knowledge of managing agency for all surveyed WMA users Results are from in-person intercept surveys from May 2016-April 2017 (n = 1,983).

A seasonal breakdown shows a greater percentage of surveyed WMA users correctly identified the managing agency during the fall (40%) and winter/spring (42%) compared to summer (30%; Figure 8), and more surveyed users were unsure of the managing agency during the summer (34%) than during the fall (25%) and winter/spring (27%). Similarly, more surveyed users answered incorrectly in the summer (19%), than in the fall (12%) and winter/spring (11%).

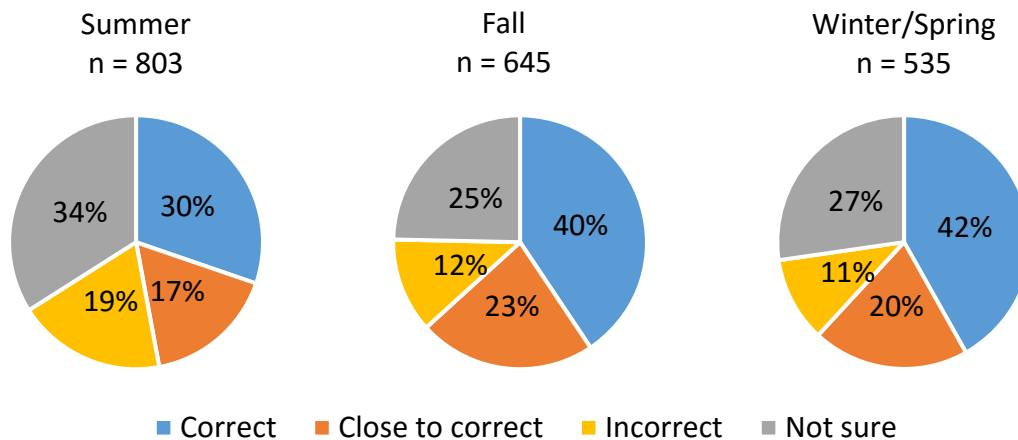


Figure 8. Knowledge of managing agency for all surveyed WMA users. Results are from in-person intercept surveys from May 2016-April 2017 and are broken down by season.

On average, a greater number of surveyed permit holders responded correctly (45%) than non-permit holders (24%; Figure 9). More surveyed non-permit holders responded that they were unsure who the managing agency was (37%) than permit holders (24%). Surveyed non-permit holders also had a greater percent of incorrect responses (18%) than permit holders (12%).

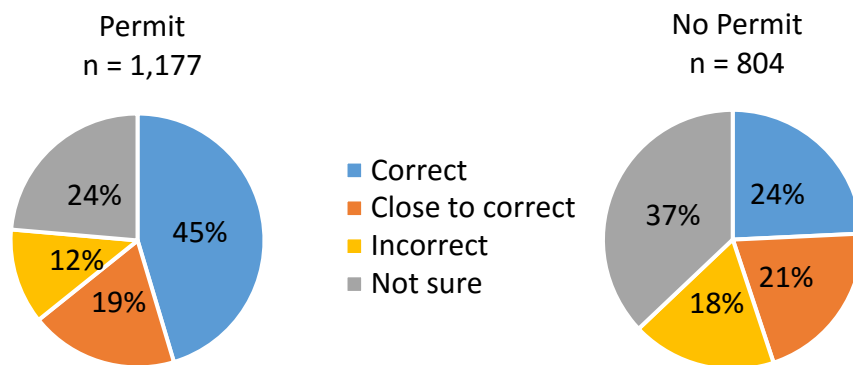


Figure 9. Knowledge of managing agency for surveyed permit holders and non-permit holders. Results are from in-person intercept surveys from May 2016-April 2017.

### **How Surveyed Users Heard About WMAs**

When asked how they heard about the WMA they were currently visiting, 50% of surveyed users answered that they live locally (Figure 10). Twenty-nine percent of surveyed users found out about the WMA through friends or relatives and 3% from people in the local community. Nine percent of surveyed users had other responses, which included; driving by, a website other than the NJDFW website, google maps. One percent of surveyed users heard about the WMA through recreational clubs/organizations, NJDFW printed information, and trail guidebooks. No surveyed users heard about the WMA through newspapers.

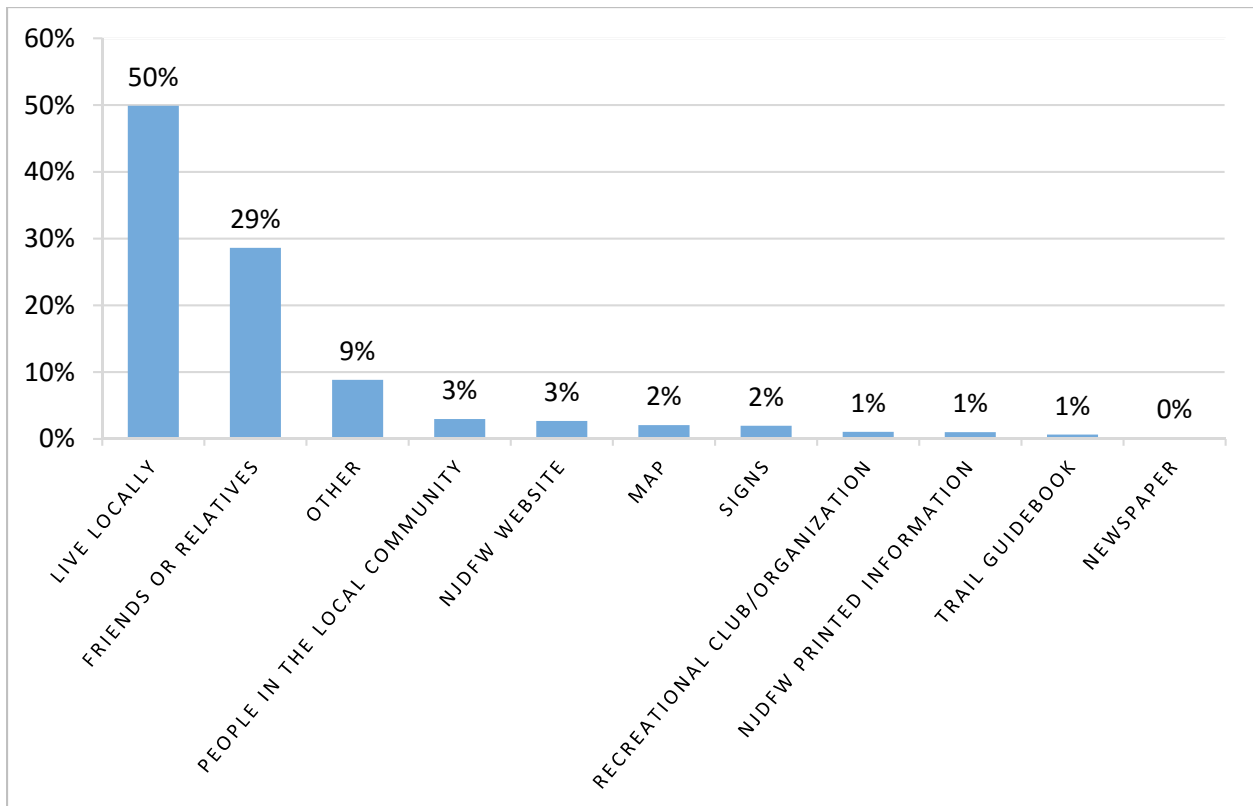


Figure 10. How surveyed users heard about the WMA they were visiting. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1,978).

### Opinions of Habitat Management Practices

The majority (> 50%) of surveyed WMA users were familiar with each of the wildlife habitat management practices we asked about (Figure 11, Table 8). Surveyed users were least familiar with planting food plots for wildlife (47%). Surveyed users were most agreeable (agree or strongly agree) to mowing (75%) and prescribed burning to manage vegetation (60%). They were least agreeable with the option of no habitat management on WMAs (77% disagree or strongly disagree) and the use of herbicides to manage vegetation (39% disagree or strongly disagree).

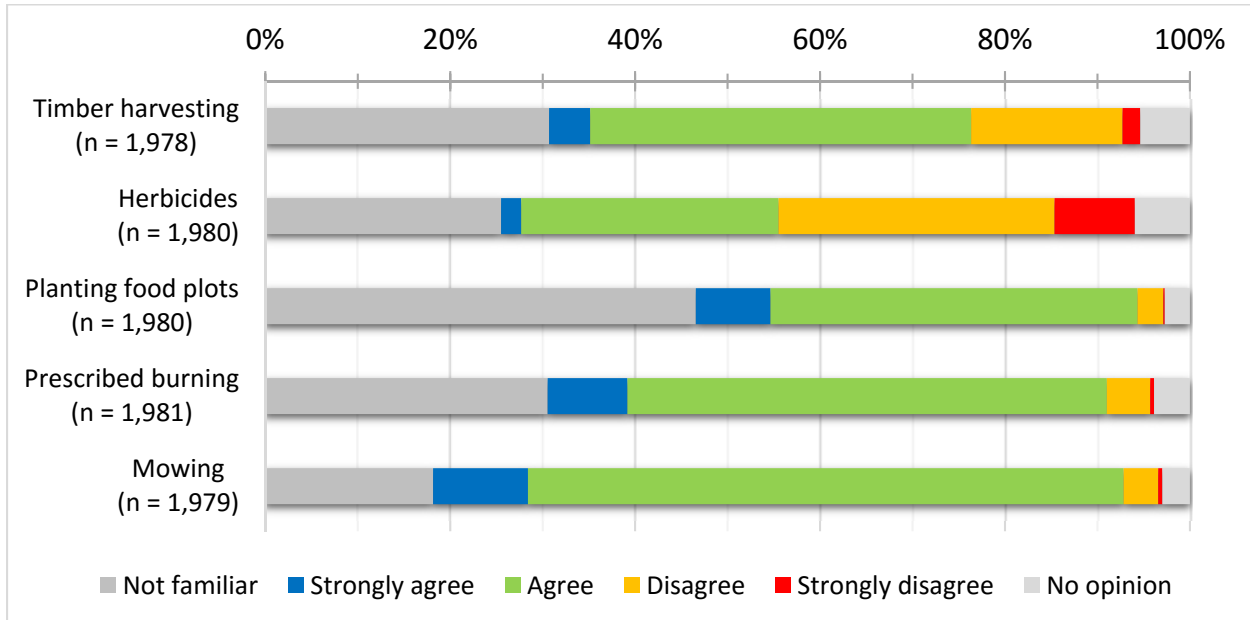


Figure 11. Surveyed WMA user familiarity with and opinions of wildlife and habitat management practices. Results are from in-person intercept surveys from May 2016-April 2017.

	Not familiar	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Timber harvesting (n = 1,978)	31%	4%	41%	16%	2%	5%
Herbicides (n = 1,980)	26%	2%	28%	30%	9%	6%
Planting food plots (n = 1,980)	47%	8%	40%	3%	0%	4%
Prescribed burning (n = 1,981)	31%	9%	52%	5%	0%	4%
Mowing (n = 1,979)	18%	10%	65%	4%	0%	3%
No management (n = 1,977)	9%	1%	7%	54%	23%	6%

Table 8. Surveyed WMA user familiarity with and opinions of wildlife and habitat management practices. Results are from in-person intercept surveys from May 2016-April 2017.

Opinions and familiarity of various management practices differed by user type and by permit and non-permit holders. Overall, surveyed permit holders (Figure 12, Table 9) were more familiar with each of the practices than non-permit holders (Figure 13, Table 10). Both surveyed permit holders (36%) and non-permit holders (62%) were least familiar with planting food plots. Similarly, the overwhelming majority of surveyed permit holders (80%) and non-permit holders (74%) disagreed or strongly disagreed with the option of no habitat management on WMAs. The majority of surveyed permit holders agreed or strongly agreed with timber harvesting (52%), planting food plots (58%), prescribed burning (66%), and mowing (78%), but expressed much less agreement with the use of herbicides (34%). Surveyed permit holders were generally more agreeable with habitat management practices than non-permit holders. Although the majority of non-permits holders agreed or strongly agreed with prescribed burning (53%) and mowing (70%), they agreed or strongly agreed less with timber harvesting (36%), herbicides (24%), and planting food plots (33%).

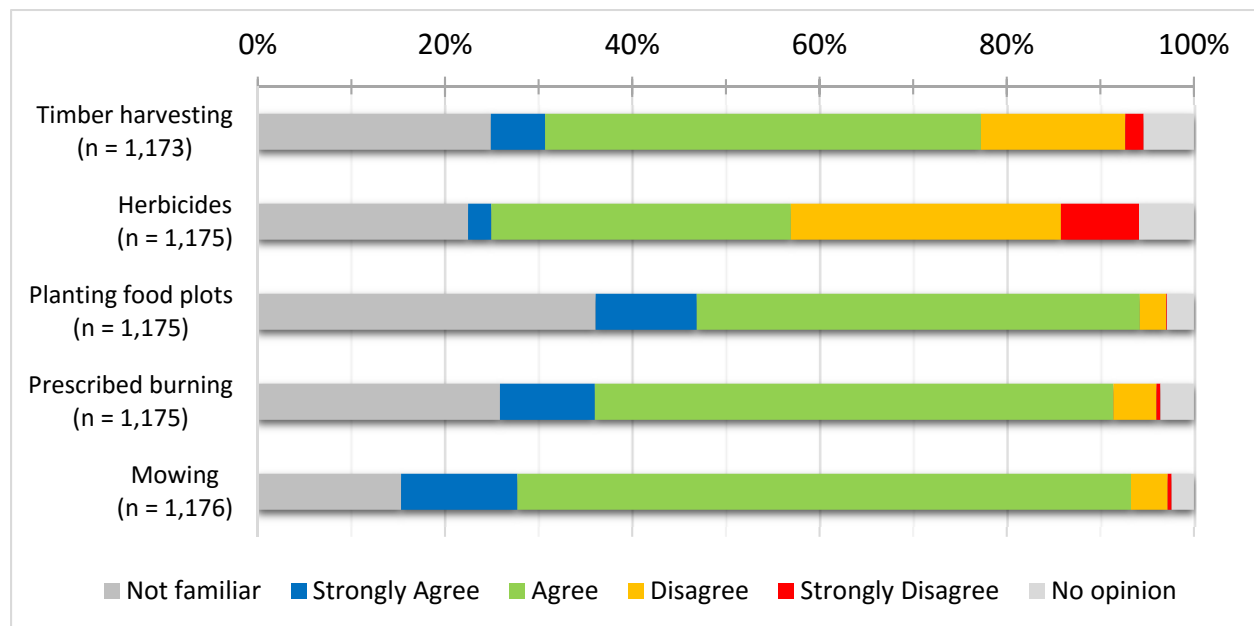


Figure 12. Surveyed permit holder familiarity with and opinions of wildlife and habitat management practices. Results are from in-person intercept surveys from May 2016-April 2017.

	Not familiar	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Timber harvesting (n = 1,173)	25%	6%	47%	15%	2%	5%
Herbicides (n = 1,175)	22%	2%	32%	29%	8%	6%
Planting food plots (n = 1,175)	36%	11%	47%	3%	0%	3%
Prescribed burning (n = 1,175)	26%	10%	55%	5%	0%	4%
Mowing (n = 1,176)	15%	12%	66%	4%	0%	2%
No management (n = 1,175)	7%	1%	6%	54%	26%	6%

Table 9. Surveyed permit holder familiarity with and opinions of wildlife and habitat management practices. Results are from in-person intercept surveys from May 2016-April 2017.



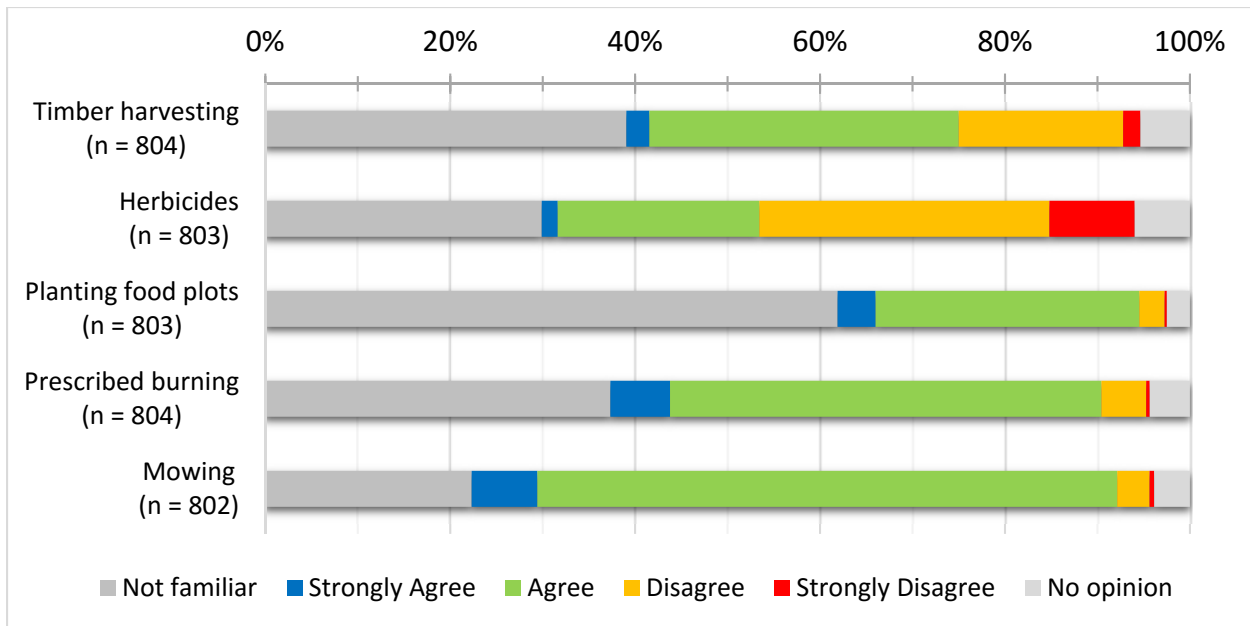


Figure 13. Surveyed non-permit holder familiarity with and opinions of wildlife and habitat management practices. Results are from in-person intercept surveys from May 2016-April 2017.

	Not familiar	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Timber harvesting (n = 804)	39%	2%	33%	18%	2%	5%
Herbicides (n = 803)	30%	2%	22%	31%	9%	6%
Planting food plots (n = 803)	62%	4%	29%	3%	0%	2%
Prescribed burning (n = 804)	37%	6%	47%	5%	0%	4%
Mowing (n = 802)	22%	7%	63%	3%	0%	4%
No management (n = 802)	11%	1%	8%	54%	20%	6%

Table 10. Surveyed non-permit holder familiarity with and opinions of wildlife and habitat management practices. Results are from in-person intercept surveys from May 2016-April 2017.

Of the top 7 user activities (fishing, hunting, dog walking, hiking/walking/running, wildlife watching/photography, shotgun range, and boating), hunters and shotgun range users were the most familiar with all of the management practices. Of those hunters that were familiar with the practice, 74% agreed or strongly agreed with timber harvesting, 95% with planting food plots, 89% with prescribed burning, and 94% with mowing (Tables 11-20; Figures 14-18) Of the shotgun range users that were familiar, 80% agreed or strongly agreed with timber harvesting, 95% with planting food plots, 92% with prescribed burning, and 95% with mowing. The exception to this trend was herbicide use; only 34% of hunters familiar with the herbicide use agreed or strongly agreed with it, compared to 59% of shotgun range users (Figure 15; Table 14).

More anglers (45%), dog walkers (38%), and hikers/walkers/runners (39%) agreed or strongly agreed with the use of herbicides than hunters (34%), boaters (27%) and wildlife watchers/photographers (26%; Tables 13 and 14; Figure 15). The majority of boaters (61%), dog walkers (57%), hikers/walkers/runners (56%), and wildlife watchers/photographers (54%) were not familiar with planting food plots for wildlife (Table 15), consistent with non-permit holders overall. The majority of fisherman that were familiar with them agreed or strongly agreed with planting food plots (52%; Figure 16; Table 16) and the majority of all of the top 6 surveyed user activities that were familiar with prescribed burning (Tables 17 and 18; Figure 17) and mowing (Tables 19 and 20; Figure 18) agreed or strongly agreed with them as practices for managing vegetation on WMAs.

## Timber Harvesting

User Activity	% Familiar
Fishing (n = 505)	69%
Hunting (n = 115)	90%
Dog walking (n = 250)	68%
Hiking/walking/running (n = 240)	68%
Wildlife watching/photography (n = 154)	66%
Shotgun range (n = 108)	90%
Boating (n = 138)	57%

Table 11. Percent of the 7 most common user activities that are familiar with timber harvesting. Results are from in-person intercept surveys from May 2016-April 2017.

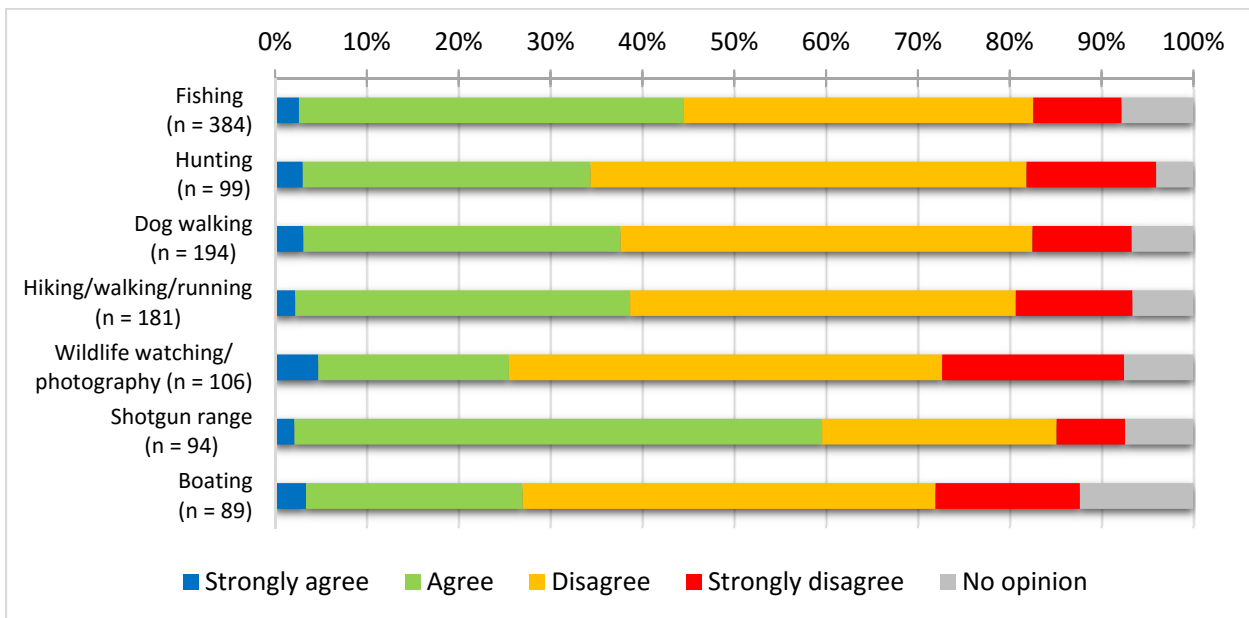


Figure 14. Opinions of the 7 most common user activities of those that are familiar with timber harvesting. Results are from in-person intercept surveys from May 2016-April 2017.

	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Fishing (n = 350)	5%	58%	26%	3%	8%
Hunting (n = 104)	10%	64%	20%	3%	3%
Dog walking (n = 169)	6%	57%	27%	4%	7%
Hiking/walking/running (n = 162)	6%	58%	25%	3%	8%
Wildlife watching/photography (n = 102)	6%	54%	26%	5%	9%
Shotgun range (n = 97)	8%	72%	15%	2%	2%
Boating (n = 79)	1%	61%	20%	1%	16%

Table 12. Opinions of the 7 most common user activities of those that are familiar with timber harvesting. Results are from in-person intercept surveys from May 2016-April 2017.

## Herbicides

User Activity	% Familiar
Fishing (n = 505)	76%
Hunting (n = 115)	86%
Dog walking (n = 250)	78%
Hiking/walking/running (n = 240)	75%
Wildlife watching/photography (n = 154)	69%
Shotgun range (n = 108)	87%
Boating (n = 138)	64%

Table 13. Percent of the 7 most common user activities that are familiar with herbicides. Results are from in-person intercept surveys from May 2016-April 2017.

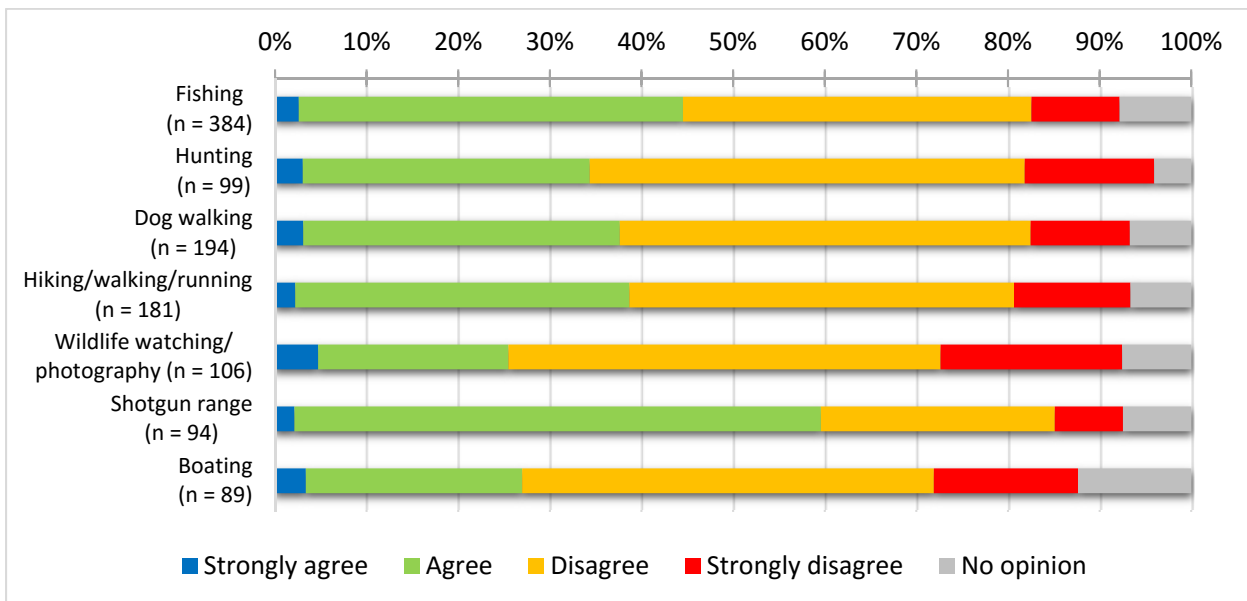


Figure 15. Opinions of the 7 most common user activities of those that are familiar with herbicides. Results are from in-person intercept surveys from May 2016-April 2017.

	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Fishing (n = 384)	3%	42%	38%	10%	8%
Hunting (n = 99)	3%	31%	47%	14%	4%
Dog walking (n = 194)	3%	35%	45%	11%	7%
Hiking/walking/running (n = 181)	2%	36%	42%	13%	7%
Wildlife watching/photography (n = 106)	5%	21%	47%	20%	8%
Shotgun range (n = 94)	2%	57%	26%	7%	7%
Boating (n = 89)	3%	24%	45%	16%	12%

Table 14. Opinions of the 7 most common user activities of those that are familiar with herbicides. Results are from in-person intercept surveys from May 2016-April 2017.

## Planting Food Plots

User Activity	% Familiar
Fishing (n = 505)	58%
Hunting (n = 115)	88%
Dog walking (n = 250)	43%
Hiking/walking/running (n = 240)	44%
Wildlife watching/photography (n = 154)	46%
Shotgun range (n = 108)	75%
Boating (n = 138)	39%

Table 15. Percent of the 7 most common user activities that are familiar with planting food plots. Results are from in-person intercept surveys from May 2016-April 2017.

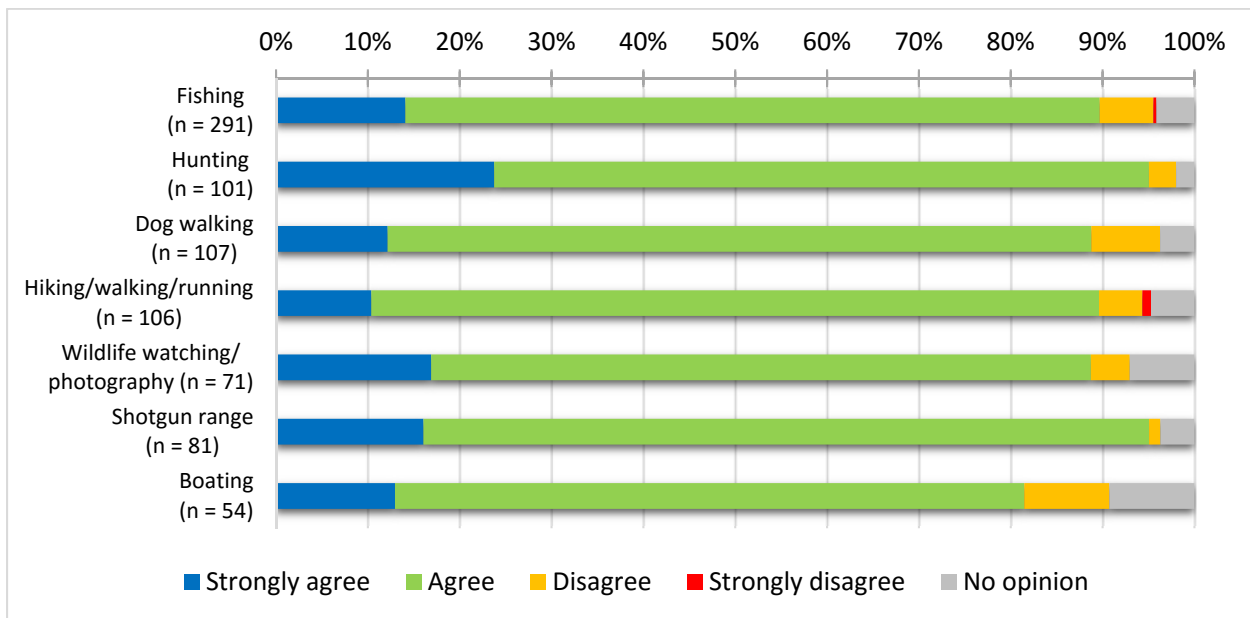


Figure 16. Opinions of the 7 most common user activities of those that are familiar with planting food plots. Results are from in-person intercept surveys from May 2016-April 2017.

	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Fishing (n = 291)	14%	76%	6%	0%	4%
Hunting (n = 101)	24%	71%	3%	0%	2%
Dog walking (n = 107)	12%	77%	7%	0%	4%
Hiking/walking/running (n = 106)	10%	79%	5%	1%	5%
Wildlife watching/photography (n = 71)	17%	72%	4%	0%	7%
Shotgun range (n = 81)	16%	79%	1%	0%	4%
Boating (n = 54)	13%	69%	9%	0%	9%

Table 16. Opinions of the 7 most common user activities of those that are familiar with planting food plots. Results are from in-person intercept surveys from May 2016-April 2017.

## Prescribed Burning

User Activity	% Familiar
Fishing (n = 505)	71%
Hunting (n = 115)	90%
Dog walking (n = 250)	68%
Hiking/walking/running (n = 240)	67%
Wildlife watching/photography (n = 154)	66%
Shotgun range (n = 108)	80%
Boating (n = 138)	61%

Table 17. Percent of the 7 most common user activities that are familiar with prescribed burning. Results are from in-person intercept surveys from May 2016-April 2017.

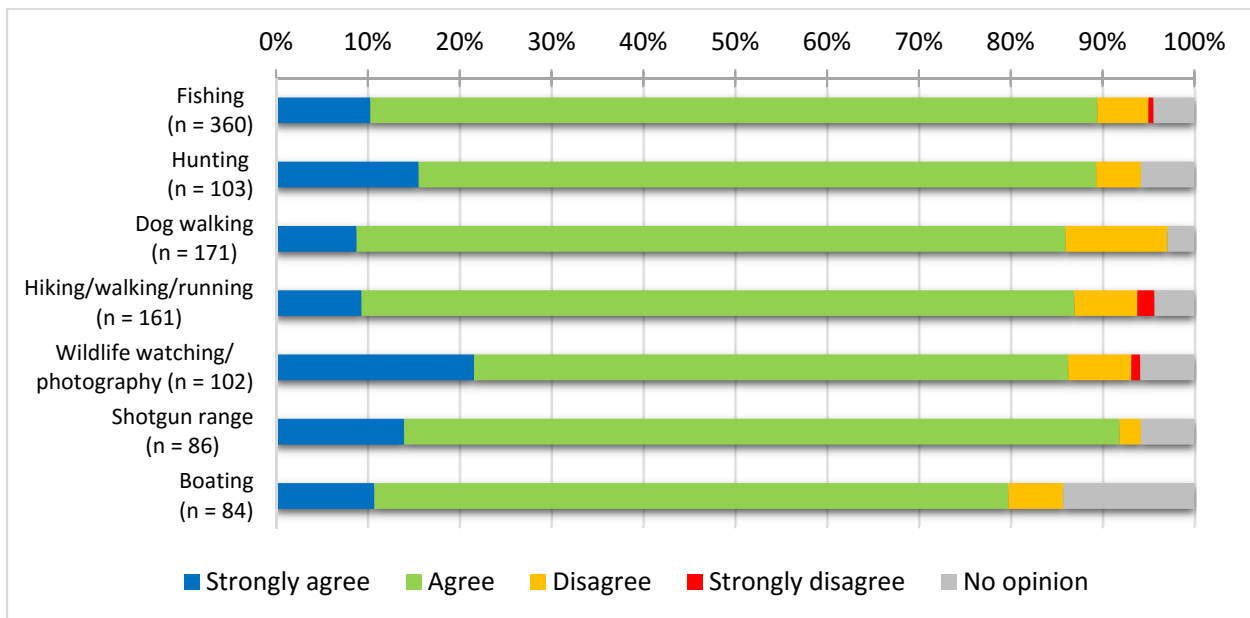


Figure 17. Opinions of the 7 most common user activities of those that are familiar prescribed burning. Results are from in-person intercept surveys from May 2016-April 2017.

	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Fishing (n = 360)	10%	79%	6%	1%	4%
Hunting (n = 103)	16%	74%	5%	0%	6%
Dog walking (n = 171)	9%	77%	11%	0%	3%
Hiking/walking/running (n = 161)	9%	78%	7%	2%	4%
Wildlife watching/photography (n = 102)	22%	65%	7%	1%	6%
Shotgun range (n = 86)	14%	78%	2%	0%	6%
Boating (n = 84)	11%	69%	6%	0%	14%

Table 18. Opinions of the 7 most common user activities of those that are familiar with prescribed burning. Results are from in-person intercept surveys from May 2016-April 2017.

## Mowing

User Activity	% Familiar
Fishing (n = 505)	81%
Hunting (n = 115)	95%
Dog walking (n = 250)	85%
Hiking/walking/running (n = 240)	82%
Wildlife watching/photography (n = 154)	79%
Shotgun range (n = 108)	92%
Boating (n = 138)	75%

Table 19. Percent of the 7 most common user activities that are familiar with mowing. Results are from in-person intercept surveys from May 2016-April 2017.

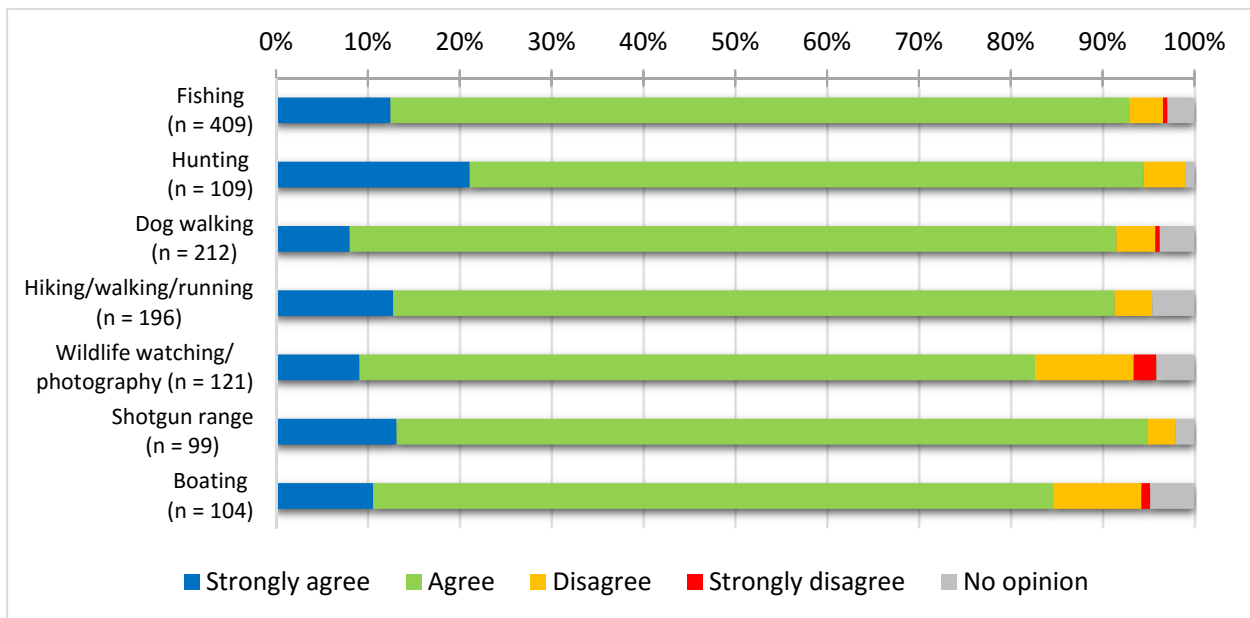


Figure 18. Opinions of the 7 most common user activities of those that are familiar with mowing. Results are from in-person intercept surveys from May 2016-April 2017.

	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
Fishing (n = 409)	12%	80%	4%	0%	3%
Hunting (n = 109)	21%	73%	5%	0%	1%
Dog walking (n = 212)	8%	83%	4%	0%	4%
Hiking/walking/running (n = 196)	13%	79%	4%	0%	5%
Wildlife watching/photography (n = 121)	9%	74%	11%	2%	4%
Shotgun range (n = 99)	13%	82%	3%	0%	2%
Boating (n = 104)	11%	74%	10%	1%	5%

Table 20. Opinions of the 7 most common user activities of those that are familiar with mowing. Results are from in-person intercept surveys from May 2016-April 2017.

### **Willingness to Pay for WMA Access**

On average, 59% of surveyed users responded that they would be willing to pay an annual fee to use New Jersey WMAs (Figure 19); including 57% of permit holders and 62% of non-permit holders. Surveyed users indicated they would be willing to pay an average maximum of \$15.23 annually to use New Jersey WMAs (Table 21). There was little difference between permit and non-permit holder willingness-to-pay, with permit holders willing to pay an average maximum of \$15.36 annually, and surveyed users without permits a maximum of \$15.05 annually. Average maximum willingness-to-pay for permit holders was higher in the summer (\$17.52) than it was in the fall (\$13.83) and winter/spring (\$13.66). Willingness to pay for non-permit holders declined from approximately \$16.44 in summer and fall to \$12.68 in winter/spring.

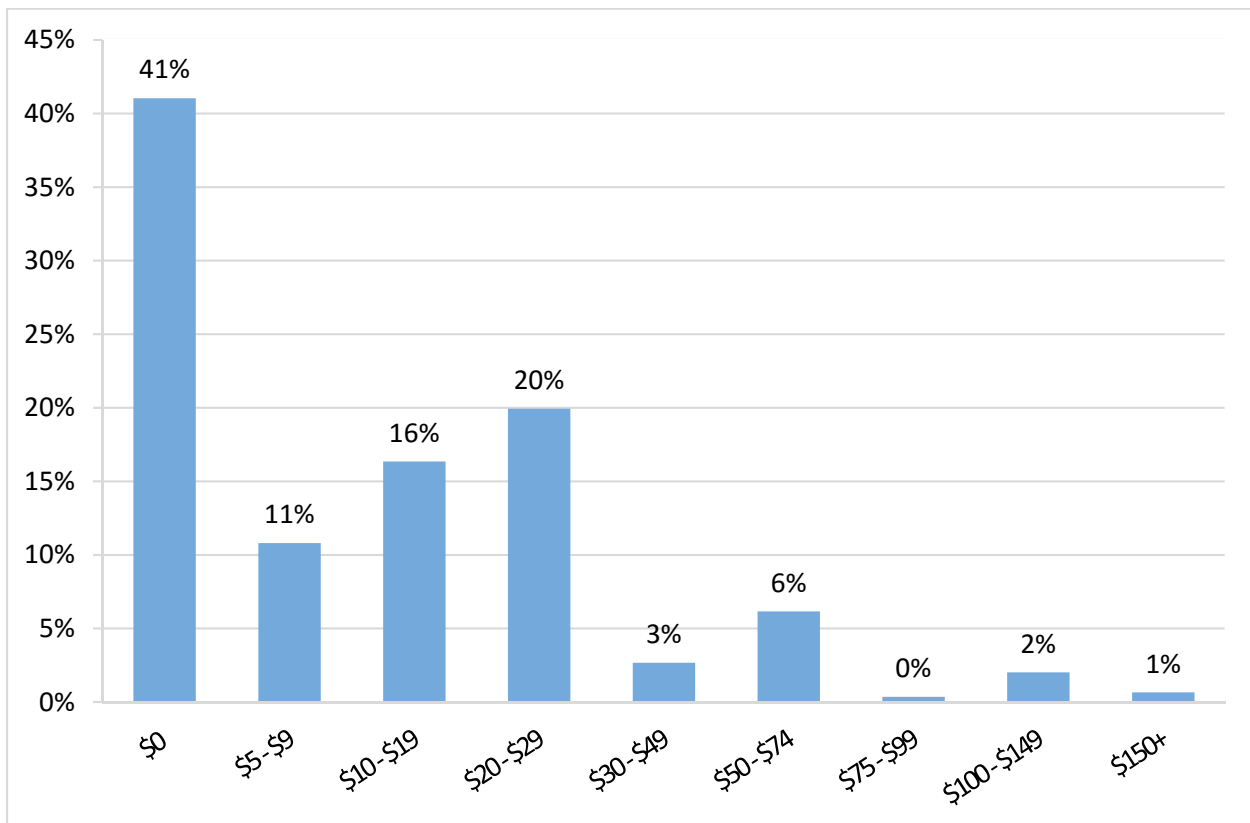


Figure 19. Maximum willingness-to-pay for WMA access of all surveyed users. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1,981).

<b>Permit?</b>	<b>Willing to Pay</b>	<b>Total</b>	<b>Summer</b>	<b>Fall</b>	<b>Winter/Spring</b>
No	62%	\$15.05	\$16.44	\$16.03	\$12.68
Yes	57%	\$15.36	\$17.52	\$13.83	\$13.66
<b>Average</b>	-	<b>\$15.23</b>	<b>\$17.12</b>	<b>\$14.62</b>	<b>\$13.16</b>

Table 21. Average maximum willingness to pay for WMA access of all surveyed WMA users, permit holders, and non-permit holders. Results are from in-person intercept surveys from May 2016-April 2017 and are also broken down by season (n = 1,981).



Of the top 6 user activities, hunters were the least willing to pay (44%) and wildlife watchers were the most willing to pay (64%; Table 22). Average maximum willingness to pay was lowest overall for fisherman (\$13.03) and hikers, walkers, and runners (\$13.46), and highest for wildlife watchers and photographers (\$17.37). Wildlife watchers and photographers had the highest seasonal maximum during the summer (\$23.86) and hunters had the lowest seasonal maximum during winter/spring (\$9.44).

	<b>% WTP</b>	<b>Avg. max WTP</b>
<b>Fishing (n = 503)</b>	<b>58%</b>	<b>\$13.03</b>
Summer (n =278)	65%	\$13.79
Fall (n = 100)	46%	\$13.45
Winter/Spring (n = 125)	51%	\$11.00
<b>Hunting (n = 114)</b>	<b>44%</b>	<b>\$15.61</b>
Summer (n = 1)	0%	\$0.00
Fall (n = 95)	44%	\$16.95
Winter/Spring (n = 18)	44%	\$9.44
<b>Dog Walking (n = 249)</b>	<b>62%</b>	<b>\$16.66</b>
Summer (n = 50)	68%	\$18.10
Fall (n = 101)	65%	\$18.35
Winter/Spring (n = 98)	56%	\$14.18
<b>Hiking/walking/running (n = 240)</b>	<b>58%</b>	<b>\$13.46</b>
Summer (n = 84)	69%	\$14.70
Fall (n = 79)	57%	\$14.81
Winter/Spring (n = 77)	47%	\$10.71
<b>Wildlife watching/photography (n = 154)</b>	<b>64%</b>	<b>\$17.37</b>
Summer (n = 35)	66%	\$23.86
Fall (n = 42)	64%	\$13.69
Winter/Spring (n = 77)	64%	\$16.43
<b>Shotgun range (n = 108)</b>	<b>46%</b>	<b>\$14.49</b>
Summer (n = 13)	77%	\$15.00
Fall (n = 73)	38%	\$14.93
Winter/Spring (n = 22)	55%	\$12.73

Table 22. Average maximum willingness to pay (WTP) for WMA access of the top 6 surveyed user activities. Results are from in-person intercept surveys from May 2016-April 2017 and are also broken down by season.

### **Who should pay to use WMAs?**

Fifty-four percent of surveyed users thought access to NJ WMAs should be free for all users, 21% thought that only non-permit holders should pay a fee, and 20% thought that all users should pay. More surveyed users without permits thought that access should be free to all users (67%) compared to those who held permits (46%). More permit holders thought that if a fee is charged, only non-permit holders should pay (29% vs. 9% for those without permits). A similar percentage (21% of permit holders and 20% without permits) thought that there should be a fee and that all users should pay (Figure 20). Other responses (4% total) to this question included; only sportspersons should pay, it should be completely covered by state taxes, everyone should pay except for veterans, it should be free for NJ residents and non-residents should pay, or they were unsure/had no opinion.

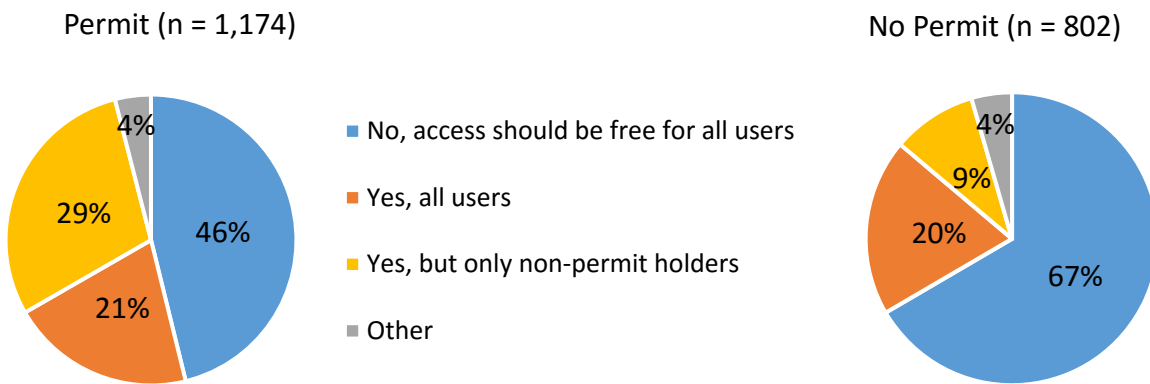


Figure 20. Who surveyed permit holders and non-permit holders think should pay to use WMAs. Results are from in-person intercept surveys from May 2016-April 2017.

### **Action if WMA fee was too high**

Fifty-eight percent of surveyed users said that they would use other public lands or parks in NJ if WMA fees were too high, 19% said that they would continue to use the WMAs without paying, and 13% said that they would use public lands or parks in another state (Table 23). Six percent of surveyed users said they would pay the fee to use WMAs even if it was higher than they would like. Just under 2% of the surveyed users, mostly hunters, said that they would use private lands instead. Other responses (3% total) include; protest/write to representatives, stop using WMAs, no longer participate in outdoor recreation, or purchase fish/meat from the market. Responses were similar from WMA users who were unwilling to pay and those who were willing to pay. However, more WMA users that were unwilling to pay responded that they would use without paying if the fee were too high (23%) than those willing to pay (16%). Those willing to pay were more likely to pay the fee, even if they felt it was too high (8%) than those that were unwilling to pay a fee (3%).

<b>Action if fee were too high</b>	<b>Unwilling to pay (n = 817)</b>	<b>Willing to pay (n = 1160)</b>	<b>All users (n = 1977)</b>
Use other public lands or parks in NJ	57%	58%	58%
Use without paying	23%	16%	19%
Use public lands or parks in another state	12%	13%	13%
Pay the fee	3%	8%	6%
Other	2%	3%	3%
Use private land	2%	1%	2%
Not sure/No opinion	0%	1%	0%

Table 23. Action that would be taken by surveyed users if the fee to access WMAs was too high. Data presented for WMA users unwilling to pay, WMA users willing to pay, and for all surveyed WMA users. Results are from in-person intercept surveys from May 2016-April 2017.

### **Satisfaction with condition of WMAs**

The majority of surveyed users (81%) answered that they were satisfied or very satisfied with the condition of the WMA they were visiting (Figure 21). Less than 5% of the surveyed users expressed some form of dissatisfaction with the WMA, with the remaining 13% stating they had a neutral opinion (neither satisfied nor dissatisfied). Some of the reasons for dissatisfaction included poor or rough road conditions, garbage or debris at the site, issues with or condition of boat ramps, complaints about water levels in reservoirs, or complaints about low numbers of fish being caught or pheasants being stocked. There was little difference in WMA satisfaction between surveyed permit holders and non-permit holders.

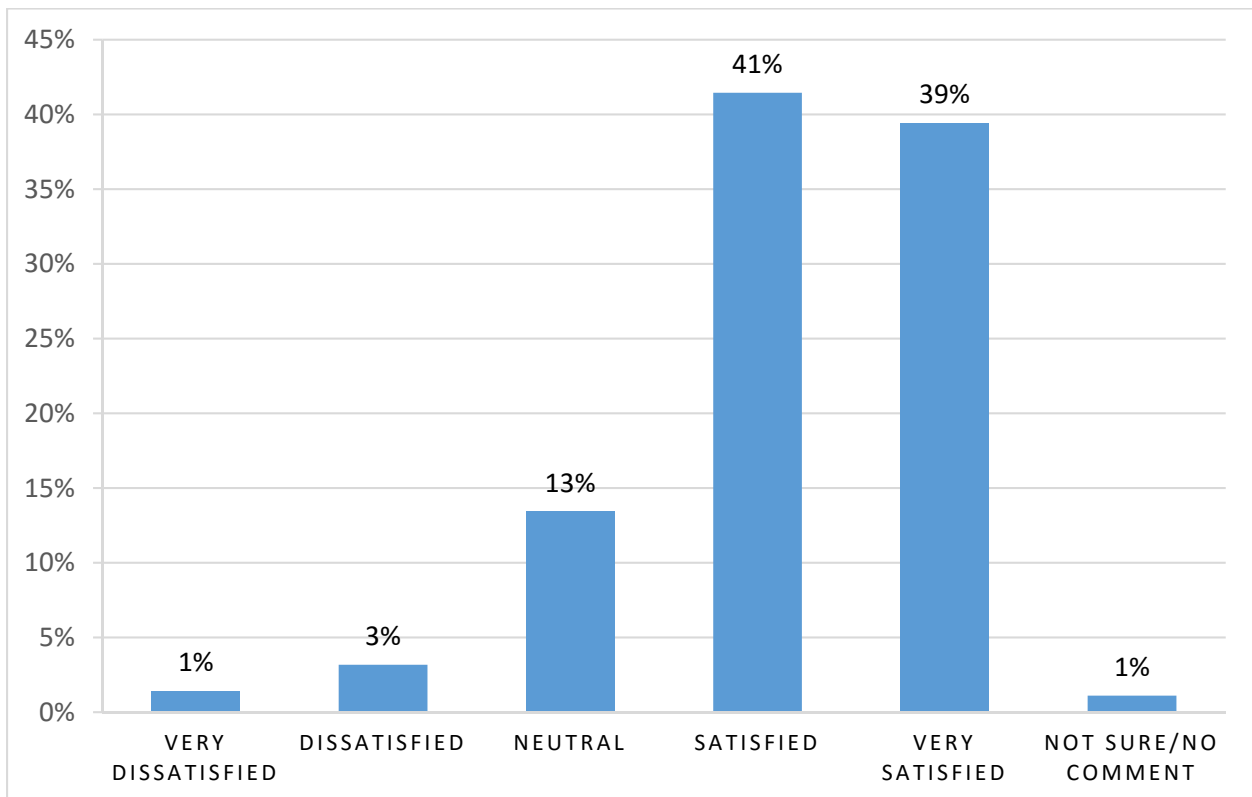


Figure 21. WMA Satisfaction of surveyed WMA users. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1,983).

### **Desired Improvements**

The majority of surveyed users (57%; Table 24) thought that the WMA they were visiting did not need any improvements. The most requested improvement was the addition of garbage cans or garbage and debris cleanup (10%), followed by the addition of restrooms (9%) and facilities for Americans with disabilities (4%). Additional improvements that were priorities for surveyed users included; increased signage, road and parking improvements, addition of docks, vegetation management, better law enforcement presence and increased patrolling, and improvements made to boat ramps.

<b>Improvement</b>	<b>% of Surveyed Users</b>
Garbage cans/cleanup	10%
Rest rooms	9%
Facilities for Americans with disabilities	4%
Signage	4%
Road improvements	3%
Additional parking	3%
Docks	3%
Vegetation management	2%
Increase law enforcement presence/patrolling	2%
Ramp improvements	1%
<b>None</b>	<b>57%</b>

Table 24. The top 10 desired improvements of surveyed WMA users and the percent of surveyed users that do not think WMAs need improvements. Results are from in-person intercept surveys from May 2016-April 2017 (n = 1986).

At range locations, 47% of surveyed users thought that the WMA needed no improvements. Garbage and debris cleanup (14%) and restrooms (8%) were the most requested improvements. The remaining desired improvements were mostly specific to ranges, which included; additional stations (7%), improved targets (5%), covered shooting stations (5%), addition of handgun ranges (2%), and more range locations throughout the state (2%).

At locations with boat ramps, 56% of surveyed users thought that the WMA did not need improvements. Rest rooms (12%), garbage and debris cleanup (10%), and facilities for Americans with disabilities (6%) were the surveyed users' top requested improvements. Additional improvements specific to boat ramps included; addition of docks (6%), fish cleaning stations (3%), raising of water level or extension of boat ramps (3%), and ramp improvements (3%).

### **Additional Comments**

At the end of the survey, we asked WMA visitors to provide any additional comments that they may have. The topics of the additional comments were similar to those that surveyed users expressed when asked about the improvements they would like to see, as well as comments about implementation of a WMA access fee. Some of the most prevalent topics in the additional comments include; better law enforcement presence, reduction of illegal activities/off-roaders/poachers, clean-up of garbage/debris/dump sites/graffiti, fee should not be implemented, should accept donations not implement a fee, fee should be charged per family or per car (not per person), need better bird habitat, concerns about water level (specifically at Round Valley Reservoir), more stocking of fish/pheasants/quail, need trash cans, provide dog waste bags (Table 25). In addition to the above comments, which were typically an expression of dissatisfaction or concern, we received positive comments about the visited WMAs as well. Some of these comments include: WMA is beautiful, WMA feels natural/wild, DEP is doing a good job, we enjoy coming here/come here often, and site is well maintained/clean. A complete list of all of the additional comments we received during the survey can be found in Appendix H.

<b>Additional comment topics</b>	<b># of comments</b>
Positive Feedback	156
Garbage/Dumping/Illegal Activities	141
Infrastructure/Access/Trails	70
Fish/Game Populations	43
Boat Ramps/Docks	40
Habitat Management	38
WMA Access Fee	38
Law Enforcement	36
Miscellaneous	29
Signage/Outreach	19
General Maintenance	11
Recreational Opportunities/Conflicts	11
Ranges	10
Restrooms	10
Safety	10
Insect Management	2
<b>Total</b>	<b>664</b>

Table 25. Additional comment topics and number of comments received from surveyed WMA users. Results are from in-person intercept surveys from May 2016-April 2017.

## **Post Card Results**

In addition to in person surveys, we placed 610 post cards on vehicles whose owners were not intercepted during the sampling period. We received 97 completed and returned post cards (16% response rate) representing 184 WMA users. Substantially more WMA users (73%) who returned post cards selected that they held a NJ Permit in the past 12 months compared to those we surveyed in person (59%). The average age of WMA users who returned post cards (54 years old) was also higher than the average age of WMA users we surveyed in person (48 years old). A list of specific WMAs that returned post cards represent, including regional breakdowns, can be found in Appendix I.

## **User Activities**

The most common activity from postcard responses was saltwater fishing (29%), boating (27%), wildlife watching (26%), hunting (19%) freshwater fishing (11%), hiking/walking/running (11%), and dog walking (10%; Table 26). For analysis purposes, we assumed that all members of groups (> 1 individual) were participating in the same activity.

<b>Activity</b>	<b>% of surveyed users</b>
Saltwater Fishing	29%
Boating	27%
Wildlife Watching	26%
Hunting	19%
Freshwater Fishing	11%
Hiking/walking/running	11%
Dog Walking	10%
Crabbing	5%
Observation	3%
Range	3%
Beach	3%
Scouting	2%
Biking	1%
Commercial Fishing	1%
Dog Training	1%
Work nearby	1%
Clamming	1%
Horseback riding	1%

Table 26. WMA user activities from returned post cards that were left on vehicles during survey shifts from April 2016-May 2017. Post card responses had more than one selection for primary activities so percentages total over 100% (n = 184).

### **Satisfaction with condition of WMA**

Of the 97 WMA users who completed and returned post cards, 78% indicated that they were satisfied or very satisfied with the WMA that they were visiting, while 16% indicated that they were dissatisfied or very dissatisfied. Six percent had a neutral opinion (neither satisfied nor dissatisfied) about the WMA.

### **Focus Group Results**

In addition to the in-person user surveys, we held two focus group meetings. The first meeting was our internal focus group, which was comprised of 32 NJDFW employees representing each of the bureaus, offices, or programs within NJDFW (Appendix E, Table E1). The second meeting was our external focus group and included 20 attendees representing a diverse range of outside stakeholders, including; national, state (outside of NJDFW), county, and municipal government organizations, non-profit and outdoor recreation organizations, businesses, and the public at large (Table E2). The meetings began with a short presentation on the NJWMA system and project background, then transitioned into brainstorming sessions to gain insight on internal and external stakeholder opinions about WMA usage, management objectives, pressing issues, access fees and possible fee structure. Comprehensive lists of brainstorming results and specific comments from both meetings can be found in Appendix J.

### **Demographics**

Eighty-one percent of the internal group and 70% of the external group were male. The average age of the internal and external groups was 44 and 51, respectively. Seventy-one percent of the internal group and 50% of the external group indicated that they held a NJ permit in the past 12 months.

### **Desired WMA Users**

We asked attendees of the internal and external focus groups to identify their 3 most preferred user groups on WMAs and their 3 least preferred user groups from a list that was compiled during a brainstorming session. The 3 most preferred WMA users of the internal attendees were consumptive users/permit holders, people willing to pay, and outdoor/wildlife enthusiasts (Table 27). The external attendees' 3 most preferred WMA users were consumptive users/permit holders, outdoor/wildlife enthusiasts, and educational institutions. Both the internal and external groups agreed that ORV riders and trash dumpers were the least preferred WMA users. The two focus groups differed on their third choice; the internal group's third least preferred user was swimmers and the external group's was the homeless. The full lists of the focus group attendees' most and least preferred WMA users are found in Appendix J (Table J5 and J6).



Most Preferred WMA Users		Least Preferred WMA Users	
Internal	External	Internal	External
Consumptive users/permit holders	Consumptive users/permit holders	ORV riders	ORV riders
People willing to pay	Outdoor/wildlife enthusiasts	Trash dumpers	Trash dumpers
Outdoor/wildlife enthusiasts	Educational institutions	Swimmers	Homeless

Table 27. The 3 most and least preferred WMA users of the internal and external focus group attendees from focus group meetings held on May 11, 2017.

### **WMA Management Practices**

We asked attendees of the internal and external focus groups to identify their 3 most preferred WMA management practices and their 3 least preferred management practices from a list that was compiled during a brainstorming session. The 3 most preferred management practices of the internal attendees were fish/game species stocking, forestry, and access/road/building maintenance (Table 28). The external attendees' 3 most preferred management practices were habitat management, native species management, and fish/game species stocking. The internal attendees' 3 least preferred management practices were access/road/building maintenance, garbage cans/cleanup, and dog training/walking. The 3 least preferred management practices of the external attendees were farming/crops, road/parking lot maintenance, and timber management and/or clearing. The full lists of the focus group attendees' most and least preferred WMA management practices are found in Appendix J (Tables J7 and J8).

Most Preferred Management Practices		Least Preferred Management Practices	
Internal	External	Internal	External
Fish/game species stocking	Habitat management	Access/road/building maintenance	Farming/crops
Forestry	Native species management	Garbage cans/cleanup	Roads/parking lot maintenance
Access/road/building maintenance	Fish/game species stocking	Dog training/walking	Timber management and/or clearing

Table 28. The 3 most and least desired WMA management practices of the internal and external focus group attendees from focus group meetings held on May 11, 2017.

### **WMA Management Objectives**

We asked attendees of the internal and external focus groups to identify their preferred management objectives for WMAs. The internal group's 3 preferred management objectives were; those that align with the mission statement of the WMA system, the ability to secure funding, and habitat management (Table 29). The external group's 3 preferred management objectives were to increase usage opportunities, enhance wildlife populations, and habitat management. On a scale of 1 to 5 (1 being no management and 5 being intensely managed),

the internal focus group’s average rating of the degree to which WMAs should be actively managed was 4.4 and the external focus group’s average rating was 3.7. The full lists of the focus group attendees’ preferred WMA management objectives are found in Appendix J (Table J9).

Internal	External
Mission statement aligned objectives	Increase usage opportunities
Secured funding	Enhance wildlife populations
Habitat management	Habitat management

Table 29. The 3 most desired WMA management objectives of the internal and external focus group attendees from focus group meetings held on May 11, 2017.

**Most Pressing Issues for WMAs**

We asked internal and external focus group attendees to identify the issues that they found to be most pressing for NJ WMAs. The 3 issues that the internal group found to be most pressing for WMAs were a lack of personnel, illegal dumping, and the lack of funding (Table 30). The 3 issues that the external group found to be most pressing were the lack of funding, lack of access to WMA information, user and objective conflicts on WMAs. The full lists of the focus group attendees’ perceived most pressing issues for WMAs are found in Appendix J (Table J10).

Internal	External
Lack of personnel	Lack of funding
Illegal dumping	Lack of information
Lack of funding	User/objective conflicts

Table 30. The 3 perceived most pressing WMA issues of the internal and external focus group attendees from focus group meetings held on May 11, 2017.

**WMA Usage Fee**

We asked internal and external focus group attendees who they think should pay to use WMAs. The majority of the internal group (77%) thought that only non-permit holders should pay, which was much higher than the external group (21%). A greater percentage of the external group thought that access should be free (32%) and all users should pay (42%) than the internal group did (13% and 10%, respectively; Figure 22).

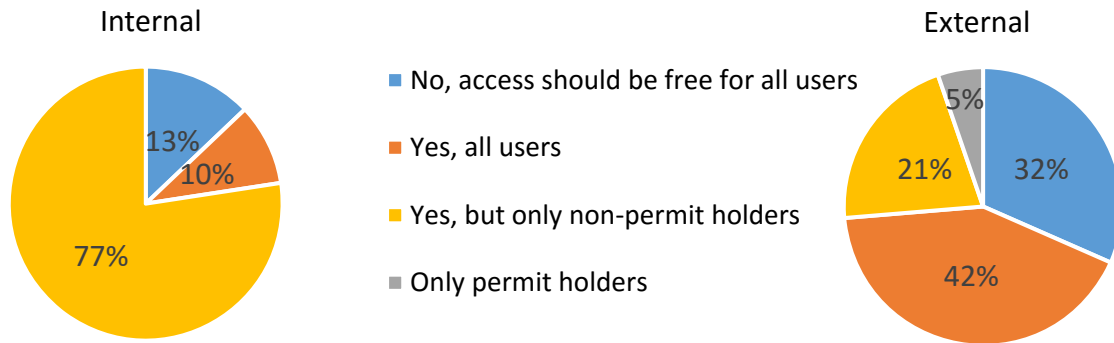


Figure 22. Internal and external focus group attendees' opinions about who should pay for WMA access from focus group meetings held on May 11, 2017.

### **Discussion**

The majority (53%) of users we surveyed at NJ WMAs were participating in non-consumptive activities, consistent with what has been found in recreation trends across the country (USFWS 2017). Although most respondents we surveyed were participating in non-consumptive activities, we found that over one-third of these non-consumptive users also held consumptive permits. In addition, the majority (59%) of overall respondents held some type of NJ permit or license in the past 12 months, indicating some overlap between consumptive and non-consumptive uses. This finding has several implications for future management of these WMAs. First, it brings up questions of who is and should be using NJ WMAs, and how NJDFW should incorporate input and potentially funding, from these users to determine management objectives on these lands. NJDFW will need to consider how different users (e.g, consumptive and non-consumptive) will fit into the mission, management, and financial support of these lands in the future. Most of these non-consumptive users are willing to pay in order to use these lands, but how will non-consumptive users paying into the WMA system change how these lands are used and managed?

Focus group participants from both the internal and external meetings identified consumptive users and permit holders as the most preferred WMA users, though outdoor and wildlife enthusiasts were identified in the top three most preferred users as well. This suggests the need for managers to find a balance between consumptive and non-consumptive uses that maintains the integrity of the initial mission of WMAs as public hunting and fishing grounds, while simultaneously adapting and responding to the increasing demand for alternate, non-consumptive forms of outdoor recreation. The decrease in sportspersons across the country also highlights a need to rethink funding mechanisms for these WMAs. However, requiring non-consumptive users to pay into the WMA system presents challenges regarding discrepancies in the recreation goals of consumptive and non-consumptive users (Carrozino et al., 2011). While there are some restrictions on non-consumptive activities already in place (NJDFW, 2017c), we

recommend creating additional time of day, seasonal, and area restrictions for certain WMA activities. These could be implemented statewide, or developed on an individual WMA basis more specifically. This would provide all users paying for access to WMAs with the appropriate time, space, and resources to participate in their preferred outdoor activities. Designating areas for certain types of outdoor recreation would also allow for management practices to be prioritized in different areas based on the types of activities that are allowed.

Our survey methodology ensured that we captured a representative sample of WMA users over an entire year and across all seasons. Our data highlights these seasonal differences in WMA activities, some of which are a result of outside factors like appropriate weather or timing of bird migrations, and some a direct result of seasonal restrictions of certain activities on WMAs. Seasonal restrictions on consumptive activities, such as hunting, impacted the proportion of users we saw in our responses overall. Hunting seasons are generally restricted to particular times of the year and days of the week (e.g., hunting is largely prohibited on Sundays), facilitating opportunities to provide access to WMAs for other non-consumptive activities, such as hiking and wildlife watching, without compromising the core mission or “core” (i.e., consumptive) users of the WMA system. In addition, soliciting funding from non-consumptive users has the potential to enhance WMAs and user experiences at WMAs statewide.

### **Demographics**

Only 26% of the WMA users we surveyed were females, which is much lower than the percent of females found in NJ (52%) and the US (51%; U.S. Census Bureau, 2017). In addition, only about a quarter of those females that we surveyed (27%) were permit holders. This issue is not unique to NJ. Nationally, only 25% of sportspersons are female, though a higher percentage of females (54%) participate in wildlife watching than males (USFWS, 2011). This discrepancy emphasizes a need to increase outreach to females about both consumptive and non-consumptive recreational opportunities on NJ WMAs, and continue ongoing strategies that aim to increase female hunter recruitment. It is important to be mindful of the way that women are portrayed on NJDFW websites, publications, and news releases. McNeil et al. (2012) found that marketing for wilderness recreation and related products could be a factor that ultimately hinders women’s participation in wildlife-related activities. Culp (1998) found that gender roles, lack of opportunity, peer relations, self-concept, and safety considerations can also constrain adolescent girls’ participation in outdoor recreation. Developing outdoor programming, whether co-ed or all-girls, builds skills and confidence in girls and makes outdoor recreation more accessible (Culp et al., 1998), and could help to foster a generation of more confident outdoors-women. Some states are undertaking efforts to reach users who do not fit the mold of traditional hunters by staffing community events, opening stands at farmers markets, and advertising in urban areas. The state of Wisconsin is offering free classes on college campuses, and teaching hunting safety and hands on butchering clinics to renew interest in wild meat. Wisconsin has found success in their efforts, particularly in recruiting female hunters (Rott, 2018).

The ages of WMA users we surveyed were largely comparable to state and US averages. The percent of surveyed users for the age groups of 25-34, 35-44, and 65-74 were within 1-2% of the state and national percentages, but the percent of surveyed users in the age groups of 45-54 and 55-64 (22% and 23%) were higher than the state (19% and 18%) and national (17% and 16%) averages. We found the percent of surveyed WMA users ages 18-24 (8%) to be lower than the percentages for NJ (11%) and the US (13%). These results suggest that the recreational benefits of NJ WMAs could be emphasized for younger, college-age individuals, and outreach efforts could aim to target activities that would engage these younger users. In addition, the percentage of WMA users under the age of 18 we surveyed as part of a group was only 13%, which is lower than the state and national averages (both 23%). However, we did not directly survey visitors under the age of 18, therefore this result is likely biased low. The differences and limitations in documenting WMA users under the age of 18 highlight opportunities for future research into WMA use, educational outreach to various demographic groups, and a need for recreational activities and opportunities for both adults with children and the senior community.

### **Management Practices**

An overwhelming majority (76%) of WMA users we surveyed agreed that WMAs need active management of some kind. Interestingly, recognition of the need for active management did not differ between consumptive and non-consumptive users. Overall, surveyed permit holders were more familiar with the habitat management practices that we asked about, though. Hunters in particular were both more familiar and more in favor of active habitat management practices, particularly planting food plots, which they benefit from most.

An overwhelming majority of surveyed WMA users supported the practices of mowing (75%) and prescribed burning (61%). Since many people mow to manage vegetation on their own properties, and mowing is often used to improve access to WMAs, it is not surprising that most of the surveyed users support mowing or mechanical management of vegetation. The benefits of prescribed burning also have become clearer to NJ residents since the public introduction of prescribed burning as a fire management tool in 1948 (NJDEP, 2008). With many news releases and extensive public outreach campaigns, NJ has effectively conveyed that prescribed burning suppresses wildfire risks and increases public safety (NJDEP, 2018).

The story is quite different with the acceptance of timber harvesting and herbicide use among surveyed WMA users, however. Nearly two-thirds of the surveyed hunters and wildlife watchers that were familiar with using herbicides for managing vegetation did not support the practice. The majority of surveyed fisherman, dog walkers, and hikers/walkers/runners also were not in support of herbicide use. Since herbicides are often the only viable first step in achieving ecosystem restoration and health (Moscovici, et al. 2015), it is likely that they will continue to be used to manage vegetation on WMAs. It would be beneficial to increase public

outreach and education on herbicide usage, highlighting the effectiveness of herbicides in meeting habitat management objectives, particularly when dealing with invasive plants. Outreach should emphasize that, when used properly, herbicides have minimal, short-term negative effects on wildlife (Wagner et al., 2004).

Although more surveyed users were supportive of timber harvesting (45%) than herbicides, conveying the benefits of timber harvesting is more difficult. Public opposition to timber harvesting is complex, arising from diverse reasons, such as; aesthetics, deforestation, environmental degradation, plantation forestry, and utilitarian exploitation of resources (Bliss, 2000). Additionally, the role of value orientations, such as biocentrism and anthropocentrism, have been shown to shape forest management preference. Individuals with a biocentric focus are more likely to support forest management practices that follow a protectionist or preservationist model, rather than a traditional management approach (Schaaf et al., 2006). Despite the often deep-seated opposition to clearcutting, Harmon et al. (1997) found that people were more accepting of clearcutting as a management practice following participation in an educational workshop. We recommend holding these types of workshops, as well as developing interpretive signage in strategic locations and other outreach materials (e.g., websites, brochures, etc.) to increase understanding of the benefits of forest management practices. Further, focus group meetings may help to understand the values and attitudes behind public opinions and provide insight into these perceptions of current and future habitat management scenarios (Schaaf et al., 2006).

### **Funding Opportunities**

As increased public interest in WMAs leads to more diverse recreational opportunities than WMAs are currently managed for (Carrozzino et al, 2011), we were interested in determining the willingness of WMA users to contribute to the operational costs of providing these opportunities on NJ WMAs. While most respondents (54%) initially indicated they thought WMAs should be free to all users, the majority (59%) indicated they would be willing to pay if a fee were indeed implemented (Table 21). Implementing a fee for non-consumptive users may require NJDFW to consider the preferences of these non-traditional users when developing management plans. This could conflict with the more traditional, consumptive WMA users; prompting concern that management priorities may begin to favor more non-consumptive activities. It is important to keep in mind that while all New Jersey residents fund the purchase of some WMA lands through their taxes (in the form of Green Acres Funding), these funds are not currently used for land management (NJDFW, 2017d). To avoid any potential conflict, we recommend the NJDFW develop clarity and distinction between core mission users (those that benefit from wildlife habitat) and non-core mission users (the others). This may allow them to charge a fee for all, yet maintain the distinction that decisions regarding management practices on WMAs and use of collected funds will be determined based on the preferences of “core” users as determined by NJDFW.

The opinions of the internal and external stakeholders in our focus groups differed when it came to who they thought should be paying for WMA access. The vast majority of the internal group thought that only non-permit holders should pay a fee to access WMAs, while the majority of the external group felt that either access should be free for all users or that all users, including permit holders, should pay an additional fee. These results are not surprising given that NJDFW employees (i.e., the internal group) have a greater understanding of current operational costs and funding sources, and recognize the increase in non-consumptive users as a potential source of funding for future wildlife and habitat management projects.

New Jersey is not the first state to consider the question of charging for use of WMAs. The fee structures for WMAs in other states offer insight as to how New Jersey could increase funding from non-consumptive users and what could be done to minimize conflict between different user groups. Some states, such as Texas, have limited-use permits (TPWD, 2017). Others, such as Oregon and Virginia, require the purchase of passes for non-consumptive uses (ODFW, 2017; VDGIF, 2018), while Mississippi requires a pass for all users (MDWFP, 2018; Table 31). Tennessee requires permits for high-impact uses such as horseback riding, off-road vehicles, and bicycles (TWRA, 2018). Vermont has implemented a voluntary Habitat Stamp program where people can elect to make a donation amount of their choosing, with a minimum donation of \$15.00 if the contributor wants to receive a printed habitat sticker. The stamp can be purchased alone or along with a hunting or fishing license (VFDW, 2018). Combining models from several states could be a viable option for New Jersey as well. Interestingly, Georgia previously charged a fee to access WMAs, but chose to discontinue the fee and increase its license prices in 2017 for the first time in 25 years instead (GDNR, 2018). They determined that increasing their eligibility for Pitman-Robertson and Dingell-Johnson funds through certified license sales is more profitable than charging a WMA use fee. Alternate additional sources of funding also could be generated through increased severity of fines for illegal activities, adjusting the cost of currently required permits (hunting, fishing, boat ramp, etc.), and reevaluating existing lease agreements and right of ways.

Another important consideration in establishing an additional fee structure is how potential fees would be monitored and enforced. Non-consumptive permits could be worn or carried and checked by conservation officers in the same way that current hunting and fishing licenses are monitored in New Jersey, or it could be a parking pass that is displayed on the dashboard of a vehicle as in Oregon (ODFW, 2017). The focus groups suggested using the current online site and license vendors for permit purchases, having the permit be in the form of a parking pass or car decal, and including daily use fee or donation drop boxes in parking areas. Implementing a voluntary program such as the Vermont habitat stamp would avoid issues with enforcement and monitoring, and would potentially broaden the funding base as individuals who don't even use NJWMAs could buy in to the system.

We recommend that NJDFW develop a fee structure similar to one that has already been implemented in another state, or combining multiple structure types, taking into consideration current legislative constraints. Based on results from this survey, we recommend implementing a voluntary habitat stamp program similar to that established in Vermont as soon as possible. This would allow WMA users (and even non-users) to determine themselves the amount they feel is appropriate for using or maintaining these areas, avoid “double-charging” consumptive users who already pay into the system, and avoid issues with monitoring and enforcement. We also recommend that NJDFW evaluate and test a parking pass or day-use fee at appropriate high-use WMAs and parking areas. A voluntary, donation-based system could work best for this as well, encouraging non-consumptive users (or those who don’t already purchase permits) to make a donation to support management of these areas. Consumptive users who have already purchased a permit could choose to make an additional donation or not.

### **Familiarity with Managing Agency, WMAs, and Visitor Satisfaction**

Permit holders identified the managing agency correctly more frequently than those without permits, indicating that permit holders may be more knowledgeable of the managing agency and its mission in general and potentially understand the ownership structure, intended use of WMAs, and rules and regulations of WMAs better as well. More educated users on WMA lands should result in less conflict and misunderstandings, thus outreach opportunities via public meetings, NJDFW website, brochures, etc. should be increased to facilitate increased knowledge of NJDFW and the purpose of the WMA system. As new management plans for WMAs are developed, input and insight from all user groups should be solicited to minimize potential conflict areas. NJDEP must decide how to weigh input from various user groups based on the core mission of WMAs to determine how this information will be incorporated into management decisions and actions.

In addition to providing more information about NJDFW and the purpose of WMAs, the accessibility of information about the WMA lands themselves is important. The bulk of users we surveyed lived close to the WMA they were visiting (50%), or heard about the WMA through friends, relatives, or people in the local community (32%). Very few people obtained information about the WMA from the NJDFW website, signs, or printed information, and focus group attendees felt that a lack of quality WMA information was a pressing issue. Overall, we recommend building increased awareness of WMAs in New Jersey. Possible recommendations include increased signage near parking areas, more signs along major roadways, and additional boundary signs posted on property boundaries. These should clearly identify that the property is owned by NJ DEP Fish & Wildlife ownership. Consistent signage throughout the state should be considered. Furthermore, the website should correspond to these actual sites and include detailed maps that clearly identify directions, amenities, and area boundaries. A NJDFW WMA app could be useful while visitors are in the field with their smart devices.



Although increased awareness of WMAs is needed, current user satisfaction with WMAs is high and it is important to maintain this level of satisfaction. Continuing to address the needs and concerns of WMA visitors is a key factor in ensuring that they continue to use and fund WMAs for recreation. The reasons for dissatisfaction were similar to the desired improvements these surveyed users wanted to see. Although the majority (57%) of surveyed WMA users thought no improvements were needed, there are common themes across the WMA system when it comes to improvements that people would like to see. People were looking for solutions to garbage and dumping problems that could include increasing cleanup efforts, increasing law enforcement presence and patrolling, and the addition of garbage cans. The addition of rest rooms and better maintenance of existing facilities was also an important priority in the eyes of WMA visitors, as well as improvements to roadways, parking lots, trails and other infrastructure. An increase to the quality and availability of information through signage, better maps, website improvements, and more clearly marked trail heads were also important to surveyed visitors. We recommend an inventory of all facilities, or lack thereof, as a first step towards prioritizing areas for improvement and maintaining and increasing user satisfaction.

Feedback from the focus group meetings exhibited parallels with our in-person surveys regarding WMA improvements. The focus group responses for the least preferred users (ORV riders, trash dumpers, swimmers, and the homeless) were similar to desired improvements of surveyed users (i.e. garbage/debris/dump site cleanup, increased patrolling, and reduction of illegal activities and off-roaders). Currently, Wildlife Management Area Regulations stipulate that WMAs are closed from 9 p.m. until 5 a.m., unless you are hunting, fishing or trapping (NJDFW, 2017c). Anecdotal information collected during our surveys suggested that illegal use outside of these hours was a common occurrence, which could be controlled by additional law enforcement patrols at these WMAs during evening hours. Motion-activated trail cameras may also help to capture license plate information for dumping and other illegal activities. Collection of a WMA use fee could facilitate funding for these enhanced patrol and safety measures.

In addition to law enforcement and technology, the users themselves are a great tool to increase safety and reduce illegal activities on WMAs. The majority of surveyed users live near these WMAs or heard about them through friends, family, and local community members. Capitalizing on volunteer efforts for garbage cleanups and monitoring efforts would be helpful. This could be accomplished by increasing outreach and education to local communities, organizing clean up days, and starting “friends groups” at individual WMAs. Organizing groups through social media and internet resources could also generate contact information for future research on people that use WMAs recreationally. In addition, community advocacy is important. The external and internal groups recommend starting outreach activities, including; biologist-led walks and paddles, organized night walks, and summer camps that could enhance the connections the community has with these public lands.

State	Name	Year Established	Cost	Where	Seasonality
California	CDFW Lands Pass <sup>a</sup>		\$24.33 annual permit \$4.32 1-day pass	7 areas: 4 Wildlife Areas 2 Ecological Reserves	None
Delaware	Conservation Access Pass <sup>b</sup>	2016	\$32.50 Resident annual, \$65 non-resident annual, \$10 resident 3-day, \$20 – non-resident 3 day, 1 free pass with hunting license	19 wildlife areas	None
Florida	Management Area Permit <sup>c</sup>		\$3 daily use per person or \$6 per vehicle \$26.50 for annual permit \$126.50 for 5 year permit Day Pass group rates for groups of more than 25 which range between \$50 to \$150	8 WMAs	None
Mississippi	Wildlife Management Area User Permit <sup>d</sup>	2007	\$15 for Annual Resident \$30 for Annual Non-Resident \$5 for 1-Day \$10 per vehicle for Family 1-Day	All WMAs	None
New Mexico	GAIN: Gaining Access Into Nature <sup>e</sup>	2009	\$4 annual permit, required for all users, including; hunters, fishermen, and trappers. One permit required for up to 4 people	27 WMAs NM releases a schedule of GAIN activities on WMAs	State Game Commission (SGC) Lands designated for hunting, fishing, and/or GAIN access. All SGC Lands are not open to all activities.
Oregon	Wildlife Area Parking Permit Program <sup>f</sup>		\$10 Daily Fee \$30 Annual Fee No Cost with an annual hunting or hunting/fishing combo license	15 WMAs	None

Table 31. Comparison of passive recreation permits by state.

State	Name	Year Established	Cost	Where	Seasonality
Tennessee	High Impact User Permit <sup>g</sup>	2015	Residents: \$74 Annual, \$15.50 Daily Non-Residents: \$233 Annual, \$37.50 Daily	14 WMAs	None- Only required for hooved riders, off-road vehicle users, and bicyclists. These are not required for persons with a valid hunting permit
Texas	LPU: Limited Public Use <sup>h</sup>	1988	\$12 annual permit for adults No fee for children under the age of 17	15 WMAs See Schedule of Recreational Use provided in Texas' annual Map Booklet	Map Booklet recommends contacting the WMA prior to visiting; some WMAs have portions open year round. All users must wear hunter orange
Vermont	Habitat Stamp <sup>i</sup>	2015	Voluntary donation program \$15 minimum if contributor wants a printed habitat sticker	Not required	None
Virginia	Access Permit <sup>j</sup>	2012	\$4 Daily \$23 Annual Group Daily Use Discounts are given	All WMAs & Public Fishing Lakes	Only required for ages 17 and older Only need if hunting, fishing, trapping, or combo licenses are not purchased
Washington	Discover Pass <sup>k</sup>	2011	\$35 for Annual Pass \$11.50 for Daily Pass (includes fees)	All State Recreation Lands and Water-Access Sites	None

Table 31 (cont.). Comparison of passive recreation permits by state. <sup>a</sup>CDFW (2018). <sup>b</sup>DDNREC (2018). <sup>c</sup>FFWCC (2018). <sup>d</sup>MDWFP (2018). <sup>e</sup>NMDFG (2018). <sup>f</sup>ODFW (2017). <sup>g</sup>TWRA (2018). <sup>h</sup>TPWD (2017). <sup>i</sup>VFWD (2018). <sup>j</sup>VDGIF (2018). <sup>k</sup>WDFW (2018).

## **Conclusion**

This research aimed to better understand New Jersey's Wildlife Management Areas and to provide information to help develop appropriate management plans for New Jersey's WMA system. Of particular interest is whether WMAs are primarily being used by consumptive or non-consumptive recreation user groups, how WMA visitors feel about current WMA management practices, their overall satisfaction with the WMA, and their willingness to pay for access to these lands. In addition, this survey data and analysis provides insight into whether or not non-consumptive user groups should be considered when managing for recreation on WMA lands. Furthermore, the project finds there is a need for increased outreach and/or education efforts to specific demographic groups within New Jersey.

Based on our findings, there are opportunities to increase license sales. Specific demographic groups to target include younger generations, urban residents and females. Outreach efforts to engage a greater percentage of these underrepresented groups would be beneficial to NJDFW, regardless of whether or not a WMA access fee is implemented. If a fee for recreational use on WMAs is implemented, the mechanism should be established in consult with the survey data, legislative constraints, and the policies of other states across the country.

It is also very important that NJDEP work to improve outreach efforts and develop a community of supportive citizens. Our in-person surveys, returned post card surveys, and focus group meetings demonstrate knowledge gaps on the purpose of New Jersey's Wildlife Management Area System and of the New Jersey Division of Fish and Wildlife that manages them. Better information on the website, clear maps, improved signage, and specific site improvements are all included as recommendations for positive outreach between NJDFW and New Jersey citizens. Further, there are varying degrees of both understanding and support for habitat management practices that are currently used on these lands. We recommend continued outreach and education on these important wildlife management practices. In this age of information, it is essential that users have access to the WMA mission, a clear list of which recreational activities are allowed, discouraged, or forbidden, and why habitat management practices are required. This level of partnership through education, outreach, and management will cultivate a constituent base that is appropriately aligned with the core-mission of the Wildlife Management Area system and justly supports the New Jersey Division of Fish and Wildlife.

Finally, we recommend additional research and discussion beyond this study. Discussion within NJDEP about who the core-users of WMAs are, or should be, will help to clarify the types of WMA activities and management practices that will form the basis of future management decisions and directives. Developing seasonal and site-use restrictions on some WMAs, in consult with the local communities, will alleviate potential conflict between users and among agencies. Other ideas include better access and advertising of underutilized WMAs.

Furthermore, by developing online communities (e.g., cleanup groups, email blasts, Facebook groups) that can support the NJDFW or an individual WMA, NJDFW has the opportunity to collect further data about current use and educate the population regarding management practices.

Summary of recommendations:

- Hold discussions within NJDFW to clearly define “core” users of WMAs and how user input should be weighted to determine appropriate management goals and actions for NJ WMAs.
- Explore additional sources of funding for NJ WMAs, including increasing recruitment and retention of license and permit holders (including outreach to underrepresented demographic groups), increasing current license fees, implementing a voluntary habitat stamp program, and imposing additional WMA access fees for designated high-use WMAs and parking areas.
- Continue and improve education and outreach efforts regarding habitat management practices, particularly timber harvesting and herbicide use.
- Increase access and availability of information on WMAs, including; locations of parking areas and other points of access, improved signage that includes lists of approved activities (including area and seasonal restrictions), habitat management practices, and any noteworthy, ongoing habitat management projects.
- Develop community partnerships (including online and local/state community groups) for stewardship of WMAs and future data collection and feedback.

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**Appendix A:**

# **Wildlife Management Area Survey Instrument**

**May 2016 – April 2017**

Table A1. Survey instrument used for in-person intercept surveys from April 2016-May 2017.

### New Jersey WMA User Survey

**Interviewer's name:** [Click here to enter text.](#) **Date:** [Click here to enter text.](#)  
**Time:** [Click here to enter text.](#) **WMA:** [Click here to enter text.](#) **Location:** [Click here to enter text.](#)

**Day of the week:** Monday Tuesday Wednesday Thursday Friday Saturday  
Sunday

*Hello, my name is \_\_\_\_\_. I am working with Stockton University. We are interviewing adults to collect information about how much and what kind of use New Jersey's Wildlife Management Areas (WMAs) receive. Your voluntary participation will take about five minutes and will help us greatly with our research.* IF THEY DECLINE CHECK HERE: **Declined interview:**

**1. Are you 18 or older? IF NO – DISCONTINUE INTERVIEW** Yes No

**2. How many people are in your group today?** [Click here to enter text.](#) Adults \_\_\_\_\_  
Children \_\_\_\_\_

**3. What time did you arrive at this WMA today?** [Click here to enter text.](#)

**4. How long did you or do you intend to spend on the WMA today?** [Click here to enter text.](#)  
hours

**5. What is the one primary activity you plan on engaging in today?**

BIKING CANOEING/KAYAKING CRABBING DOG WALKING FISHING  
HIKING/WALKING/RUNNING  
HORSEBACK RIDING HUNTING INTERPRETATION MOTOR BOATING TRAPPING  
WILDLIFE WATCHING BOW RANGE RIFLE RANGE SHOTGUN RANGE OTHER [Click here to enter text.](#)

**6. (SKIP IF DID NOT CHOOSE HUNTING IN #5) What is your one main species you are hunting for today?**

BEAR COYOTE DEER FOX GROUNDHOG GAME BIRDS SUCH AS GROUSE OR  
WOODCOCK PHEASANT  
QUAIL RABBIT RACCOON SQUIRREL TURKEY WATERFOWL SUCH AS DUCKS AND  
GEESE OTHER: [Click here to enter text.](#)

**7. (SKIP IF DID NOT CHOOSE FISHING IN #5) What is your one main species you are fishing for today?**

BASS CATFISH & BULLHEADS PANFISH (CRAPPIE/SUNNIES/PERCH) PICKEREL TROUT  
OTHER: [Click here to enter](#)

**8. The same agency both owns and manages this facility. If you can, please tell me which agency that is. (answers not read aloud):**  NJ DIV. FISH & WILDLIFE  NJ DIV. PARKS & FORESTRY  US FISH & WILDLIFE  NJ DEP  STATE of NJ  COUNTY  MUNICIPALITY  NOT SURE or [Click here to enter text.](#)

**9. What is the main way you heard about this WMA?**  FRIENDS/RELATIVES  SIGNS  PEOPLE IN THE LOCAL COMMUNITY  RECREATIONAL CLUB/ORGANIZATION  TRAIL GUIDEBOOK  DIVISION OF FISH & WILDLIFE PRINTED INFO  DFW WMA WEBSITE  MAP  NEWSPAPER  LIVE LOCALLY  OTHER [Click here to enter text.](#)

**10. Including today, how many times have you visited this WMA in the past 12 months?** [Click here to enter text.](#)

[Click here to enter text.](#)

**11. NJ DEP manages the land for fish & wildlife habitat. Without management many WMAs would revert to mature dense forests. First, please tell me if you're familiar with the following habitat management practices. If you are, please tell me if you Strongly Agree, Agree, Disagree, Strongly Disagree, or have No Opinion**

<b>Are you familiar with:</b>	<b>How strongly do you agree or disagree with:</b>			
a. Planting food plots for wildlife <input type="checkbox"/> NO	<input type="checkbox"/> NF	<input type="checkbox"/> SA	<input type="checkbox"/> A	<input type="checkbox"/> D <input type="checkbox"/> SD
b. Prescribed burning <input type="checkbox"/> NO	<input type="checkbox"/> NF	<input type="checkbox"/> SA	<input type="checkbox"/> A	<input type="checkbox"/> D <input type="checkbox"/> SD
c. Herbicides to manage vegetation <input type="checkbox"/> NO	<input type="checkbox"/> NF	<input type="checkbox"/> SA	<input type="checkbox"/> A	<input type="checkbox"/> D <input type="checkbox"/> SD
d. Mowing <input type="checkbox"/> NO	<input type="checkbox"/> NF	<input type="checkbox"/> SA	<input type="checkbox"/> A	<input type="checkbox"/> D <input type="checkbox"/> SD
e. Timber Harvesting <input type="checkbox"/> NO	<input type="checkbox"/> NF	<input type="checkbox"/> SA	<input type="checkbox"/> A	<input type="checkbox"/> D <input type="checkbox"/> SD
f. No habitat management practices <input type="checkbox"/> NO	<input type="checkbox"/> NF	<input type="checkbox"/> SA	<input type="checkbox"/> A	<input type="checkbox"/> D <input type="checkbox"/> SD

**12. On a scale from 1 to 5, where 1 is very dissatisfied, 3 is neutral, and 5 is very satisfied, how satisfied are you with the condition of this WMA?**

1 (VD)  2  3  4  5 (VS)  6 No Comment

**13. (IF RATING IS 2 OR LESS) Please tell me why you were dissatisfied with the condition of this WMA?**

**14. Which of the following New Jersey license(s) have you held in the past 12 months (Check all that apply)?**

Hunting  Trapping  Fishing  Boat Ramp Permit  None

**15. NJ WMAs are here because of fishing/hunting licenses and taxes on hunting and fishing equipment. Non-licensed people use it at no cost. Which do you think about the idea of charging an annual fee?**

- Only those who don't already purchase a permit/license should pay an annual fee
- Every user, including license/permit holders, should pay an annual fee
- NJ WMAs should be available to everyone at no cost
- Other [Click here to enter text.](#)

**16a. (IF HAVE NO PERMIT IN PAST 12 MONTHS) Given you do not currently hold a permit would you be willing to pay \$\_\_\_/yr to use all of NJ's WMAs?**

\$5?  YES  NO

\$15?  YES  NO

\$25?  YES  NO

**16b. (IF YES PERMIT IN PAST 12 MONTHS) In addition to your license or permit would you be willing to pay \$\_\_\_/yr to use all of NJ's WMAs?**

\$5?  YES  NO

\$15?  YES  NO

\$25?  YES  NO

**17. (ASK ONLY IF "YES" TO \$25 QUESTION). What is the most you'd be willing to pay, per year, to use all of NJ's WMAs?** [Click here to enter text.](#)

**18. What would you do if the fee were too high?**  Come without paying  Use other public lands or parks in NJ  Go elsewhere  Other [Click here to enter text.](#)

**19. What is your home zip code?** [Click here to enter text.](#)  NO COMMENT

**20. In what year were you born?** [Click here to enter text.](#)  NO COMMENT

**21. What gender do you identify with? (SILENT CODE IF POSS)**  MALE  FEMALE  OTHER  
[Click here to enter text.](#)

**22. How would you describe your location of residence?**  Rural  Suburban  Urban   
NO COMMENT

**23a. (GENERAL) What types of improvements do you want to see at this site (Check all that apply)?**

RESTROOMS  ADDITIONAL PARKING  TABLES  SIGNAGE  FACILITIES FOR AMERICANS WITH DISABILITIES

NONE  OTHER [Click here to enter text](#)

**23b. (IF AT SHOOTING RANGE) What types of improvements do you want to see at this site (Check all that apply)?**

RESTROOMS  ADDITIONAL PARKING  TABLES  COVERED SHOOTING STATIONS  
 SIGNAGE  FACILITIES FOR AMERICANS WITH DISABILITIES  NONE  OTHER [Click here to enter text](#)

**23c. (IF AT BOAT LAUNCH) What types of improvements do you want to see at this site (Check all that apply)?**

RESTROOMS  ADDITIONAL PARKING  DOCKS  FISH CLEANING STATIONS   
SIGNAGE  FACILITIES FOR AMERICANS WITH DISABILITIES  NONE  OTHER  
[Click here to enter text](#)

**24. (ALL LOCATIONS) Do you have any additional comments about this WMA?** [Click here to enter text.](#)

**Thank you for your time.**

**Appendix B:**

# **Wildlife Management Area Daily WMA Site Selection Map**

**May 2016 – April 2017**

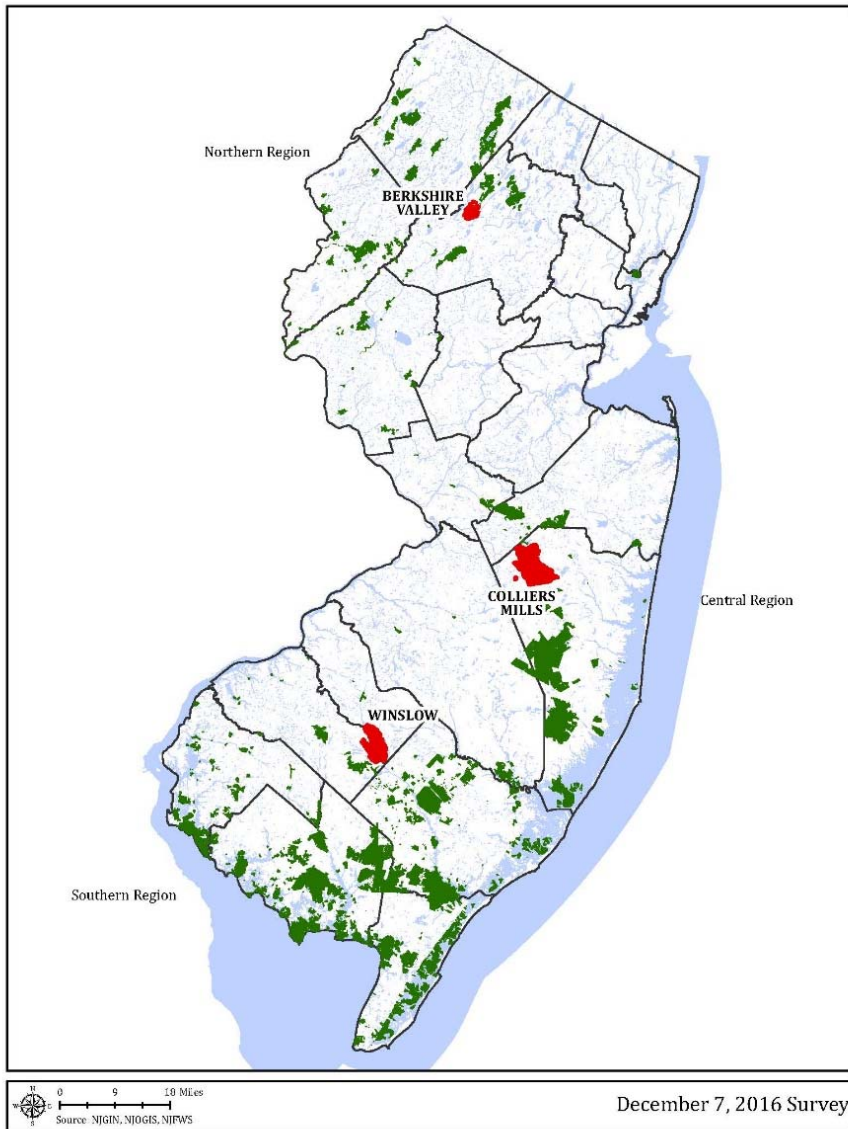


Figure B1. Map showing examples of 3 selected WMAs (one from each region: north, central, and south) being surveyed on the same day.



**Appendix C:**

**Wildlife Management Area  
Business Reply Postcard**

**May 2016 – April 2017**

Thank you for visiting New Jersey's Wildlife Management Areas. Please take the time to tell  
Stockton University and the NJ Division of Fish and Wildlife about your visit today.  
Fill out this postcard and drop it in the mail.

WMA \_\_\_\_\_ Location \_\_\_\_\_ Date \_\_\_\_\_

1. Which of the following NJ license(s) have you held in the past 12 months?  
 Hunting  Fishing  All-Around Sportsman  Trapping  Boat Ramp Permit  Horseback Riding

2. What is your age? \_\_\_\_\_ Zip code? \_\_\_\_\_ 4. How many people are in your group? \_\_\_\_\_

5. What time did you arrive on the WMA? \_\_\_\_\_ 6. What time did you leave the WMA? \_\_\_\_\_

7. What primary activities did you engage in?  Biking  Boating  Dog Walking  Freshwater Fishing  
 Hunting  Saltwater Fishing  Wildlife Watching  Other (Please describe)  
\_\_\_\_\_

8. On a scale from 1 to 5, where 1 is very dissatisfied and 5 is very satisfied, how satisfied were you with your  
experience at this WMA today?  1  2  3  4  5

9. If your rating is 2 or less, what was responsible for your dissatisfaction and how could your experience  
have been improved?  
\_\_\_\_\_  
\_\_\_\_\_

[www.njfishandwildlife.com](http://www.njfishandwildlife.com)

Figure C1. Business reply post card placed on vehicle windshields of WMA users that were unable to be intercepted during the survey shift.

**Appendix D:**

**Wildlife Management Area  
Map of Survey Locations**

**May 2016 – April 2017**

# Absecon WMA - December 3, 2016

One Stop



Figure D1. Map showing an example of a WMA with a single survey location where the entire 4 hour survey shift was spent in this one location.

# Manahawkin WMA - July 19, 2016

50/50 Split

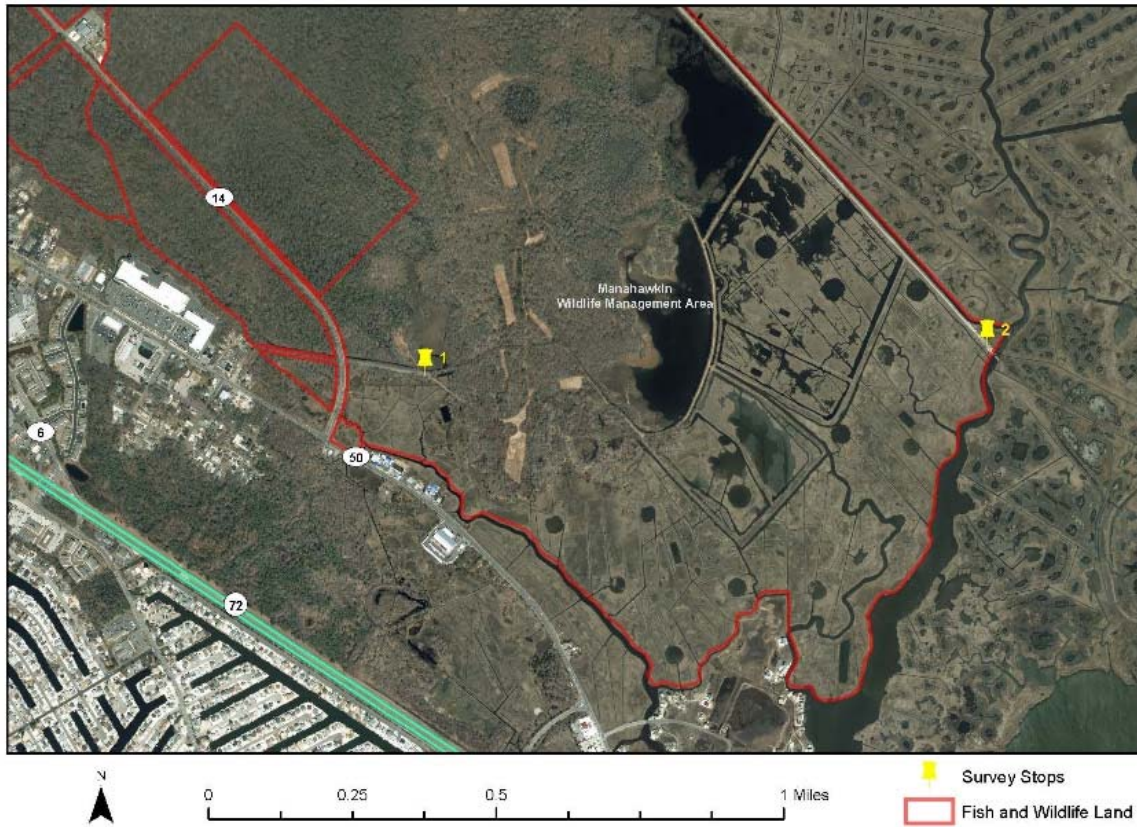


Figure D2. Map showing an example of a WMA with 2 survey locations where 50 percent of the 4 hour survey shift was spent at one location and the other 50 percent of the shift was spent at a second location.

# Hammonton Creek WMA, January 3, 2017

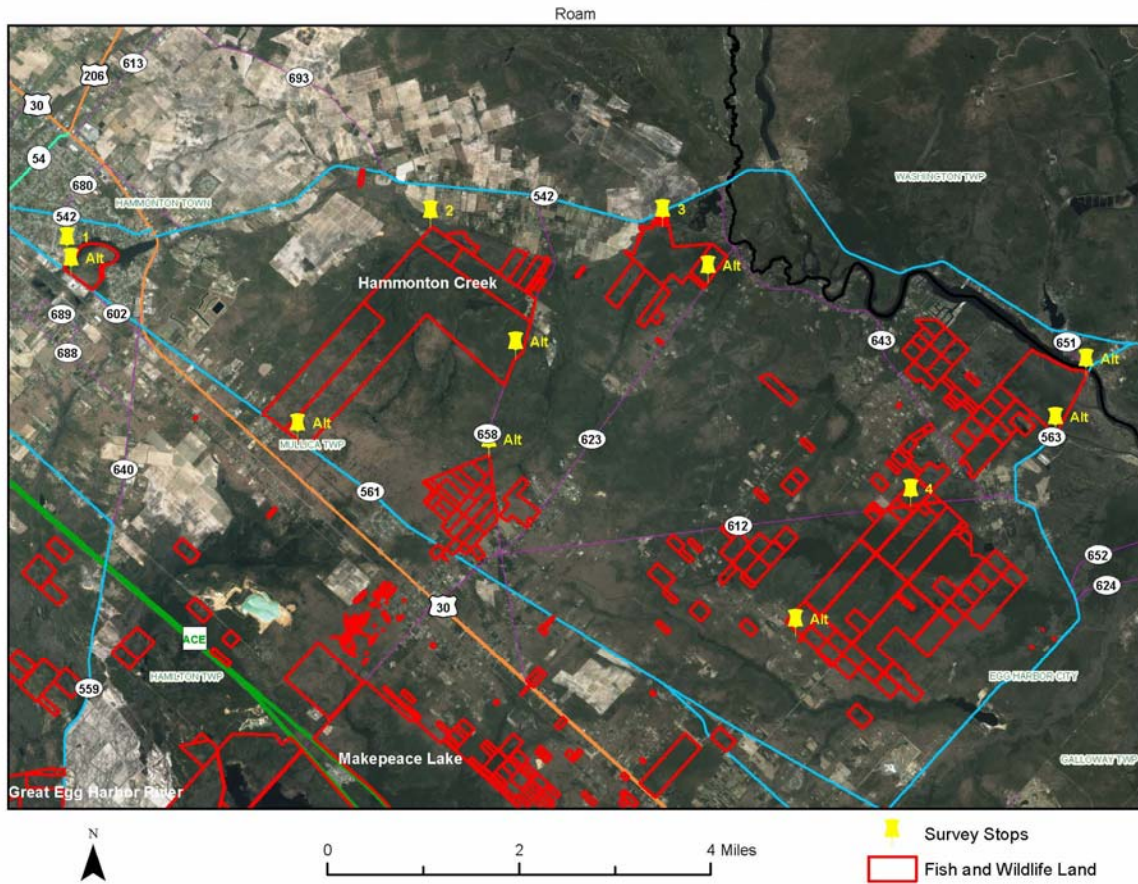


Figure D3. Map showing an example a WMA with multiple survey locations where a roaming strategy was used.

**Appendix E:**

# **Wildlife Management Area Focus Group Participants**

**May 11, 2017**

<b>Organizations Represented</b>	<b>Number of Attendees</b>
Bureau of Freshwater Fisheries	3
Bureau of Land Management	9
Bureau of Law Enforcement	10
Bureau of Marine Fisheries	1
Bureau of Wildlife Management	4
Endangered Species Program	3
Information and Education	1
Office of Environmental Review	1
<b>Total number of attendees</b>	<b>32</b>

Table E1. Attendees of the internal (NJDFW) focus group meeting held on May 11, 2017.

<b>Organizations Represented</b>	<b>Number of Attendees</b>
Bass Pro Shops (Atlantic City, NJ)	1
L.L. Bean (Marlton, NJ)	1
Morris County Park Commission	1
Musconetcong Watershed Association	1
Natural Resources Conservation Service (USDA)	1
New Jersey Outdoor Alliance	1
NJ Audubon Society	1
NJ Highlands Coalition	1
NJ Recreation and Park Association	1
NJ Trappers Association	1
NJ Waterfowlers Association	1
Outdoor Club of South Jersey	1
Pinelands Preservation Alliance	1
Public at Large	1
Round Valley Trout Association	1
South Jersey Bass Club Association	1
The Nature Conservancy	1
Trout Unlimited/NJ Fish and Game Council	1
U.S. Army Corps of Engineers (Philadelphia District)	1
U.S. Fish and Wildlife Service (Forsythe Refuge)	1
<b>Total number of attendees</b>	<b>20</b>

Table E2. Attendees of the external focus group meeting held on May 11, 2017.



**Appendix F:**

# **Wildlife Management Area Focus Group Questionnaire**

**May 11, 2017**

Table F1. Focus Group Questionnaire used for focus group meetings held on May 11, 2017.

1. Approximately how many times have you visited a NJ Wildlife Management Area (WMA) in the past 12 Months?
2. In general, approximately how many times have you recreated outdoors in the past 12 months?
3. Which of the following New Jersey license(s) have you held in the past 12 months (Check all that apply)?  
Hunting    Trapping    Fishing     Boat Ramp Permit    None
4. Organization you represent today is:
  - Non – Governmental Organization
  - Business
  - Government Organization
5. How many years have you been at this organization?
6. Gender (please circle one)
  - Male
  - Female
  - No response
7. How many years have you lived in New Jersey? \_\_\_\_\_
8. How would you describe your location of Residence (please circle one)
  - Rural
  - Urban
  - Suburban
9. What is your Home Zip Code \_\_\_\_\_
10. In what year were you born? \_\_\_\_\_
11. A. Highest Education level attained?
  - GED/High School
  - Undergraduate
  - Graduate
  - DoctoralB. In what specialization? \_\_\_\_\_

**Question 1A: Who uses or should be using NJ WMAs?**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Question 1B: What types of management practices should be done on WMAs?**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Question 2A: To what degree should NJ WMAs be actively managed, circle 1-5 (1 = no management, 5 = intensely managed)?**

Circle one                    1        2        3        4        5

**Question 2B: What should management objectives be based on?**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Question 3: What are the most pressing issues for NJ WMAs?**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Question 4A: Should people pay for access to WMAs (choose one)?**

- Yes, all users.
- Yes, but only non-permit holders
- No, access should be free for all users

**Question 4B: If annual fee is charged, how should this fee be collected?**

A. \_\_\_\_\_

B. \_\_\_\_\_

Additional Comments:

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**Appendix G:**

**Wildlife Management Area  
Regional Survey Totals**

**May 2016 – April 2017**

<b>REGIONAL SURVEY TOTALS</b>					
<b>WMA Region</b>	<b># times surveyed</b>	<b># people surveyed</b>	<b># people represented</b>	<b># refusals</b>	<b># postcards</b>
Northern Region	153	577	1296	17	138
Central Region	153	721	1318	54	221
Southern Region	153	688	1584	25	251
<b>Grand Totals</b>	<b>459</b>	<b>1986</b>	<b>4198</b>	<b>96</b>	<b>610</b>

Table G1. WMAs surveyed, number of people surveyed, number of refusals, and number of postcards left by region from May 2016-April 2017.

<b>CENTRAL REGION</b>					
<b>WMA Name</b>	<b># times surveyed</b>	<b># people surveyed</b>	<b># people represented</b>	<b># refusals</b>	<b># postcards</b>
Assunpink	12	134	262	7	54
Butterfly Bogs	5	0	0	0	0
Colliers Mills	9	97	153	7	21
Forked River Mt.	5	3	3	0	0
Great Bay Boulevard	10	68	145	3	53
Greenwood Forest	10	15	20	3	5
Manahawkin	10	68	104	8	3
Manasquan River	7	32	58	3	5
Manchester	6	0	0	0	0
Medford	11	33	50	2	1
Oyster Creek Access	10	68	171	3	25
Pemberton Lake	9	26	59	1	8
Pleasant Run	4	3	6	1	2
Point Pleasant Fishing Access	10	43	60	4	11
Prosperstown Lake	10	78	125	7	25
Stafford Forge	9	43	88	4	7
Turkey Swamp	5	0	0	0	0
Van Nest Refuge	6	3	5	1	1
Whiting	5	7	9	0	0

Table G2. Central region WMAs surveyed, number of people surveyed, number of people represented, number of refusals, and number of postcards left from May 2016-April 2017.

<b>NORTHERN REGION</b>					
<b>WMA Name</b>	<b># times surveyed</b>	<b># people surveyed</b>	<b># people represented</b>	<b># refusals</b>	<b># postcards</b>
Alexauken Creek	2	2	2	0	0
Alpha Grasslands	2	0	0	0	0
Amwell Lake	4	15	26	0	2
Baldwin Lake	3	5	7	1	0
Bear Swamp	4	0	0	0	0
Beaver Brook	3	0	0	0	0
Belvidere Access	6	20	33	0	0
Berkshire Valley	5	1	5	0	4
Black River	5	30	73	0	6
Buckhorn Creek	5	1	11	0	2
Budd Lake	3	1	1	0	1
Capoolong Creek	4	13	18	1	2
Clinton East/West	8	67	178	0	9
Columbia	6	22	41	0	9
Culvers Brook	2	0	0	0	0
Flatbrook-Roy	7	29	77	1	19
Hackettstown Hatchery	2	15	26	0	2
Hainesville	1	1	2	0	0
Hamburg Mountain	4	4	4	0	0
Harmony Access	1	0	0	0	0
Holland Church Access	1	0	0	0	0
Honey Run	6	3	3	0	0
Hummers Beach Access	1	0	0	0	0
Ken Lockwood Gorge	5	57	117	2	2
Knowlton Access	2	0	0	0	0
Little Flatbrook Access	2	0	0	0	0
Lokatong	2	1	2	0	0
Musconetcong River	3	35	80	2	8
Paulinskill River	3	21	45	0	0
Pequest Trout Hatchery	7	47	99	2	18
Rockaway River	2	0	0	0	0
Rockport	4	3	5	0	0
Round Valley Reservoir Access	6	114	274	7	31
Sawmill Creek	1	1	1	0	2
South Branch	4	14	25	0	2
Sparta Mountain	4	13	24	0	2
Trout Brook	2	1	1	0	0
Walpack	3	4	5	0	0
Weldon Brook	6	4	9	0	0
White Lake	3	0	0	0	0
Whittingham	4	3	9	0	0
Wildcat Ridge/Splitrock Reservoir	5	30	93	1	17

Table G3. Northern region WMAs surveyed, number of people surveyed, number of people represented, number of refusals, and number of postcards left from May 2016-April 2017.

<b>SOUTHERN REGION</b>					
<b>WMA Name</b>	<b># times surveyed</b>	<b># people surveyed</b>	<b># people represented</b>	<b># refusals</b>	<b># postcards</b>
Abbotts Meadow	2	2	3	0	0
Absecon	6	62	142	6	31
Andaloro	2	1	1	0	0
Beaver Swamp North/South	2	0	0	0	0
Buckshutem	4	0	0	0	0
Cape Island North/South	2	3	6	0	0
Cedar Lake	2	5	6	0	0
Clarks Pond	1	2	4	0	0
Cohansey River	2	2	2	0	0
Cox Hall Creek	2	21	38	0	0
D.O.D. Ponds	3	27	41	0	22
Dennis Creek	5	18	41	0	2
Dix	3	21	35	0	9
Egg Island	4	9	23	0	15
Elmer Lake	4	4	4	0	0
Fortescue	3	10	30	1	31
Glassboro	3	7	16	0	4
Gum Tree Corner	4	0	0	0	0
Hammonton Creek East/West	3	0	0	0	0
Harrisonville Lake	1	5	9	0	0
Heislerville	6	66	181	0	6
Higbee Beach	8	147	360	7	72
Lizard Tail Swamp Preserve	2	1	1	0	0
Mad Horse Creek	2	4	14	0	1
Makepeace Lake	2	13	42	1	6
Malibu Beach	3	46	78	1	8
Mantua Creek	2	1	1	0	1
Maple Lake	3	0	0	0	0
Menantico Ponds	1	9	22	0	0
Millville (Bevans)/Lake Audrey	6	17	36	1	8
Nantuxent	6	8	22	0	0
New Sweden	1	0	0	0	0
Peaslee	5	3	6	0	0
Penbryn Pond	2	7	16	0	0
Pennsauken Access	6	18	34	1	2
Port Republic	4	0	0	0	0
Raccoon Creek	1	1	2	0	0
Rainbow Lake	4	9	14	2	2
Rowands Pond	3	2	2	0	0
Salem River (mult. Sites)	2	14	29	0	0
Spicers Creek Access	5	34	88	3	10
Thundergut Pond	4	4	7	0	0
Tuckahoe (MacNamara)	2	15	42	0	15
Union Lake	7	53	94	2	3
White Oak Branch	4	3	13	0	0
Winslow	4	14	79	0	3

Table G4. Southern region WMAs surveyed, number of people surveyed, number of people represented, number of refusals, and number of postcards left from April 2016-May 2017.



<b>WILDLIFE MANAGEMENT AREAS NOT SURVEYED</b>		
<b>Northern Region</b>	<b>Central Region</b>	<b>Southern Region</b>
Pohatcong Creek	Imlaystown Lake	Cape May Coastal Wetlands
Ratzman Access	Navesink River	Cedarville Ponds
	Sedge Islands	Featherbed Lane
	Shark River Access	Great Egg Harbor River
	Swan Bay	Logan Pond
	Wading River	Maskells Mill Pond
		Pork Island

Table G5. Wildlife Management Areas from each region that were not surveyed due to random selection or perceived zero usage.

**Appendix H:**

**Wildlife Management Area  
Additional Survey Comments**

**May 2016 – April 2017**

Table H1. Additional comments from surveyed users from in-person intercept surveys from April 2016-May 2017. Categories and comments are arranged in alphabetical order. The number of times each comment was received is in parentheses.

<b>Boat Ramps/Docks</b>	<b>(40)</b>
• A boat launch would be nice	(1)
• A dock would make it easier to put the boat in.	(1)
• Add a boardwalk.	(1)
• All boat ramps need to look like this. Take better care of them. Need to look like ramps in DE.	(1)
• Another rock on side of launch	(1)
• Better boat ramp	(1)
• Better kayak launch	(1)
• Bigger docks.	(1)
• Boat ramp could use some work.	(1)
• Change the launch to concrete	(1)
• Channel is wide enough to kayak - some boat launch or access would be good for black river	(1)
• Dock not long enough	(1)
• Dredge out the area to make it easier to put the boats in.	(1)
• Dredging slips and creek	(1)
• Dredging the creek	(1)
• Fishing pier	(1)
• Fix up the boat ramp.	(1)
• Grate the lot so the area is more even, dredge it so it's easier to put your boat in.	(1)
• I wish the water level was higher.	(1)
• Larger boat ramp.	(1)
• Lighting and boat ramp improvement. Fix the parking lot.	(1)

- Long wait time to get boats in and out (1)
- Make a deeper channel for boats (1)
- More docks (1)
- Needs dredging. (1)
- New boat ramp! (1)
- Put some stone so we can launch the boats (1)
- Reduce algae, less boaters they screw up the lines, designate area, and create banks to fish. (1)
- The dock be improved (1)
- The launching ramp is too flat the slope is now steep enough. (1)
- The ramps must be moved so boats can launch. There should be someone to direct campers away from the boat launch. (1)
- The site has a playground. It's great for family's you can bring lunch. The big boats can't get it because of the shallow waters. They should dredge the area (1)
- The water has been really low for a while. (1)
- The water is so low. Why is it so low? (1)
- The water level is a problem. (1)
- The water level is really low. (1)
- The water looks low (1)
- There is a ramp at the parks department that is not allowed to be used by anyone other than campers. Under these muddy conditions I would like access to this area. This is a major issue. You have to rent a campsite to use the ramp. Have a \$50 park pass that I cannot use at this site. (1)
- Very hard to get your boat in and out today. Too many people and not enough room (1)
- When will the water be replenished (1)

**Fish/Game Populations (43)**

- A lot more wildlife than when I was growing up nearby. We never saw bald eagles until recent years. (1)

- Crabbing is pretty good here. (1)
- DEP - The road was bad but they fixed it. Comes here because it is stocked in fall. (1)  
Wants Teetertown stocked in the fall. Hopes DEP recognize contributions of hunters.
- Distribute pheasants more evenly to help with congestion (1)
- Does should be limited! No deer here (1)
- Find out what has killed off all the rabbits and wild pheasants!! Bring them back (1)
- Fish population seems to have dropped. Too many big boats for shallow water. Nice if (1)  
they could dredge.
- It's very crowded on the weekend. All stocking days should be at 8:00 am on (1)  
weekends for fairness.
- Limits on doe harvest, too much now (1)
- Manage coyotes in area. (1)
- Miscommunication about stocking survey (1)
- More birds, but they do a great job here (1)
- More birds, we saw nothing. (1)
- More fish! (1)
- More fish. (2)
- Population of striper having negative impact Delaware river (1)
- Rearranging where the hunters are in relation to the lake. Stock better quality fish. (1)
- Shortage of rabbits. Can't tap fox? Can't shoot hawks? Stay out DEP. Stop managing (1)  
for only one user! Talk to the people who use the actual WMA to see what they do  
and want! I even pick up trash at the WMA!
- Statewide antler restriction, eliminate unlimited doe harvest, do something about the (1)  
big private hunting groups that come and just take over- doesn't give the little guys a  
chance to come with their son or daughter
- Stock birds in January and February (1)
- Stock it with bass. Pave the road (1)
- Stock larger fish. (1)

- Stock more animals. (1)
- Stock more bass change size limits (1)
- Stock more birds more frequently (1)
- Stock more birds. Better management of vegetation. (1)
- Stock more birds. They did no stick 90 birds out here like they said they would. (1)
- Stock more fish (2)
- Stock more fish! (1)
- Stock more pheasants. (1)
- Stock pheasant randomly instead of set days (1)
- Stock the lake (1)
- Stock the ponds and fix the roads up. (1)
- Stock the wildlife. (1)
- Strongly urge fish stocking sites to get rid of geese an birds (1)
- The diving ducks are killing the trout (1)
- The stocking of trout exploits area which would otherwise be left alone to flourish. The stocking program is absurd. (1)
- They need to study why big rainbows show up in the fall and winter and where they come from. They don't have any brown trout. They should stock brown trout. Get federal government money to pay for brown trout. (1)
- They should stock birds more often (1)
- Too many rocks for fishing, bait gets stuck. Please, stock trout in this site. (1)
- Wish there were more fish. Keep the Japanese out of our waters. stock the waters (1)

**Garbage/Dumping/Illegal Activities (141)**

- A lot of dumping happens here. Need more enforcement and clean up (1)
- Beautiful here but we had to collect tons of trash, island was all broken glass, organized cleanup days would be great we'd volunteer (1)

- Better maintenance. Keep the beach clean of trash. (1)
- Better trash clean up (1)
- Clean it up there is garbage everywhere (1)
- Clean it up more (1)
- Clean up the beaches. (1)
- Clean up the beer bottles and cigarette butts. (1)
- Clean up the dumping from other people (1)
- Clean up the garbage, game wardens need to show their face more often. (1)
- Clean up the graffiti at the shooting range. (1)
- Clean up the litter. (1)
- Clean up the shells. (1)
- Clean up the trash and fix up the roads. (1)
- Clean up the trash more often. (1)
- Clean up the trash, availability to ride quads. (1)
- Clean up the trash. (6)
- Construction debris from bridge could be cleaned up. (1)
- Control of ATVs and dumping (1)
- Dog poop bag station and trash bins (1)
- Doggie bags it's just beautiful (1)
- Effort to clean river banks, cooperative management between agencies like DEP, DCNR, NPS, local towns for Delaware river management (1)
- Enforce dumping violators (1)
- Enforce people cleaning up after themselves. (1)
- Everything is in pretty well taken care of, just the garbage is a problem (1)
- Frequent clean up. A sign for littering offences. (1)

- Garbage cans. Open shooting range for bird shot. (1)
- Garbage is a huge problem. Not even garbage cans (1)
- Garbage needs to be cleaned up. There's basically a little dump .5miles down on the left. (1)
- Garbage pickup. Listened to light the garbage cans on fire for fun though. (1)
- Get rid of the building and the concrete in the ponds. (1)
- Graffiti cleanup or remodel (1)
- Have a place for jeeps and quads. Jeeps need to be controlled they destroy the roads. A hotline for excessive or dangerous quad use could work. (1)
- Have a steady clean up. (1)
- Have people clean up their trash or have someone come out every day to monitor (1)
- Hope it doesn't change. Besides garbage and debris I like it how it is. (1)
- I like coming here because it's close by but there needs to be more litter cleanup. (1)
- I strongly support the WMA. We need to clean (1)
- I would like to see all the construction stuff moved and finished. (1)
- I would like to see something done about littering, install litter receptacles for trash and recycling (1)
- It looks like dirt bikes tear up areas around lake (Oak Pond). (1)
- It would be nice if people cleaned up after themselves, every time a new trash can is brought out people shoot it, so some new ones chained down would be nice (1)
- It's a nice pace there is good crabbing, but there needs to be a garbage can or something. (1)
- It's a nice place to come but it's a shame that people have to dump their trash (1)
- It's beautiful but it needs a clean up (1)
- Keep it cleaner, more signs to encourage putting trash in the right place (1)
- Keep its clean (1)
- Less garbage. (2)



- Less graffiti (1)
- Less trash would be nice. More trash cans. (1)
- Less trash. (2)
- Less trash. People should pick up their trash. (1)
- Litter enforcement (1)
- Litter management. (1)
- Lots of dumping (1)
- Lots of trash (1)
- Lots of trash in the parking lot. (1)
- More trash cans and beach clean ups (1)
- More trash cans. (1)
- More trash cleanup (2)
- Need to keep it clean because people do not respect it (1)
- Needs to be cleaned up more often. (1)
- Needs trash pick up (1)
- None, the ATVs are annoying that's it. (1)
- Off-roaders are destroying everything and the area is being destroyed without much enforcement (1)
- People don't take their garbage with them or dispose of it across the street. It's sad. (1)
- People shoot at garbage cans and shooting houses, they are nice to have but understand why they don't put more... Other People don't appreciate the things they have (1)
- People who come need to clean up after themselves (1)
- Pick up the trash and broken bottles. (1)
- Pick up the trash and open up more fishing areas (1)
- Pick up the trash more often. (1)

- Pick up the trash. (10)
- Pick up the trash. Fix up the roads. (1)
- Provide trash bags and cans for dog poop. (1)
- Put trash cans in. (1)
- Shells are a huge issue, people need to clean up after themselves (1)
- Some dumping occurs. State workers clean it up and put it in the dumpster at the shooting range (1)
- Stop busting balls for people partying here, but bust balls for people littering here (1)
- Stop dredging the bay, Mexicans come here and trash the place. No cans bottles everywhere (1)
- Stop kids from off roading at night. (1)
- Taking away areas, clean off roads from dead trees and trash, supervision needs to increase. (1)
- The area needs trash pick up (1)
- There is a garbage problem that needs to be tackled (1)
- There is a garbage problem we need cleanup or cans which will be emptied (1)
- There is a lot of trash in the bathrooms today. (1)
- There is fishing tournaments where people carve up fish and throw in the water. That should be regulated or something. It's somewhat disgusting to see all the carcasses in the water. (1)
- There is garbage all over. A lot of dumping it looks like. (1)
- There is usually trash in the parking lot. Trash cans may help with that. (1)
- There used to be trash cans here, but they're gone. Trash bag on the ground now. (1)
- They do a great job, but too many people litter. It's the users not the management. (1)
- Too much trash (1)
- Trash cans (2)
- Trash cans and cleanup needs to be improved (1)

- Trash cans and dog poop bags (1)
- Trash cans and less garbage. (1)
- Trash cans and pave the road. (1)
- Trash cans need to be put in (1)
- Trash cans need to be put in. (1)
- Trash cans of litter cleanup is needed (1)
- Trash cans, dog bags to pick up after your dogs. Allow dogs to be on the beach. (1)
- Trash cans. (4)
- Trash cans. More game wardens in this area. Permanent corner markers to know where you're at. (1)
- Trash cans. Pick up all of the shells. (1)
- Trash cans. This area should be a free range dog area. (1)
- Trash collecting (1)
- Trash everywhere (1)
- Trash everywhere, needs trash can (1)
- Trash is a big issue (1)
- trash needs to be picked up more often (1)
- Trash pickup is needed more often (1)
- Trash pickup more often. (1)
- Trash pickup. (2)
- Trash removal and strict policing on littering (1)
- Use the wildlife management areas a lot. Lack of management, partying, fires, trash, ATV. At Stafford forge, here, Howard's Ville. But at same time these lands are a blessing for hunting when I was kid and now with my kids. Need to manage for wildlife!!! Need to be proactive!! (1)
- We clean garbage here when we walk, more fines for littering! (1)

- We need litter cans (1)
- Weekly or monthly trash clean up (1)
- Where are the garbage cans (1)
- Would like to see unnatural rocks cleaned up (1)

**General Maintenance (11)**

- Beach sweeping, cleaning, clean up after dogs (1)
- Better maintenance of the area, cut the lawn and pick up trash. (1)
- Better maintenance. (1)
- Better management (1)
- Better management of the park (1)
- Cleanliness poles should be re painted. Basic Maintenance (1)
- Dirty (1)
- I think it should be better maintained (1)
- More money needs to be put in to managing the area (1)
- More money needs to be put into this area to have better facilities. (1)
- They need more maintenance especially if a fee is implemented. There should be more shooting ranges built (1)

**Habitat Management (38)**

- Alexauken creek needs mowing and food plots (1)
- as a birder, interested in proper habitat management – e.g. too much mowing happens in certain places (1)
- Better maintenance of vegetation. (1)
- Better management of the vegetation. Things are very overgrown. (1)
- Better management of vegetation. Trash pickup. (1)
- Better mowing management (1)

- Better water quality, another inlet cut to improve Barnegat Bay. (1)
- Burn wrong time of year, rabbits need to nest and breed, plant something other than sorghum - no good for nothing. Mix it up. More quail. (1)
- Clear trees further up river. (1)
- Clearing of invasive species. (1)
- Concerned about the pond behind factory along Chelsea drive (1)
- Cut back vegetation on sides of the road. (1)
- Cut some fields later in the summer (1)
- Cut the fields more often. (1)
- Cutting hedgehogs back too far - everything lives on edges. Herbicides are destroying everything- many dogs are dying from liver complications - theory is herbicides (1)
- Enforcement; prescribed burns; erosion control; protection of endangered species as improvements (1)
- Grass field is slightly overgrown and unmanaged, too tall for walking (1)
- Herbicides have destroyed the quail population in this state. Don't use them. (1)
- Hopefully more action will be to start environment protection before it is too late. (1)
- If there is no protection already I would like to see protection for the wild orchids around here (1)
- Improve habitat, remove invasives (1)
- Integrated pest management (1)
- It's nice and quiet and set up nice get rid of poison ivy (1)
- Just take care of erosion and get volunteer (1)
- Lots of poison ivy (1)
- More mowing. (1)
- More strict on taking of fish. Lower part of lake is choked. It should be dredged. Depth seems to be getting lower and lower. (1)
- Mow more to remove thorns for the hunting dogs. Plant more food plots. (1)

- Need to manage phragmites (1)
- Needs more active forest management and food plots. (1)
- Nice trail to take the dogs on, but the lake is pretty gross and smelly--didn't let the dogs swim in it. (1)
- Pequest needs to be mowed the pheasant (1)
- Put more food plots out here. (1)
- Stop managing. Leave it alone! (1)
- Take care of poison ivy (1)
- The should mow the path more often, it seems they only mow it for the hunters (1)
- There needs to better management with less environmental impact. (1)
- Would more grass (1)

**Infrastructure/Access/Trails (70)**

- A lot of unsafe and hazardous conditions. Fences falling over, overgrown vegetation, major holes in the road ways. The area is not being maintained and I don't feel like this is an area that people should be paying to use (1)
- Add more walking trails. (1)
- At some parts along the trail could be wider (1)
- Benches along the trail at this WMA; at others considerations for the now aging populations- emergency services, etc. (1)
- Benches were damages. There is not maintenance on the site (1)
- Better management of the roads. (1)
- Better parking (2)
- Better road access (1)
- Better roads. Pick up the trash. (1)
- Better views from parking area, really hard to access lake other than on water (1)
- Bulk heads could use work (1)

- Cleaning up the trails. (1)
- Continue to keep trails open by frequent mowing. Widen paths that become eroded. (1)
- Decent trail for dog walking, could be maintained better--make trail wider (1)
- Don't like addition of marked trails, other facilities for non-standard. Most non-standard hunters aren't educated about purpose, don't wear orange , etc. (1)
- Finding the trail is hard please clear trails (1)
- Fix lights (1)
- Fix the bridge. (1)
- Fix the handicap area (1)
- Fix the ladder. (1)
- Fix the roads, put out garbage cans, have conservation officers patrolling to check for licenses and people swimming (1)
- Fix the roads, they're very rough and hard to drive on (1)
- Fix the roads, took many pot holes and roads are too narrow (1)
- Fix the roads. (5)
- Food plots and better management of the area. (1)
- Get rid of the dam for the lake (1)
- Get rid of the jet skiers and designate fishing areas. (1)
- Give access to rest of the trail from terminus on your land-it keeps going (1)
- Grate the lot to make it easier to drive back here and fix the pot holes. (1)
- Gravel is awesome. Bird watching tower burnt and that very upsetting. (1)
- Hear gunshots year-round and at night. Make hiking trail longer, separate bikers and hikers at certain times. (1)
- I am happy to see the garbage cleaned up, I'd like the potholes filled. (1)
- I don't remember all of this red dirt being in the parking lot before. It's pretty ugly. (1)
- I just want some of the pot holes fixed before it gets worse (1)

- I think it's pretty nice they do a lot the state keep it well maintained in here well besides the roads (1)
- I would like to see benches put in (1)
- It took forever to get my jet ski out because it's so crowded. (1)
- Keep the roads leveled. (1)
- Keep this spot secret & more trail maintenance! (1)
- Less development on trails, not too fake, not too many benches or picnic tables, keep it natural. (1)
- Linking with other local trails for biking (1)
- Maintain the roads better. (2)
- More access to the woods, walking trails (1)
- More areas to shore fish would be nice (1)
- More road maintenance. A port-o-potty on other side of lake - cartoon(?) launch (1)
- More shore access (1)
- More shore fishing access (1)
- Mowing wider paths filling potholes with small gravel. Thankful for quick tree clearing. Remove large stones. (1)
- Parking lot on Fishing pier side of road (1)
- Path could be trimmed up a bit (1)
- Pave more of the roads (1)
- Pave roads (1)
- Pave the roads. (1)
- Put in bird watching tower. (1)
- Rebuilt the bridge and fill the road holes (1)
- Road improvement. We need balconies and chairs to sit. (1)
- Road needs improvement (1)



- Roads are a problem they flood, bird dog regulations need to be easier to understand. (1)
- Roads need to be fixed up and garbage clean up (1)
- Rocks in the beginning of the trail are rough (1)
- Speed bumps and better roads garbage cleanup (1)
- Trail needs to be better maintained. Fix up old rail station. (1)
- Two points on the trail where needs maintenance - always real muddy (1)
- Without 4wheel drive the back access to the park is inaccessible (1)

**Insect Management (2)**

- Bugs get real bad!! Spray? (1)
- It's nice I'd like more tick and mosquito control. Mowing more might help that. (1)

**Law Enforcement (36)**

- Fish and game need to show more of a presence at wildlife management areas, a quicker response time to deal with anti-hunters and game theft (1)
- Have the conservation officers do their job of checking fishing licenses (1)
- If someone is abusing the area they should pay a large fee and then publicize it. (1)
- If a fee is started, it needs to be enforced properly. You already can't control the illegal mudders. (1)
- If there was a way to fine people for littering that would be great. (1)
- In the summer there are people asking for money for drugs. (1)
- It could be guarded. People like to raise hell at night racing their cars at night. (1)
- It's beautiful in the summer the kids come and play. This summer there was a person with kids was frightened by the game warden didn't handle herself properly around children resulting in them being very frightened. Otherwise the place is great and set up nicely (1)
- Just hunters at this location. Patrolled for proper targets, proper license and cut grasses in hunting areas. Get more paths in hunting areas. (1)
- Keep a warden in the field. (1)

- Keep port-o-potties year-round, better enforcement of fishing regulations, patrol area better at night (1)
- More conservation officers checking licenses. (1)
- More conservation officers, keep it as natural as possible. (1)
- More conservation officers. (1)
- More enforcement of people taking fish illegally (1)
- More game warden need to be around. (1)
- More game wardens to control the littering. Control the amount of quads in the area. (1)
- Needs to be more law enforcement presence to curb the off-roaders. They tear up the roads. (1)
- Needs to be patrolled more (1)
- No diving and swimming should be enforced so no one gets hurt (1)
- Not enough game wardens here. Mexicans and Chinese fill up buckets of fish. Should make catch and release year round. (1)
- Parking needs to be reinforced in the summer. (1)
- People should not be feeding the wildlife (1)
- Police monitoring and garbage clean up. There is a drug problem here. People fornicate here. And there are feral cats and a girl takes care of them it's nice. The state took the cat shelters away. More bank fishing would be nice. I don't want the rich people to build on this side. (1)
- Someone should be here year round (1)
- Suggestion box. Enforcement of quarters. Game cameras. Quads for game wardens (1)
- The area is over patrolled which is often done in an unfriendly manner. Those resources should be used for garbage cleanup. (1)
- The area needs to be patrolled more because people are leaving trash. There previously was a sign saying no electric motors, but it was taken down so now they're using them. (1)
- There should be more of a city presence for monitoring. There needs to be less trash. (1)
- There is not enough security on who enters the water (1)

- There should be someone patrolling for people who litter. Those fines should be used to cleanup and maintains areas. (1)
- This area has become more populated. More ranger stations. This was a sportsman area I would like a spot for fishing. I'd like to see no swimming. (1)
- This section is a conservation area and because it is a conservation area what happens is the area is over fished during stocking season. The last stocking you go back to conservation, and there isn't enough law enforcement. The law switch is confusing. Be one way or the other. (1)
- Video surveillance should be installed. (1)
- Want to prohibit hunting - area too close to residences for hunting, need to patrol more for drug dealing, partying (1)
- Wardens need to do their job. (1)

**Miscellaneous (29)**

- Don't change anything (1)
- Great schools here (1)
- Hunters county residents should benefit (1)
- I am scouting the area for bow hunting. If I see a lot of tree stands I will not hunt the area. (1)
- I don't come here often. My friend owns the boat. (1)
- I think that the town manages it well, they cut the weeds and get the trash (1)
- I'd like a dog park. (1)
- If you are going to manage land let people locals come get firewood and such (1)
- It would be great if all users treated the place with respect (1)
- It's windy (1)
- I've never seen anyone dredge out here but it gets pretty shallow out there because of the nuclear plant. There's two eagles nests (1)
- Liked it before the parking lot was improved. It was less crowded. (1)
- Looks likely to count horseshoe crabs. I did not see any shorebirds (1)

- Lots of people (1)
- More research should be done to determine what fishermen see and want (1)
- More shops around the WMA (1)
- Mowing like it's a country club, road improvements makes driving too fast, more garbage (1)
- No bird hunting in this area. (1)
- Picnic area would be nice (1)
- Since there is a pavilion a BBQ grill might help people use this place (1)
- There were bear markings in the woods (1)
- This area could use a Feet rinsing station. (1)
- This doesn't look like a WMA (1)
- This doesn't really seem like a place for wildlife (Sunset Blvd). (1)
- This doesn't seem like a wildlife management area. It isn't remote enough. (1)
- This is my first time visiting. Not sure yet. (1)
- We have kayaks and paddle boards (1)
- Would like to see grassy area and picnic area (1)
- Would like to see the trout and carp and the WMA man next door is very nice. (1)

**Positive feedback (156)**

- A really great place (1)
- Beautiful area, enjoys the view of the water (1)
- Beautiful place- great photographing wildlife (1)
- Beautiful place to walk, nice view of the reservoir (1)
- Beautiful place- will definitely come back again (1)
- Beautiful spot, nice to take the dog swimming (1)
- Beautiful trail, well maintained. Occasionally some garbage laying around (1)

- Better than PA (1)
- Captain association does a perfect job (1)
- Doing a good job keeping it clean (1)
- Done a decent job in keeping it clean (1)
- Enjoying a beautiful day (1)
- Everything is so much taken care of its clean there's water its maintained (1)
- Glad and happy it's here (1)
- Glad to hear poles will be left at AT&T (1)
- Good access and just leave it natural (1)
- Good job managing all of the local fields for hunting - food plots and even the mowing/plowing. Great hunting here (1)
- Great area (1)
- Great area for hunting, good mix of open field and forest (1)
- Great fishing here! (1)
- Great spot (1)
- Happy it's here and maintained (1)
- Hidden gem keep it secret (1)
- I don't have any it's a great place. (1)
- I enjoy it. I'm an outdoors person and this is outdoors (1)
- I enjoy the scenery very much. Not overly popular but very relaxing area (1)
- I hope it's never touched it's beautiful (1)
- I like coming here because it is one of the last things you can do for free, so peaceful and quiet, during big fishing days there is a lot of garbage but it does get cleaned up (1)
- I like it just the way it is. (1)
- I like it x can't believe how much marsh land there is in New jersey (1)

- I like it... Fish and crabbing IS VERY GOOD it's sheltered for small boats never really crowded, in the summer the flies come out so it's quiet and peaceful (1)
- I like nature (1)
- I like that it is private and that there aren't a lot of people. (1)
- I like this site the way it is (1)
- I love bringing my dogs here. Come here as much as possible. (1)
- I love it really cool coastal habitat (1)
- I love the area, the whole thing of it being natural and undisturbed (1)
- I love them (1)
- I love walking here. Not many beach areas feel natural like this around here. (1)
- I love walking the dogs and running here because of the beautiful views of the lake. (1)
- I really enjoy this site, really glad it's here (1)
- I saw an albino Heron it was amazing (1)
- I think they take good care of this area (1)
- I think this is one of the best beaches it water is calm it's not too crowded it just seems like a very relaxed and calm beach (1)
- I wish there were places like this around (1)
- I'm glad the state bought this. It's much better than when it was the golf course. Benefits more people now, and wildlife. (1)
- I'm grateful it's here, it's fabulous, we are very fortunate to have it (1)
- It feels great how it is. (1)
- It has a remote feel once you're on the trails. (1)
- It has nice views of the marsh and Atlantic City. (1)
- It is a beautiful area, clean and maintained well (1)
- It is beautiful here with the sun going down. (1)

- It's a beautiful area I grew up right down the road and think it should be kept the way it is. (1)
- It's a good access area to good fishing. (1)
- It's a great place to come and meet other people and dogs. (1)
- It's a nice area and is clean (1)
- It's a nice place to walk and run, I like to see the birds when I walk. (1)
- It's always nice and quiet here (1)
- It's beautiful (1)
- It's clean well kept (1)
- It's clean. It's nice. Good community (1)
- It's good they should have a barn, a long cabin type of bar (1)
- It's great I love it. (1)
- It's great that it's owned by the state of New Jersey other than being owned by the municipality (1)
- It's great to have places like this there should more (1)
- It's helpful to have a place to park easily. That's not the case with a lot of areas I've been to (1)
- It's here for everyone to enjoy its peaceful and very nice here (1)
- It's important that we keep them (1)
- It's nice I like the pavement and the ramp (1)
- It's nice so far but I haven't seen much of it yet (1)
- It's nice to see the seals! (1)
- It's not touched there's bridges, but it's natural and I like the wildlife (1)
- It's one of the best trails around (1)
- It's very beautiful and would like it to stay around (1)
- It's very clean and well kept (1)

- It's very nice (2)
- It's very nice and well kept. (1)
- It's very peaceful (1)
- It's very peaceful except for the occasional screaming from the rollercoasters. (1)
- It's very peaceful here. Feels almost like New England. (1)
- Just a love of place to come in glad people can still bring their dogs. They can fish the whole family can come. (1)
- Keep it as natural as possible (2)
- Keep it secret (1)
- Keep protecting more lands like this (1)
- Keep the fees low and we will keep coming (1)
- Like it here (1)
- Like the name of the place! (1)
- Like this range (1)
- Looks like they have been making improvements at this WMA. I noticed they have removed trees and plowed the fields. My grandfather used to be the property owner here before DEP (1)
- Love the parking lot (1)
- Management is better this year. Cleaned briars out (1)
- My dog loves it here I try to bring him every weekend. (1)
- Nature glad there is a port-o-potty (1)
- News Jersey does a good job (1)
- Nice and quiet area. Lots of things you can do with the area, such as picnic tables. (1)
- Nice area, very large-- enjoy hunting here (1)
- Nice because it's natural (1)
- Nice boat ramp. We would use it more if we were down here more. (1)



- Nice fishing spot (1)
- Nice fishing spot, peaceful (1)
- Nice place and the area is maintained well... Not much litter (1)
- Nice place to bring family (1)
- Nice quiet place (1)
- Nice quiet spot (1)
- No I love it (1)
- No it's wonderful (1)
- None I like it (1)
- Noticed some potholes had been filled in since last year. Cool! (1)
- One of last free beaches - keep it!! (1)
- Our favorite place in the world low key quiet minimal regulation (1)
- Pretty nice. Great view. (1)
- Really enjoy it (1)
- Really happy with Dix! Pretty much do all of my hunting on this WMA (1)
- Really like the markers to show you how far you've walked (1)
- Really love it because it's maintained well and boat ramp is accessible and not overly crowded (1)
- Satisfied with how the area is kept has seen a reduction of weeds this year (1)
- Sunsets are great here (1)
- The area is nice it has bathrooms garbage is clean (1)
- The kids enjoyed seeing all of the boats go by. (1)
- The land should always be used (1)
- The more WMAs that are accessible in NJ the better (1)
- The views are really nice. (1)

- There are a lot of butterflies, I really like them. (1)
- They are doing a decent job (1)
- This is a beautiful space and I would hate to see it destroyed (1)
- This is a great place for the dogs to run around (1)
- This is NJ best kept secret for beaches!! Keep it that way (1)
- This is one of my bird migration stops. Often see bald eagles and northern harriers here. (1)
- This is one of our favorite places to bring the dogs and the kids to let them run and play. (1)
- This site is about as great as it gets (1)
- Trail is nice addition (1)
- Very clean (1)
- Very clean and I enjoy people watching (1)
- Very nice, has a playground and bathroom (1)
- Very peaceful and beautiful beach, we enjoy coming because it's maintained well and beautiful scenery (1)
- Very peaceful. (1)
- Very well kept (1)
- Visiting out of state with dog. Nice dogs are allowed. (1)
- We are fearful for places like this, we travel all over the state to walk at places like this. (1)
- We enjoy it, it's very convenient for us (1)
- We enjoy visiting this area and we do it whenever we are here for a brief time (1)
- We like coming here to look for bald eagles. (1)
- We like kayaking here. It is peaceful because there are no ski boats zipping around because of motors being prohibited. (1)

- We like that it is electric motors only because there area is no wake from motorboats that makes kayaking more difficult. (1)
- We like there are few people here & minimal government involvement (1)
- We like to sit here and watch the water with the dog (1)
- We like walking here in the morning and again in the evening when the boats return to see everyone's catches for the day. (1)
- We love running here even in weather like this. (1)
- We love this area, it's very peaceful and calming to walk on the beach. (1)
- We want to move here (1)
- Well-kept spot with amenities that surpass other public areas. Many other spots such as bay were destroyed after sandy and were never repaired so places like those are no longer available. (1)
- Well maintained and clean (1)
- WMAS are great for preservation, should have more! (1)
- Wonderful job it's perfect, don't mess it up. We love the area we love the man next door. He keeps an eye on the area and there are never problems. (1)

**Ranges (10)**

- Archery range on Piney Hollow Rd (1)
- Better ranges. (1)
- Improve shot gun range, expand the area more, because very populated hunters and shooters. (1)
- Increase the size of the range (1)
- Put trap shoots in (1)
- Reopen more shooting facilities! Or expand existing ones. (1)
- Rifle range or slug gun range at this site (1)
- The gun range needs to be cleaned more often, guys leave all kinds of garbage, shells and old targets (1)

- What happened to the shotgun practicing area, they closed it years ago for remodeling and never reopened it (1)
- Would be nice to shoot lead here again. Better road maintenance (1)

**Recreational opportunities/conflicts (11)**

- Allow motorized boats (1)
- It's just nice to come go to ride around just to look around. I would like to see more activities for kids. (1)
- Less hunting, ban on hunting (1)
- Many people come here during hunting season, they are very disrespectful and tend to trespass on surrounding private property. (Living down the street, it is their property being illegally hunted). Law enforcement is often called to site due to misconduct regarding hunting practices. (1)
- Many people walk their dogs here without leashes. Enforce this not happening. Very dangerous! (1)
- Mowing here is for dogs but it hurts birders and insects (1)
- Section off area for certain users to have. For example have a certain area only for hunters. Hunters are not well regulated. (1)
- Segregate the beach so fishers don't have problems with swimmers. (1)
- Separate the fishing from dog beach (1)
- Shoot the hunters and fix Ringwood manor (1)
- You're not allowed to fish or crab off the dock. There should be some that allow it. (1)

**Restrooms (10)**

- Bathrooms open year round. (1)
- Beauty facilities (1)
- Better restrooms (1)
- Composting toilets (1)
- It would be nice to have bathrooms with running water for washing hands and rinsing off your face. (1)

- No buildings or plumbing (1)
  - No port-o-potty. Think it's really nice with ramps and location (1)
  - Port-o-potties by the beach (1)
  - They need bathroom areas over here (1)
  - We need restrooms (1)
- Safety (10)**
- Hunters are really close for safety sake. Safety is important. Fishermen don't wear orange or know season dates (1)
  - Hunters don't seem to follow the rules enforcement is needed so that no one gets shot. There also needs garbage cleanup (1)
  - Hunters drink alcohol, horses step on bottles. Rangers hassle horse riders not hunters who lit yet and drink and drive and loaded weapons when drunk. Poor hunting practices and oversight! (1)
  - I feel this place is dangerous for fishing (1)
  - It is hard and dangerous to get in and out of the water. I hurt my eye today when I fell in. I want a proper launch with rails and less rocks. (1)
  - Make it safe (1)
  - Metal fences in water and beaches are very dangerous for boaters and swimmers. Need to be removed. (1)
  - More patrolling for partying, etc., especially given family use in more recent years, hunters discharge weapons too close to people, even towards people (1)
  - Pheasant season gets dangerous (1)
  - This area is too close to the residential area for hunting. (1)
- Signage/outreach (19)**
- Better availability of contact info for people that manage the land (1)
  - Calendar for hunting use so I know when is safe to walk the dog. Concise calendar. Garbage clean ups 3x a year. (1)
  - Community outreach for kids (1)

- Community service for maintenance policing of the area removal of rocks cleanup needs to be done. There needs to be active seeking if help maybe from Boy Scouts. There needs support; dumpsters, garbage cleanup. This has potential to be really nice. If there is a fee it should be directed at area of collection. (1)
  - Dawn to dusk signs (1)
  - Get more people outside! (1)
  - Got lost, needed help getting back (1)
  - Had issues with getting lost (1)
  - I didn't know it was a WMA until taking this survey. (1)
  - I didn't know this was a wildlife management area. (1)
  - I didn't know this was a WMA. There are a lot of buildings. (1)
  - I think that that every WMA needs more than coastal birds. More interpreted nature and habitat education; if wildlife management is needed than explain why (1)
  - I thought this site was owned by Higbee's Marina. (1)
  - It wasn't for the locals I don't think we would have found this so I think local support and word of mouth is very important (1)
  - It's not promoted, clean it up, make it a lively area, and make it a park. (1)
  - More advertising for people to use it. Get locals to volunteer. (1)
  - More maps (1)
  - Need signage. Less tickets. Signage to determine the difference between the WMA and the park. The park lady is rude. (1)
  - Rail trails are nice and mowing them really helps. Trails could use more signage!!! Confusing! (1)
- WMA access fee (38)**
- A fee is ridiculous (1)
  - A lot of the projects could be done by boy scouts fee should be selective (1)
  - Already very expensive to hunt with kids no more fees. Extend Turkey hunting beyond 12pm. We really like this place don't mess it up (1)

- Between licenses and equipment we already pay enough money to hunt. No fee. (1)
- Charging people is ridiculous. Taxes are high enough in this state. Use some of that tax money for maintenance. (1)
- Don't add a saltwater license fee. Raise gas tax .10 cents (1)
- Fee should be donation based rather than enforced (1)
- Fee should be something easy to enforce, like a parking pass or something. (1)
- Fees are getting out of control. (1)
- Fishing and hunting is a family thing you shouldn't have to pay get kids outside (1)
- Great just the way it is, no fees! (1)
- Have a conscious use less payer money. (1)
- Hunters should not pay more we pay so much. During hunting seasons no one should be allowed in hunting woods other than hunters. (1)
- Hunting is already expensive enough between licenses and ammo. No more fees. (1)
- I don't have a problem with the fee as long as the money is used for the right purpose. (1)
- I just want to say about the fishing license again. There should be a warm water use fee. That would be used for habitat improvements and boat launch facilities. Like Assunpink (1)
- I live down the street. Shouldn't charge people that just walk with their dog. I'd still come here anyway. (1)
- I pay Taxes so there should be no fee it should be covered by my tax base. (1)
- If a fee is used it should be per family or per car, like a parking pass. (1)
- If fee is enacted it should per car or per groups like some state parks. Not for each individual person. (1)
- If there is a fee it should be a different rate for people w or without permits (1)
- If we pay we should be allowed to swim (1)
- If you buy fishing license that should be enough can't charge us more (1)
- Less hunting fees longer hunting seasons hunting on Sundays rifle season (1)

• License fees are too high.	(1)
• Maintain land. Increase the amount of the stamp by \$10	(1)
• Man-made built, beautiful, makes use of my landscape, great use of the land, incredible. As residents of NJ, it needs funding, we would be for it.	(1)
• Management is needed a fee would be worth it if it w.r.t. properly managed and maintained	(1)
• More about awareness of the WMA, more conservation officers. A fee would only hurt the use of WMA.	(1)
• Should have crabbing license . Control bird watchers, they drain the pond and the birds eat the crabs	(1)
• The gentleman was very angry about paying an annual fee because this WMA is next to a senior community.	(1)
• The state has enough money, if they spent it appropriately than they wouldn't need to charge for the WMAs	(1)
• These places should be staffed by volunteers and there shouldn't be a fee to use it	(1)
• They said they would only be willing to pay the fee if it was put to good use.	(1)
• Veterans should be able to use at no cost. More interest in these WMA. More licenses being checked.	(1)
• We pay to use the place. Through lease. Club grandfathered in. No management or rules	(1)
• Weekenders should have to pay locals should not	(1)
• Should have a sign in list.	(1)
<b>Grand total</b>	<b>(664)</b>



**Appendix I:**

**Wildlife Management Area  
Post Cards Returned by Region**

**May 2016 – April 2017**

**Northern Region**

<b>WMA Name</b>	<b># returned post cards</b>
Flatbrook-Roy	9
Pequest	3
Black River	2
Capoolong Creek	2
Sparta Mountain	2
Amwell Lake	1
Clinton East/West	1
Round Valley Reservoir Access	1
Wildcat Ridge/Splitrock Reservoir	1
<b>Grand Totals</b>	<b>22</b>

Table I1. Number of returned post cards from the northern region that were left on vehicles during survey shifts from April 2016-May 2017.

**Central Region**

<b>WMA Name</b>	<b># returned post cards</b>
Assunpink	13
Oyster Creek Access	7
Manasquan River	4
Colliers Mills	3
Point Pleasant Fishing Access	3
Great Bay Boulevard	2
Stafford Forge	2
Pemberton Lake	1
Pleasant Run	1
Prosperstown Lake	1
<b>Grand Totals</b>	<b>37</b>

Table I2. Number of returned post cards from the central region that were left on vehicles during survey shifts from April 2016-May 2017.

**Southern Region**

<b>WMA Name</b>	<b># returned post cards</b>
Fortescue	7
Absecon	6
Higbee Beach	6
Dix	4
Egg Island	4
D.O.D. Ponds	2
Spicers Creek Access	2
Tuckahoe (MacNamara)	2
Cox Hall Creek	1
Glassboro	1
Heislerville	1
Makepeace Lake	1
Millville (Bevans)/Lake Audrey	1
Winslow	1
<b>Grand Totals</b>	<b>39</b>

Table I3. Number of returned post cards from the southern region that were left on vehicles during survey shifts from April 2016-May 2017.

**Appendix J:**

# **Wildlife Management Area Focus Group Meeting Results**

**May 11, 2017**

Table J1. Brainstorm lists and general comments from the internal focus group meeting held on May 11, 2017.

**Internal Focus Group Meeting**

Thursday, May 11, 2017

NJDFW Central Regional Office

31 Participants

**1A – Who uses or should be using NJ WMAs?**

- People who pay
- People willing to pay
- Fisherman
- Hunters
- Trappers
- Consumptive users
- Everybody
- Only NJ residents
- Educational institutions
- Kayakers
- Hikers
- Cross country skiers
- Mountain bikers
- Partiers
- Swimmers
- Stargazers
- Commercial businesses
- Field trials
- Horseback riders
- Pot growers
- Farmers
- Dumpers
- Dog trainers
- Mushroom hunters
- Geocachers
- Youth groups
- Body dumpers
- Bird watchers
- Off-roaders
- Swim clubs
- Snowmobilers
- Sledgers
- Archaeologists
- Drug dealers
- Photographers/artists

**1B – What types of Management Practices should be done on WMAs?**

- Forestry
- Farming
- Mowing
- Controlled burns
- Parking areas
- Game species mgmt.
- Signage – boundary markers
- Barriers – area closures
- Number of users
- Trash
- Impoundments/water levels
- Beaver management
- Endangered species
- Shooting ranges
- Invasive species
- Food plots
- Dog training area
- Boat launches
- Building upkeep
- Fisheries management
- Road maintenance
- Wildlife/game stocking

**2A – To what degree should NJ WMAs be actively managed, circle 1-5 (1 = no management, 5 = intensely managed)?**

**2B – What should management objectives be based on?**

- Mission statement
- Native species
- Habitat protection
- Biodiversity
- Current outdoor activity trends
- What people (current users) want
- Money source – funding
- Politics
- Public support
- Manpower resources
- Funding – who's paying?
- Funds available
- Attract broader constituent base

**3 – What are the most pressing issues for NJ WMAs?**

- ATV users
- Trash
- Illegal dumpers
- Swimmers
- Partiers
- Off-roaders
- Lack of funding
- Lack of personnel/employees
  - Land management
  - Conservation officers
- Acreage expansion
- Road maintenance
- Purchasing attractive nuisances
- Adequate parking areas
- Providing access
- Limiting access to closed areas – too much access
- Less users
- Website/information access
- Confusion with other public lands
- Lack of maps
- Lack of trails
- Poor habitat conditions
- Public awareness of the Agency
- Proper survey markers/boundaries
- Public awareness of WMA rules/regulations
- Knowledge of WMA purpose/objective – Internal Awareness
- Too many access points, no clear boundaries
- Sweet gum

#### 4A – Should People Pay for Access to WMAs?

- Yes, all users.
- Yes, but only non-permit holders
- No, access should be free for all users

#### 4B – If annual fee is charged, how should this fee be collected?

- Go to a license agency
- Online purchase
- Extra fee on your Driver's License
- Sporting goods store
- Extra check box on a summons
- User permit at regional offices
- Daily use fee/box
- Sticker on car
- Phone app – "pocket ranger"
- Gated entrance – fee boxes at access points
  - Ranges
- Boat launches
- Donations
- Income tax check-box
- CBT Money
- Special license plate
- Single-use fees
- Targeted donations for certain WMAs
- Tax on street-legal bikes
- Taxes from other outdoor use equipment (in addition to hunting/fishing equipment).

#### General comments:

- People management is an important aspect of the WMAs; access, boundaries, area closures.
- People whose uses don't fit the mission of the WMA mission shouldn't use it (i.e. cycling associations).
- How would you get info from non-users, why aren't they using the WMAs?
- Education outreach from Agency; organized night walks, biologist led walks/paddles/etc.
- Summer camps

Table J2. Brainstorm lists and general comments from the internal focus group meeting held on May 11, 2017.

**External Focus Group Meeting**

Thursday, May 11, 2017

NJDFW Central Regional Office

20 Participants

**1A – Who uses or should be using NJ WMAs?**

- All NJ Residents
- Wildlife watchers
- Sportsman
- Students
- Recreational boaters
- Dog runners
- Everybody
- People who pay
- Tourists
- Outdoor recreation organizations
- Animals
- Bird Watchers
- Geocaching
- Drinkers/partiers
- Dumpers
- Gypsies
- Homeless people
- Skiers
- Photographers
- Campers
- Special needs persons
- handicapped
- Scientists
- Hikers
- ATVs
- Dog walkers
- Handicap/disabled
- Fisherman
- Hunters
- Swimmers
- Trappers
- Mountain bikers
- Horseback riders
- Arts groups (painting)
- Astronomers
- Naturalists

**1B – What types of Management Practices should be done on WMAs?**

- Fire – prescribed
  - Fish
  - Birds
- Wildlife and Habitat management –
  - Game
  - Nongame
  - Endangered
  - Native
  - Preferred
- Timber management
- Food plots
- Invasive species management
- Water resource management
- Public use management
- Public access
- Gene pool diversity of wildlife
- Marsh/Wetland revitalization
- Mitigation
- Clearing
- Riparian area management
- Restricted human encroachment
- Scientific research access
- Trash pickup
- Maintaining access
  - Parking lots
  - Roads
- Mowing
- Boat Ramps
- Capital improvements
- Bathrooms

- Building management
- User fees as a management tool
  - Licenses
  - Stamps
- Impoundments
- Graffiti
- Protect/improve lands
- Restoration
  - Dam removal
- Stream bank restoration
- Agricultural management - Sustainable
- Signage
- Viewing platforms/observation decks
- Law enforcement
- Educational interpretation
- Historical significance
- Sustainable agriculture
  - Rotating crops
- Livestock for habitat management
- Proper stocking
  - Timing
  - Species
  - Indirect impacts
  - location
- Predation management
- Funding management

**2A – To what degree should NJ WMAs be actively managed, circle 1-5 (1 = no management, 5 = intensely managed)?**

**2B – What should management objectives be based on?**

- Wildlife populations
- Historical use
- Maximize recreational opportunities while minimizing conflict between users
- Preservation of the natural ecosystem
- Hunting access
- Availability of trapping
- Fishing access
- Appreciation of natural world
- Wildlife watching
- Federally listed endangered species
- State listed endangered species
- Biocentric carrying capacity
- Science based management
  - Good science
  - Latest research
- Habitat availability
- Outdoor recreation – potential gaps
- Existing usage
- Locally under represented habitat needs
  - Grasslands/edges/wetlands
- Habitat connectivity
- Response to user groups
- Prior and current species research
- Outdoor persons' observations
- Education of the public
- Most efficient use of available funding
- Priority of land as wildlife habitat
- Protection of native/rare/special concern plants
- Landscape level objectives aligning with other states'/organizations' objectives
- Tourism potential
- Future preservation of habitat
- Resiliency to future land use changes/climate change
- Balance of restoration and preservation
- Consideration of neighbors, being good neighbors
- Controlling overly abundant species
- Predation
- Existing regulations/jurisdictions
- Wildlife action plans
- Volunteer participation
- Pollinator habitat
- Removing outdated practices



### 3 – What are the most pressing issues for NJ WMAs?

- Funding
- User conflicts
- Funding sources
- Abuse of land
  - ATVs
  - Trash
  - Illegal dumping
- Conflict of objectives
- Personnel allocation
- Invasive species
- Poor agricultural management
- Mission education
- Public education
- Lack of forest management plan
- Off road vehicles
- Habitat degradation
- Border encroachment (roads, developments, neighbors)
- Poaching
  - Animal
  - Trees
  - Fish
- Neighbors
- Lack of information on access points
- Crappy website
- Poor maps
- garbage
- Lack of enforcement capability
- Too many deer
- Access
- Road closures
- Limiting access
- ADA access
- Lack of equipment resources
- Law enforcement response times
- Lack of infrastructure/facilities
- Lack of public awareness
- Lack of public trust/support in the Agency to manage
- Fairness for farming access – auction process
- Unclear farming objectives
- Farm lease violations – no consequences
- Incompatible contiguous land use
- Lack of state/government support (funding)

### 4A – Should People Pay for Access to WMAs?

- Yes, all users.
- Yes, but only non-permit holders
- No, access should be free for all users

### 4B – If annual fee is charged, how should this fee be collected?

- State sales or income tax
- Parking meter
- Flat fee – online
- Flat fee – carload
- Online payment
- Purchase from license agencies
- Purchase from businesses
- Sticker to put on your car - Per vehicle fee
- Drop box
- Fees collected at certain areas only (i.e. high usage areas)
- General statewide fee + daily fee for high usage areas
- Corporate business tax
- Manned booth
- Increasing Gas tax
- Implementing Hotel tax
- Implementing Tourist tax
- Credit rebates
- Remediation funds (DEP) – Natural Resource Damage Assessment

- Increase consumptive users' fees
- Farm leases
- Timber leases/sales
- Other consumptive uses
- Fire people in Trenton
- Salary reductions for legislators
- Fees with seasonal/timing restrictions
- Legislative obstacles to raising funds/fee

**General comments:**

- Limited access for hunters on other state owned/managed properties. Other uses have more options for their recreation.
- Fish and wildlife dedicated funding has never been diverted
- No other Division faces the political roadblocks for funding like the NJDFW.
- Fees for all would open up land to all public, sportsmen should have final say.
- Community advocacy/friends group/Facebook groups/local advocacy groups for individual WMAs.
- Reach out to Farm Bureau for opinions
- Need to utilize volunteer base more (hunting groups, free labor, etc.)

Table J3. Additional comments from the internal focus group attendees' questionnaires from the focus group meeting held on May 11, 2017.

- Need additional wildlife workers, create a friends group for WMAS by region but would need a position to manage the groups, tax on outdoor equipment which isn't already taxed
- Need to refocus on the Agency and staff on what NJFW do and what are our goals.
- There is a concern that if we do a user fee that the public will expect park like conditions (bathrooms, paved roads, picnic areas, etc.)
- Evolve with trends in outdoor recreation and learn to capitalize on potential money that could come to the division to help management of the properties we now have. Do not buy less than desirable properties. Increase funding to managers for special projects and enforcement.
- Use of all WMAs should be free to all people but the state government should pay more to the DFW budget to cover the costs. WMAs benefit all citizens of the State of NJ and the state should pay its fair share. It should be paid for just by the sportsmen. A lack of personnel and lack of management is the biggest threat to WMAs.
- We need to actually manage wildlife on our Wildlife Mgmt. Areas. Stocking pheasants and mowing fields is not all there is in the management world
- If we are going to charge a fee for "everyone" to use a WMA, we will need to enforce the regulation in order for it to be effective. Some of these encounters will make terrible press/communication - picture a CO arresting a soccer mom walking a dog.
- We should collect a fee for all users. Users should not be limited - WMAs open to all people but fee should be collected for all uses other than those already paying through hunting/fishing license or horseback riding permit or boat ramp permit. All others should pay but make it easy to get a yearly pass. App or online or sporting goods stores.
- Make sure the funding collected through this new permit is dedicated for certain uses.
- WMAs should be managed first and foremost for hunters, trappers, and fishermen. Other user groups shouldn't be excluded, but their usage should not interfere with the primary user groups listed above. ATVs, swimmers, partiers are not a user group. Current regs are strong and need to be enforced.
- We need to stop purchasing any and all properties available and direct purchases towards property that will support our Division's mission.
- Need special project money for extra LE hours. Need to stop buying attractive nuisances.
- If the Division does not change its business model it will end up like "Blockbuster Video". The traditional "Conservation Model" where hunters and anglers support the Division will not work going into the future. The Division needs to increase its support base from non-traditional users to maintain relevancy.

- I feel the Division needs to do a better job of promoting WMAs to the public through signs, online, etc. Many people who do not participate in consumptive use sports do not realize that WMAs are intended for a different use than state parks/forests. Consider charging non-permit users during times of year when activity increase, like during warmer months.
- We need to find a way to get more funding to hire more help for land management.
- Try to generate more money for more manpower to manage our wildlife management areas and improve the way the appearance looks at the areas.
- First step should be identification and prioritization of WMA goals and objectives, generally. Then, a statewide planning effort to better strategically implement on the ground actions. Focus activities at places where they'll have the best return on investment.
- Top issue is funding. Need to make them more appealing/public awareness of uses. Make them safe for solo women and women with children.

Table J4. Additional comments from the external focus group attendees' questionnaires from the focus group meeting held on May 11, 2017.

- NJ should go back to the way we used to manage habitat through the Landscape Project. For example, the barred owl needs over 750 acres of contiguous forest canopy, so there should be no activities permitted that could negatively affect their habitat! We all need to respect what is there now. Protection of HCV value forests and the ability of our WMA areas to grow to old growth needs to be considered and set aside for the state. We currently do not have a plan to maintain and allow our NJ forests to grow old growth and protection of our rare plants. There is an alarming push for extractive practices versus preservation. We should be more creative in looking at other ways. WMAs should be managed with the community/neighbors being a part of their "management". Many of the "neighboring" neighbors purchased their homes and pay extra taxes to have these areas for enjoyment for all. It should not be viewed as an extractive commodity. These natural areas for example in the Highlands provide more ecotourism than Yosemite, the Grand Union, and Yellowstone combined (USA Forest service report 2004) (Quote). I can email you the actual quote - The point is that there are areas in the Highlands that provide more ecotourism value than the mostly populated places like those listed. We in NJ need to respect our cultural, historical public trust resources, without engaging in activities that could harm to the species that live their now and to our quality of our water; especially in the Highlands. Also, please consider a "community" volunteer program to help maintain the WMAs as our group has members who would want to participate.
- Part of N.W. NJ's economic development and strategy (e.g. Warren and Hunterdon Counties) is based on recreation and tourism. WMAs should be managed for multiple species - not just deer and game species - but also well-managed to protect headwaters and fish habitat when containing/adjoining water bodies, like the Musconetcong WMAs. WMAs could be managed better. In Musconetcong WMA: lack of riparian buffers on the Musconetcong, agricultural uses are not necessarily contributing to wildlife habitat or water quality. Incentives (or requirements) should be in place to encourage sustainable agriculture and beginning farmer access for the parcels in agricultural use already. In the Musconetcong WMA hilly land near the Musconetcong River are in row crops - without cover crops. Instead, this land should be permanent cover (e.g. hay, pasture) and used for Management Intensive Rotational Grazing. In that practice type, cows, for example, would be stocked at 1 cow for 2.2 acres to 2.5 acres, which NJ Audubon has shown helps restore grassland habitat for threatened and endangered species (Blog posted in April by NJA).
- What happens to state shooting ranges on WMAs? 2) How do we change the system so the DFW dictates what they can charge for permits, obstacles in the form of government? 3) State access to WMAs is already restricting for hunting and fishing. Not many areas for people to go that aren't encroached on. 4) Lack of access is driving hunters and fishermen to other states due to poor abundance of game fish and the public perception people have of people who participate in such activities. 5) Has anyone looked at how DFW issues use permits? Problem with vendors (kayak rentals). Foremost undercharged for permits compared to cash profit vender made. The situation caused enforcement and safety issues.

- New WMA land acquisitions should be limited to what can be adequately maintained under current funding levels. Land acquisitions and preservation is great, but only if it can be effectively maintained. "Adoption" of WMAs or portions of WMAs should be encouraged (for litter pick-up, improvement projects, etc.). Fishing clubs in South Jersey currently do this.
- Need to increase management of habitat for all wildlife and to improve overall habitat conditions. Need to charge all users and institute appropriate use restrictions. The needs and management of wildlife and habitat should come first. Need more programs that encourage people to get outside and experience the WMAs.
- Focus limited resources on native species. Stop spending resources on raising and stocking non-native/invasive species such as brown trout and rainbow trout. Refocus resources on restoring the native brook trout. Deer management is a key issue since too many deer will browse the understory of the forest, so that there will be no/or very few native plants left. The forests will have no regeneration except for native plants.
- The WMAs need more funding and management. This includes habitat management and especially invasive species control. There needs to be control and enforcement on the WMAs to reduce negative impacts like ATVs, mountain bikers, and rogue trail building. By making WMAs use by permit only and having it enforced would reduce conflicts and increase buy in. Management should be science-based. Managing for pheasants or hatchery trout should not be the goal.
- There is quite a bit of preserved land in NJ. For WMA, this lands should have limited use and prohibit use that degrade habitat or harass wildlife. New Jersey is a tough place for wildlife. They need a place to get away from active recreators and dogs. Manage the habitat for the wildlife of New Jersey. Funds should focus on habitat and not increasing public access.
- I feel that a use permit would need a good look for conflict between users.
- Not sure how you will use this data, I'd like to see your final report.
- Fee for all users, but tiered to favor (second fee option?) The "N" list for 1B is harder. Question 2: Some WMAs need 5 and some need 1 (degree of management). Question 3: Three is not enough, most of these are good. General: License fee dictated by F&G Council. Funds must be dedicated.
- It's foolish for the state to rely on hunters to support the WMAs. It creates conflicts with federal partners that are evolving towards multi-use and not catering to hunters because we know the American public is not as interested in hunting anymore. The feds can't fix NJ's problems by trying to create more hunters for them so they can raise more money.
- The question not asked, in my opinion, is what does WMA hope to achieve from this? Are they trying to increase/decrease uses? Are they trying to improve the management structure? Are they trying to increase funding? If they want to have true answers, ask the correct question.
- Green Acres Purchases - if fee charged, these fees put in restricted fund for maintenance and conservation. Volunteers - Division has a program that is not active.

- Education on our natural resources to include WMAs is very limited. I do believe that we need to focus on educating our youth so that they are able to understand and conserve these spaces.
- The function of the WMA is a challenging cycle. There is not enough funding for it to accomplish its mission, but were there more effort put into gaining support of the public (i.e. a general appreciation for nature and preservation education on our impact on nature) then they would be more likely to receive funding - both private funding and efforts towards gaining state and government funding. Changing the mindset of the general public and instilling a love of the outdoors is the key - not only for WMAs but for the environment in general.
- My thoughts and recommendations evolved following focus group. While WMAs have served primarily hunters (trappers and fishermen), they are a minority and shrinking constituency. Wildlife watchers are vastly more numerous and economic drivers. Thank you for the opportunity!

<b>Who should use WMAs?</b>	<b>Internal</b>	<b>Who should use WMAs?</b>	<b>External</b>
Consumptive users/permit holders	67%	Consumptive users/permit holders	35%
People willing to pay	9%	Outdoor/wildlife enthusiasts	32%
Outdoor/wildlife enthusiasts	8%	Educational institutions	12%
Everyone	5%	All NJ residents	7%
Educational institutions	4%	Everyone	5%
Farmers	2%	Tourists	3%
Kayakers/boaters	2%	Wildlife	3%
WMA mission supporters	1%	Kayakers/boaters	2%
Non-consumptive users/no permit	1%	Campers	2%
Youth	1%		

Table J5. The types of users the attendees of both the internal and external focus group meetings think should be using WMAs. Results are from focus group meetings held on May 11, 2017.

<b>Who should not use WMAs?</b>	<b>Internal</b>	<b>Who should not use WMAs?</b>	<b>External</b>
ORV riders	20%	ORV riders	28%
Dumpers	15%	Dumpers	24%
Swimmers	14%	Homeless/gypsies	12%
Illegal activities	13%	Partiers	9%
Partiers	13%	Campers	5%
Non-consumptive/no permit	5%	Swimmers	3%
Outdoor/wildlife enthusiasts	2%	Illegal activities	3%
Misuse/destructive	3%	Dog walkers	3%
Businesses	2%	Mountain bikers	3%
Campers	2%	Hunters/trappers	3%
Dog walkers	2%	Misuse/destructive	2%
Horseback riders	2%	People against hunting	2%
Mountain bikers	2%	Tourists	2%
Archaeologists	2%		
People against hunting	1%		
Kayakers/boaters	1%		

Table J6. The types of users the attendees of both the internal and external focus group meetings think should not be using WMAs. Results are from focus group meetings held on May 11, 2017.



<b>Management practice</b>	<b>Internal</b>	<b>Management practice</b>	<b>External</b>
Fish/game species stocking	23%	Habitat management	23%
Forestry	15%	Native species	10%
Access/road maintenance	14%	Fish/game species stocking	7%
Fish/wildlife populations	9%	Habitat restoration	7%
Habitat management	8%	Law enforcement	7%
Ranges/boat launches	4%	Wildlife management	7%
Endangered species	4%	Invasive species management	5%
Farming	4%	Threatened/endangered species	5%
Signage	3%	Access	3%
Prescribed burns	3%	Dam removal	3%
Invasive species management	3%	Ecosystem management	3%
Food plots	2%	Prescribed burning	3%
Mowing	2%	Public use	3%
Biodiversity conservation	1%	Facilities management	2%
Number/activity of users	1%	Fish/game species management	2%
Safety/security/enforcement	1%	Food plots	2%
Trails	1%	Funding	2%
Trash	1%	Low impact development	2%
		Non-game species	2%
		Passive revegetation	2%
		Protecting sensitive areas	2%
		Riparian areas	2%
		Signage	2%
		Timber harvesting	2%
		Trail management	2%
		User fees	2%
		Water resource management	2%
		Wetland management	2%

Table J7. The types of management practices the attendees of both the internal and external focus group meetings think should be used on WMAs. Results are from focus group meetings held on May 11, 2017.

<b>Management practice</b>	<b>Internal</b>	<b>Management practice</b>	<b>External</b>
Access/road/building maintenance	22%	Farming/crops	12%
Trash	12%	Roads/parking lots	12%
Dog training/walking	9%	Timber management/clearing	12%
Number of users	9%	Food plots	7%
Beaver management	8%	Fish/game stocking	5%
Farming leases	7%	Mowing	5%
Fish/game species stocking	5%	Rest rooms	5%
Invasive species	5%	User fees	5%
All important	4%	Viewing platforms	5%
Ranges	4%	Agriculture	4%
Controlled burns	3%	Infrastructure	4%
Endangered species	3%	Predation management	4%
Signage	3%	Capital improvements	2%
Food plots	1%	Dams/impoundments	2%
Concessions	1%	Excessive human use	2%
Forestry	1%	Gene pool	2%
Impoundment levels	1%	Historical management	2%
Swimming development	1%	Impervious development	2%
		Information	2%
		More for all species	2%
		ORV usage	2%
		Prescribed burns	2%
		Propagation timing	2%
		Public access	2%

Table J8. The types of management practices the attendees of both the internal and external focus group meetings think should not be used on WMAs. Results are from focus group meetings held on May 11, 2017.

<b>Management objectives</b>	<b>Internal</b>	<b>Management objectives</b>	<b>External</b>
Mission statement	20%	Increase opportunities/constituents	19%
Funding	17%	Wildlife populations	16%
Habitat management	16%	Habitat management	14%
Biodiversity	12%	Landscape level objectives	11%
Increase opportunities/constituents	10%	Preservation	11%
Native/endangered species	9%	Native/endangered species	7%
What people/users want	8%	Current science/trends	7%
Manpower	6%	Funding	4%
Current science/trends	2%	Education/appreciation	4%
		Wildlife action plan	4%
		Deer/invasive species management	2%
		Changing detrimental practices	2%
		Active management	2%

Table J9. The types of objectives the attendees of both the internal and external focus group meetings think WMA management should be based on. Results are from focus group meetings held on May 11, 2017.

<b>Most Pressing Issues</b>	<b>Internal</b>	<b>Most Pressing Issues</b>	<b>External</b>
Lack of personnel	20%	Lack of funding	35%
Lack of funding	13%	Lack of WMA information/access	14%
Dumping	13%	User conflict/objective conflicts	11%
ORVs	12%	Lack of personnel	9%
Lack of WMA information/access	9%	Dumping	7%
Unclear WMA objectives	9%	ORVs	5%
Land acquisition vs resources	5%	Deer/invasive species management	5%
Poor habitat conditions	4%	Poor forestry/agricultural management	5%
Confusion of land types	3%	Poor habitat conditions	4%
Knowledge of WMA rules	3%	Lack of agency trust	4%
Illegal use	2%	Lack of maintenance/facilities	2%
Partiers	2%		
Swimmers	2%		
Lack of maintenance/facilities	1%		
Decreasing user base	1%		

Table J10. The issues that the attendees of both the internal and external focus group meetings think are most pressing for WMAs. Results are from focus group meetings held on May 11, 2017.