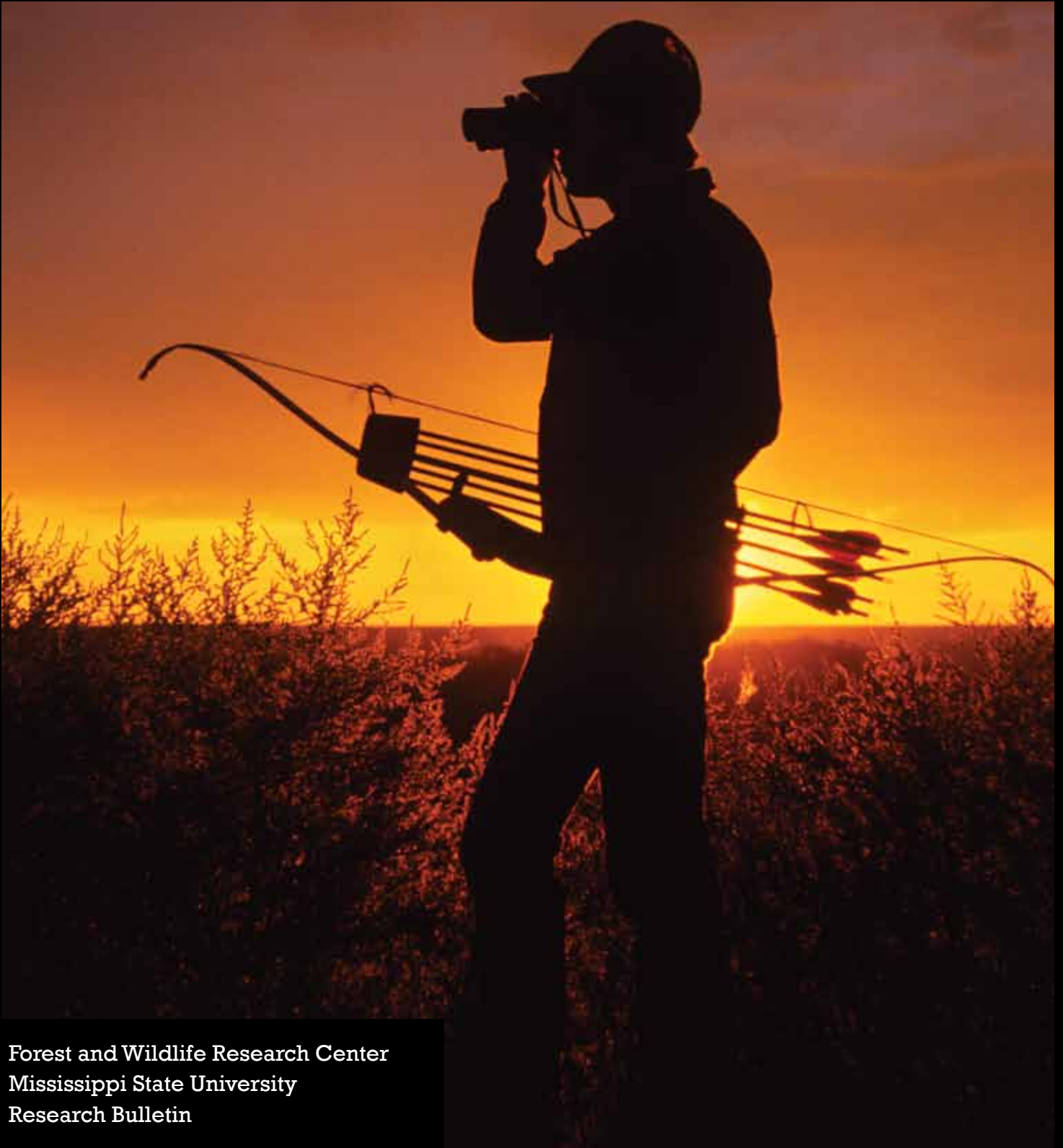


Evaluating Hunter Satisfaction and Perceptions of

# Mississippi's Wildlife Management Areas



Forest and Wildlife Research Center  
Mississippi State University  
Research Bulletin

The Forest and Wildlife Research Center at Mississippi State University was established by the Mississippi Legislature with the passage of the Renewable Natural Resources Research Act of 1994. The mission of the Center is to conduct research and technical assistance programs relevant to the efficient management and utilization of the forest, wildlife, and fisheries of the state and region, and the protection and enhancement of the natural environment associated with these resources. FWRC scientists conduct research in laboratories and forests administered by the University and cooperating agencies and industries throughout the country. Research results are made available to potential users through the University's educational program and through Center publications such as this, which are directed as appropriate to forest landowners and managers, manufacturers and users of forest products, leaders of government and industry, the scientific community, and the general public. Dr. George M. Hopper is director of the Forest and Wildlife Research Center.

## **Authors**

Ian A. Munn is a professor and economist in the Department of Forestry. Scott Edwards is a wildlife biologist with the Mississippi Department of Wildlife, Fisheries and Parks. Kevin Hunt is associate professor of human dimensions in the Department of Wildlife, Fisheries and Parks. Anwar Hussain is an economist with the Wilderness Society.

## **Acknowledgement**

This research is funded by the Mississippi Department of Wildlife, Fisheries, and Parks

## **To Order Copies**

Copies of this and other Forest and Wildlife Research Center publications are available from:

Publications Office  
Forest and Wildlife Research Center  
Box 9680  
Mississippi State, MS 39762-9680

Please indicate author(s), title and publication number if known.

Publications are also available at the web site at [www.fwrc.msstate.edu](http://www.fwrc.msstate.edu)

## **Citation**

Munn, I.A., S.L. Edwards, K.M. Hunt, A. Hussain. 2013. Evaluating hunter satisfaction and perceptions of Mississippi's Wildlife Management Areas. Forest and Wildlife Research Center, Research Bulletin FO 436, Mississippi State University. 40 pp.



Research Bulletin FO 436

**FOREST AND WILDLIFE RESEARCH CENTER**

Mississippi State University

Evaluating Hunter Satisfaction and Perceptions of

# Mississippi's Wildlife Management Areas

## **Principal Investigators:**

**Ian A. Munn, Ph.D.**

Department of Forestry

Human Dimensions & Conservation Law Enforcement Laboratory

Forest and Wildlife Research Center

Mississippi State University

**Scott L. Edwards**

Mississippi Department of Wildlife, Fisheries, and Parks

**Kevin M. Hunt, Ph.D.**

Department of Wildlife, Fisheries, and Aquaculture

Human Dimensions and Conservation Law Enforcement Laboratory

Forest & Wildlife Research Center

Mississippi State University

**Anwar Hussain, PhD**

The Wilderness Society



## Table of Contents

	Page No.
Executive Summary.....	2
A. Problem and Need .....	4
B. Objectives .....	4
C. Approach .....	5
D. Results.....	5
Response rate.....	5
Demographics.....	5
WMA Use .....	5
Hunting Quality .....	8
Wild Turkey.....	9
Small Game .....	11
White-tailed Deer.....	12
Waterfowl .....	14
General Impressions and Attitudes about WMAs and Private Lands .....	17
Private Lands Comparisons .....	21
E. References Cited.....	24
Appendix I – Table 3 .....	26
Appendix II – Survey Questionnaire.....	28

## Executive Summary

We conducted a survey of 4,000 hunters (3,300 residents and 700 non-residents) who purchased a Wildlife Management Area (WMA) Permit during the 2010-11 hunting season to determine their activities on and opinions concerning the WMAs they hunted.

- The effective response rate was 45%
- 34% did not hunt WMAs during the season even though they purchased a WMA Permit
- Of those that did hunt WMAs, 64% hunted only one WMA, 22% hunted two WMAs, and 15% hunted three or more WMAs
- Deer was the most popular species targeted by 55% of WMA hunters, followed by waterfowl (13%), squirrel (12%), and turkey (10%)
- Most WMA hunters ranked the quality of hunting on WMAs as fair or better: Small Game (84%), White-tailed Deer (79%), Wild Turkey (77%), and Waterfowl (73%)

### WMA use varied substantially among WMAs

- Sunflower WMA attracted the greatest number of unique visitors
- Pascagoula WMA was the most visited
- Malmaison WMA generated the highest average number of visits per visitor
- MARS WMA, Charlie Capps WMA, and Trim Cane WMA were ranked lowest with respect to number of visitors and number of visits

### Small Game

- 55% said WMAs were the primary place they hunted small game
- 28% would not hunt small game at all if it were not available on WMAs
- 60% felt that hunting dogs should be allowed on WMAs for hunting small game



55% said WMAs were the primary place they hunted small game

### Wild Turkey

- 26% would not hunt turkeys at all if it were not available on WMAs
- 43% said turkey hunting on WMAs was more convenient than on private lands
- Very few (15%) believed there are too many restrictions on turkey hunting on WMAs
- Hunters were mostly neutral concerning increasing the number of limited draw hunts (42%) and youth hunts (36%)



26% would not hunt turkeys at all if it were not available on WMAs

## Executive Summary

### White-tailed Deer

- 40% said quality buck hunting was the main reason why they hunted deer on WMAs and 43% were satisfied with their chance to harvest a quality buck on WMAs
- Overall, hunters generally believed that WMAs did not provide as good of a chance to harvest a quality buck as private lands, although opinions were polarized. Hunters overwhelmingly agreed that it was more important to have abundant deer of both sexes to harvest on WMAs than to only have a few quality bucks to harvest, yet disagreed that management on WMAs puts too much emphasis on quality bucks and agreed with restricting harvests on small bucks to increase the number of larger bucks
- Hunters favored increasing the number of special youth hunts and limited draw hunts; however, many hunters were neutral (37% and 33% respectively)



43% were satisfied with their chance to harvest a quality buck on WMAs

### Waterfowl

- 25% would not hunt waterfowl at all if WMAs did not provide waterfowl hunting
- 50% felt that WMAs provided unique hunting opportunities not available on private lands; however, only 25% believed that WMAs have more waterfowl than private lands and 35% believed that habitat management activities were better on WMAs than private lands
- 47% said the cost of hunting on private lands is the main reason why they hunted waterfowl on WMAs
- 37% said WMAs were more convenient to hunt than private lands
- Surprisingly, 70% did not believe that there were too many waterfowl hunters on WMAs



35% believed that habitat management activities were better on WMAs than private lands

### General Questions Concerning Impressions and Attitudes about WMAs and Private Lands

- Regardless of species targeted, hunters indicated that management intensity of WMAs should be increased
- Most hunters did not feel territoriality was an issue on WMAs although most agreed that hunters should not be allowed to leave tree stands in place
- Many hunters felt finding and retaining private lands to lease was too time consuming and the high cost of leasing was a primary reason they hunted WMAs
- Even though WMAs provide an important niche, hunters ranked private lands better than WMAs across a broad range of criteria, such a quality and quantity of game, quality of food plots, hunter crowding, and internal access
- In two important areas, hunters ranked WMAs higher than private lands – habitat quality and hunter safety

## **A. Problem and Need**

The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) desired insights regarding the satisfaction and perceptions of Mississippi Wildlife Management Area (WMA) hunters. Mississippi WMAs are an important resource because they provide a significant portion of public hunting access and opportunity. Generally, public hunting areas are limited in the eastern United States and declining amounts of hunting access have played a major role in hunter attrition nationwide. Agency administrators and WMA managers in Mississippi have concerns regarding hunting on WMAs based on anecdotal evidence suggesting there is a general deterioration of hunting experiences on WMAs. Providing quality, outdoor recreational experiences is an important component of the MDWFP mission; thus, research was needed to investigate validity of reported concerns and evaluate hunter satisfaction and perceptions.

Researchers and wildlife managers have identified issues associated with public hunting areas. One issue is crowding (Jordan and Workman 1989) and is particularly acute during popular hunting seasons, such as an either-sex firearm deer season (Messonnier and Luzar 1990). The popularity of deer hunting on Mississippi WMAs suggests that crowding may be an issue on some areas. Crowding also plays a role in other factors related to hunter satisfaction. Public land hunters perceive their chance of success lower relative to private lands because of less game available per hunter (Jordan and Workman 1989); however, some hunters actually prefer large hunter densities because it increases game movement and this can lead to greater hunter satisfaction (Heberlein et al. 1982). Territoriality is another potential problem where hunters attempt to claim a portion of a public area as their own and try to exclude others from using that same area. The relevance of these issues to hunters on Mississippi WMAs needed to be investigated and addressed where warranted to mitigate potential conflicts.

Information on how hunters rank the quality of their hunting experiences on Mississippi WMAs was also needed. Specific topics included game quality and abundance by species, regulations, and convenience. Determining perceptions of Mississippi WMA hunters toward these issues will allow wildlife administrators and managers to make well-informed management decisions.

## **B. Objectives**

1. Determine satisfaction of Mississippi WMA hunters with the quality of their hunting experiences.
2. Determine perceptions of Mississippi WMAs hunters toward game quality and abundance by species, regulations, and convenience.
3. Compare and contrast hunter perceptions of WMAs and private land.



## C. Approach

Data collection was completed through a mail survey of 4,000 hunters who purchased a WMA permit during the 2010-2011 hunting season and included 3,300 Mississippi Resident Licensed Hunters, and 700 Non-resident Hunters Licensed in Mississippi. The hunting season is defined as the period from March 1, 2010 to February 28, 2011. The MDWFP maintains a database of all hunters who purchased a WMA permit, and this database was used for sample selection. Survey implementation followed the guidelines set forth by the Tailored Design Method (Dillman 2007). Specifically, the survey was conducted from May through June 2011. The survey consisted of five mailings: a pre-survey letter sent to hunters on May 10, 2011, informing them of the study; a complete mailing consisting of a personalized letter, questionnaire and business reply envelope sent on May 17, 2011; a postcard/thank you letter sent on May 25, 2011; a second complete mailing sent to non-respondents on June 7, 2011; and a final complete mailing sent to the remaining non-respondents on June 28, 2011.

## D. Results

**Response rate:** There were 1,795 respondents to the survey. Two hundred and sixty-five surveys were non-deliverable due either to faulty mailing addresses or because the addressee had deceased. Thus, the effective response rate was 45 percent. The unadjusted response rate differed between Resident (41%) and Non-Resident (58%) hunters.

**Demographics:** On average, respondents had purchased hunting licenses 4.55 of the last 5 years. Respondents were overwhelmingly male (93.8%). The average age of respondents was 44.9 years. Respondents averaged 13.7 years of education, which is equivalent to 1.7 years of college. Respondent income averaged in the \$60,000-\$69,999 range. Fifty-four percent of respondents also leased private lands for hunting.

**WMA Use:** Thirty-four percent of respondents did not hunt WMAs during the March 1, 2010 to February 28, 2011 hunting season even though they purchased a WMA permit. Of those that did hunt WMAs, 64% hunted one WMA, 22% hunted two WMAs, 9% hunted three WMAs, 4% hunted four WMAs, and 2% hunted five or more WMAs, averaging 1.6 different WMAs visited per respondent. In total, these respondents averaged 12 hunting trips to WMAs per hunting season, travelled an average of 181 miles round trip on each visit to a WMA, and spent roughly one night away from home for every two days hunting on a WMA.

Respondents were asked to report which WMAs they had visited during the period March 1, 2010 to February 28, 2011, how many trips they had made to each, and the primary species they targeted at each WMA. The results are reported in Tables 1 and 2.

Table 1. Primary species targeted by respondents for each WMA visited

Visitors	Species
988	white-tailed deer
245	waterfowl
201	squirrel
175	turkey
47	rabbit
39	raccoon
33	small game
28	feral hogs
17	quail
7	dove
3	fish
3	alligator
1	coyote
1,787	Total

Table 2. WMAs listed in order of the number of unique respondents who reported visiting each WMA, number of visits (respondents x no. of visits), and average number of visits per visitor as reported in a 2011 survey of WMA permit purchasers.

WMA	# of visitors	WMA	# of visits	WMA	Ave # visits/ visitor
Sunflower	140	Pascagoula	1188	Pascagoula	14.0
Mahannah	90	Caston Creek	862	Chickasawhay	12.6
Pascagoula	85	Sunflower	731	Calhoun County	12.0
Sandy Creek	83	Sandy Creek	681	Wolf River	11.8
Caston Creek	78	Canal Section	639	Red Creek	11.7
Upper Sardis	73	Chickasaw	550	Old River	11.3
Canal Section	67	Bienville	540	Caston Creek	11.1
Tallahala	66	Chickasawhay	528	Okatibbee	10.3
Leaf River	61	Ward Bayou	525	Bienville	10.2
Chickasaw	55	Tallahala	509	Chickasaw	10.0
Bienville	53	Upper Sardis	506	Ward Bayou	9.9
Malmaison	53	Leaf River	424	Canal Section	9.5
Ward Bayou	53	Copiah County	409	Copiah County	8.5
Twin Oaks	51	Red Creek	397	Caney Creek	8.3
Choctaw	50	Caney Creek	374	Divide Section	8.3
Copiah County	48	Old River	374	Sandy Creek	8.2
Caney Creek	45	Malmaison	364	John Bell Williams	8.2
Chickasawhay	42	Mahannah	346	Mason Creek	8.1
Lake George	40	Calhoun County	335	Tallahala	7.7
O'Keefe	39	John Bell Williams	287	Leaf River	7.0
Howard Miller	39	Wolf River	282	Upper Sardis	6.9
John Bell Williams	35	Divide Section	274	Malmaison	6.9
Pearl River	35	Choctaw	246	Little Biloxi	6.3
Red Creek	34	Mason Creek	234	Charles Ray Nix	6.1
Divide Section	33	O'Keefe	214	Graham Waterfowl Area	6.0
Old River	33	Little Biloxi	202	Nanah Waiya	6.0
Little Biloxi	32	Pearl River	200	Pearl River	5.7
Mason Creek	29	Lake George	193	Tuscumbia	5.5
Calhoun County	28	Twin Oaks	175	O'Keefe	5.5
Muscadine Farms	24	Nanah Waiya	137	Sardis Waterfowl	5.4
Wolf River	24	Charles Ray Nix	115	John Starr Memorial Forest	5.3
Nanah Waiya	23	John Starr Memorial Forest	100	Marion County	5.3
Charles Ray Nix	19	Marion County	100	Sunflower	5.2
John Starr Memorial Forest	19	Okatibbee	82	Choctaw	4.9

Table 2 (continued). WMAs listed in order of the number of unique respondents who reported visiting each WMA, number of visits (respondents x no. of visits), and average number of visits per visitor as reported in a 2011 survey of WMA permit purchasers.

<b>WMA</b>	<b># of visitors</b>	<b>WMA</b>	<b># of visits</b>	<b>WMA</b>	<b>Ave # visits/visitor</b>
Marion County	19	Tuscumbia	77	Lake George	4.8
Shipland	18	Howard Miller	77	Hell Creek	4.5
Tuscumbia	14	Muscadine Farms	59	Mahannah	3.8
Leroy Percy	13	Graham Waterfowl Area	42	Twin Oaks	3.4
Black Prairie	10	Shipland	39	Stoneville	3.2
Yockanookany	9	Hell Creek	36	Charlie Capps	3.0
Hell Creek	8	Leroy Percy	33	Leroy Percy	2.5
Okatibbee	8	Sardis Waterfowl	27	Muscadine Farms	2.5
Graham Waterfowl Area	7	Black Prairie	19	Shipland	2.2
Stoneville	6	Stoneville	19	MARS	2.0
Sardis Waterfowl	5	Yockanookany	17	Howard Miller	2.0
Sky Lake	5	Sky Lake	9	Black Prairie	1.9
MARS	2	MARS	4	Yockanookany	1.9
Charlie Capps	1	Charlie Capps	3	Sky Lake	1.8
Trim Cane	0	Trim Cane	0	Trim Cane	0.0
Total	1,804*	Total	13,584	Average	7.5**

\* Total does not match the total reported in Table 1 because some respondents did not report species targeted.

\*\* The average # of visits/visitor for a single WMA (7.5) differs from the average number of trips to any WMA (12) reported previously because many respondents visit more than one WMA.

## Hunting Quality

For the three WMAs that they reported hunting the most, respondents were asked to rank the quality of hunting for the species they primarily hunted on those WMAs for the period March 1, 2010 to February 28, 2011. The results by species are reported in Figures 1-4.

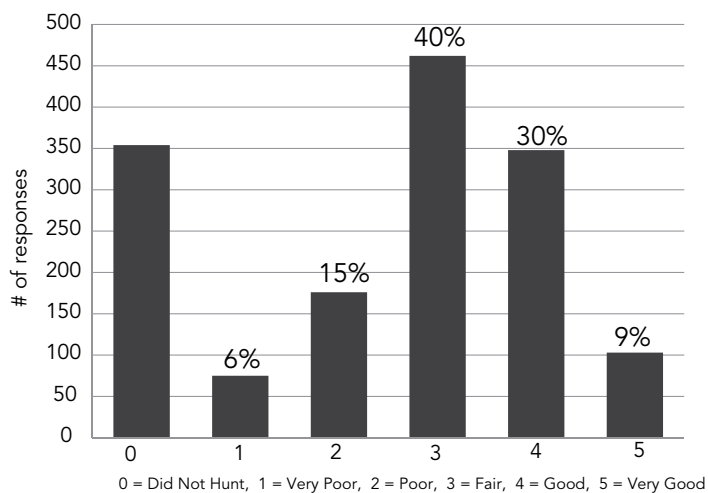


Figure 1. Respondent ranking of the quality of deer hunting on the three WMAs hunted most by the respondent. n = 1518; mean response of those hunting = 3.20. Percentages are based on responses of those hunting, n=1164

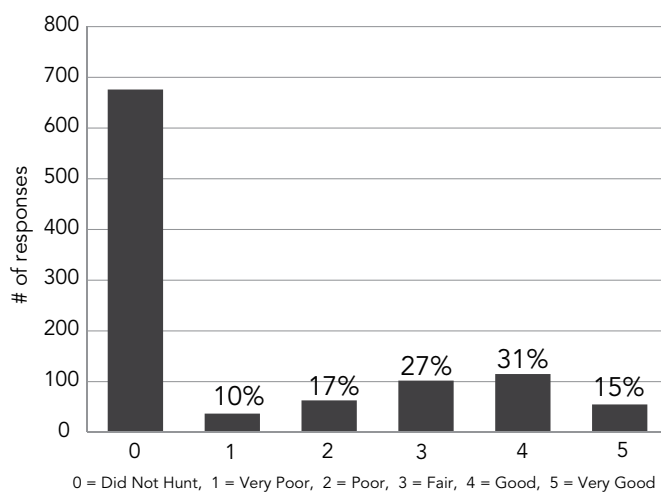


Figure 2. Respondent ranking of the quality of waterfowl hunting on the three WMAs hunted most by the respondent. n = 1048; mean response of those hunting = 3.24. Percentages are based on responses of those hunting, n=372

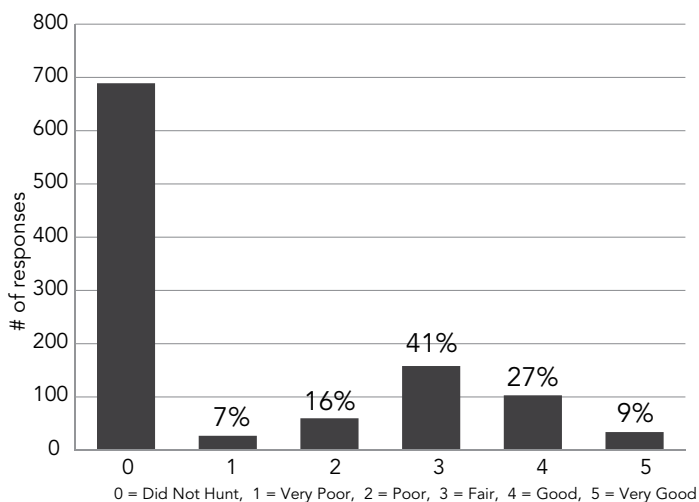


Figure 3. Respondent ranking of the quality of wild turkey hunting on the three WMAs hunted most by the respondent. n = 1071; mean response of those hunting = 3.15. Percentages are based on responses of those hunting, n=382

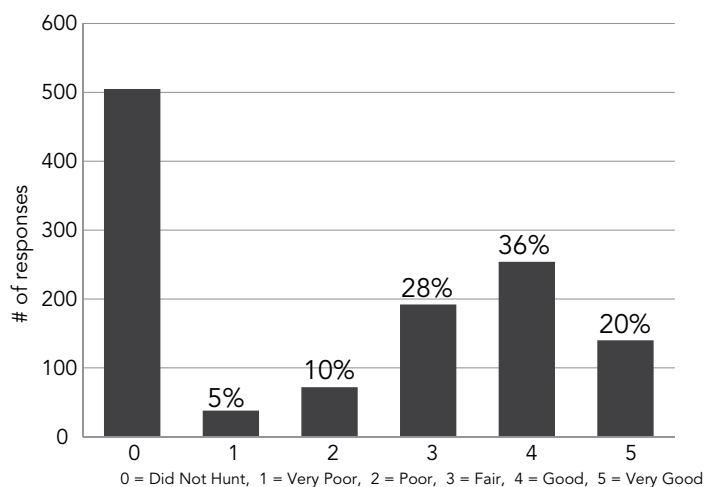
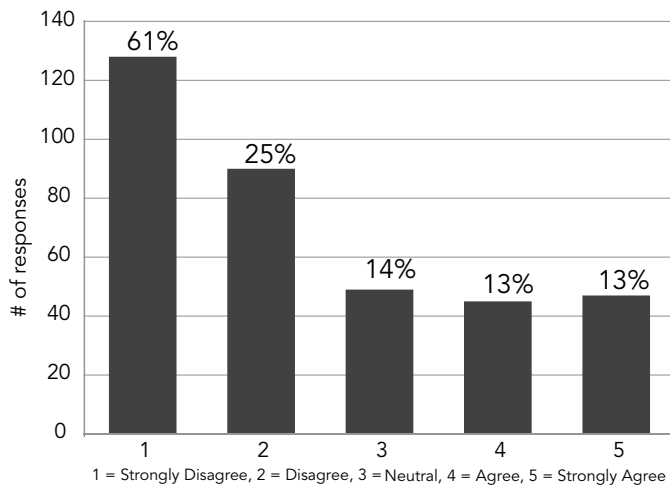
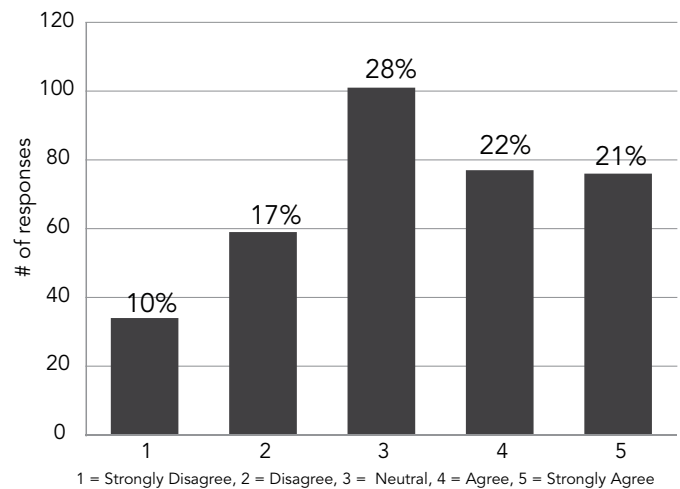


Figure 4. Respondent ranking of the quality of small game hunting on the three WMAs hunted most by the respondent. n = 1201; mean response of those hunting = 3.55. Percentages are based on responses of those hunting, n=696

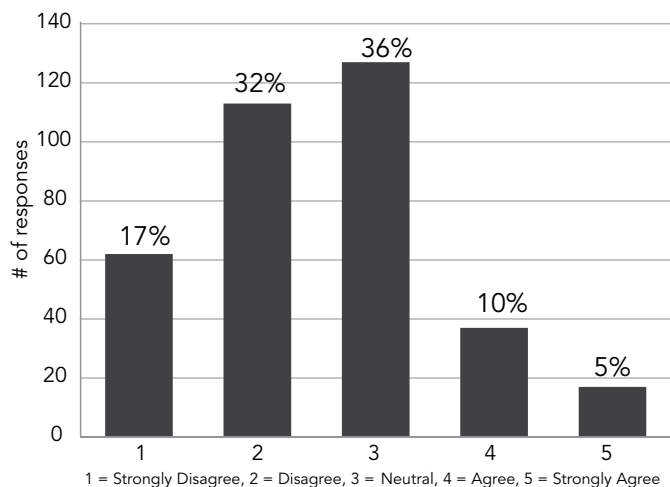
Respondents were asked, “If you hunted wild turkey on a WMA from March 1, 2010 to February 28, 2011, please indicate the extent you agree or disagree with each of the following statements about wild turkey hunting on WMAs.” Their responses to specific statements about wild turkey hunting on WMAs are provided in Figures 5-9.



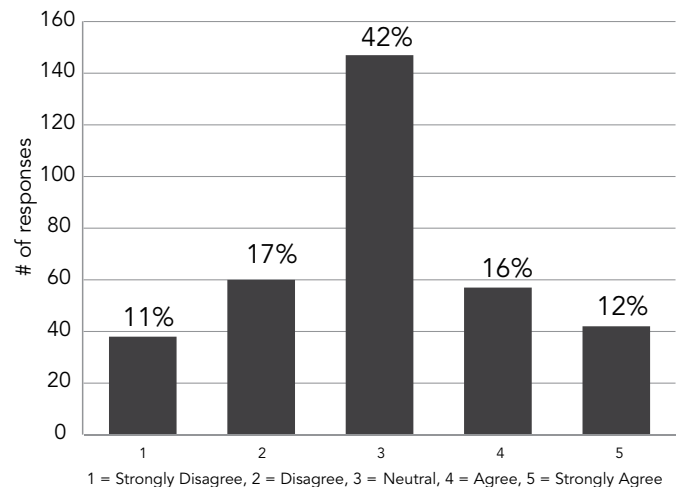
**Figure 5.** Respondent agreement with the statement, “If turkey hunting were not available on WMAs, I would not hunt wild turkey at all.” Mean response = 2.42; n = 359.



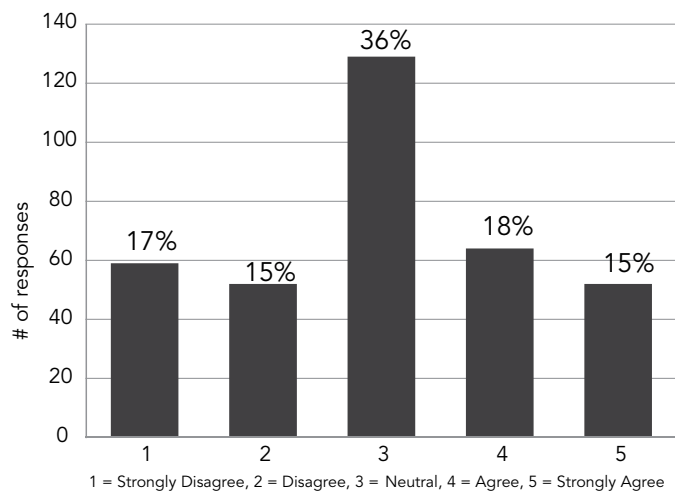
**Figure 6.** Respondent agreement with the statement, “Wild turkey hunting is more convenient for me on WMAs than on private lands.” Mean response = 3.27; n = 356.



**Figure 7.** Respondent agreement with the statement, “There are too many restrictions on wild turkey hunting on WMAs.” Mean response = 2.53; n = 356.



**Figure 8.** Respondent agreement with the statement, “MDWFP should increase the number of special youth only wild turkey hunts on WMAs.” Mean response = 3.01; n = 352.



**Figure 9. Respondent agreement with the statement, "The number of special limited draw hunts for wild turkeys should be increased." Mean response = 2.99; n = 356.**



## Small Game

Respondents were asked, "If you hunted small game on a WMA from March 1, 2010 to February 28, 2011, please indicate the extent you agree or disagree with each of the following statements about wild turkey hunting on WMAs." Their responses to specific statements about small game hunting on WMAs are provided in Figures 10-13.

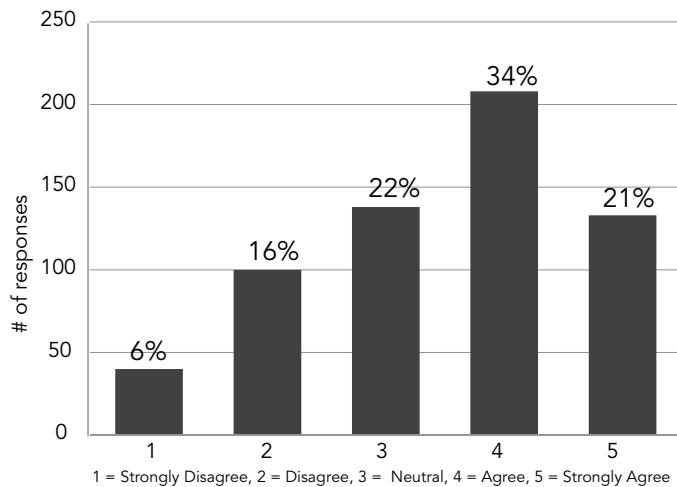


Figure 10. Respondent agreement with the statement, "WMAs are the primary place I hunt small game." Mean response = 3.47; n = 619.

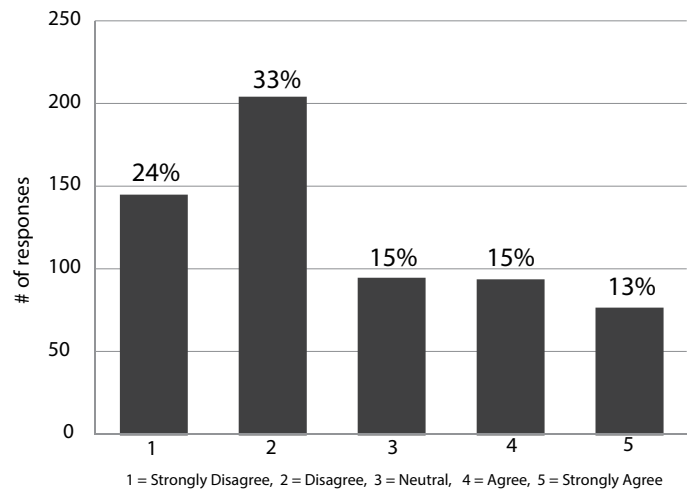


Figure 11. Respondent agreement with the statement, "If WMAs did not have small game hunting available I would not hunt small game at all." Mean response = 2.60; n = 615.

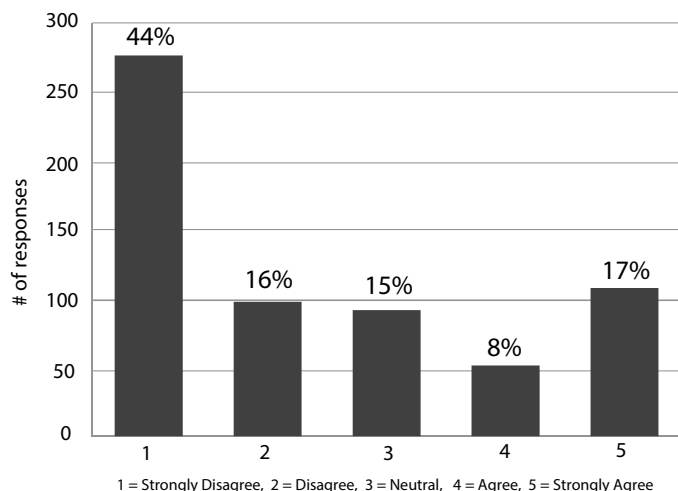


Figure 12. Respondent agreement with the statement, "Hunting dogs should not be allowed on WMAs for small game." Mean response = 2.38; n = 621.

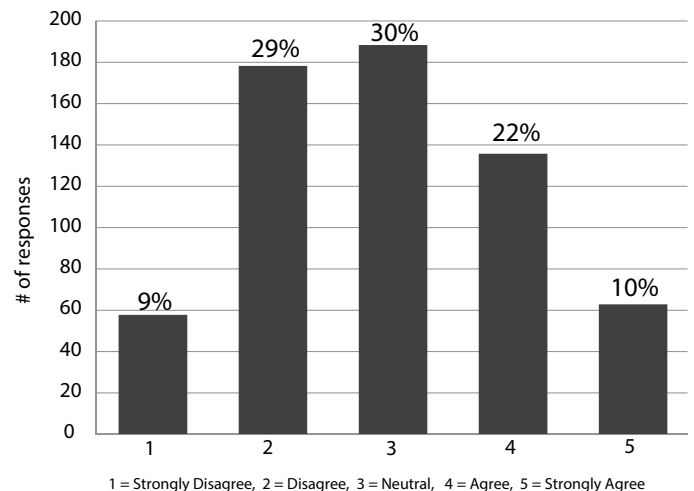


Figure 13. Respondent agreement with the statement, "The amount of small game on WMAs is decreasing." Mean response = 2.95; n = 615.

## White-tailed Deer

Respondents were asked, "If you hunted white tailed deer on a WMA from March 1, 2010 to February 28, 2011, please indicate the extent you agree or disagree with each of the following statements about white tailed deer hunting on WMAs." Their responses to specific statements about white tailed deer hunting on WMAs are provided in Figures 14-21.

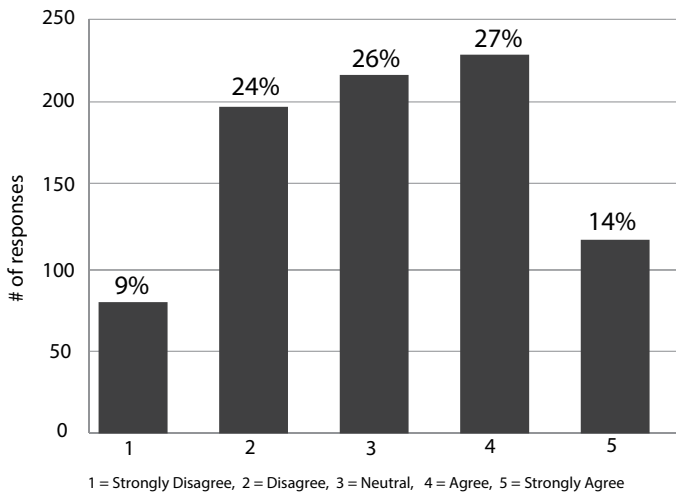


Figure 14. Respondent agreement with the statement, "Quality buck hunting is the main reason why I hunt deer on WMAs." Mean response = 3.13; n = 825.

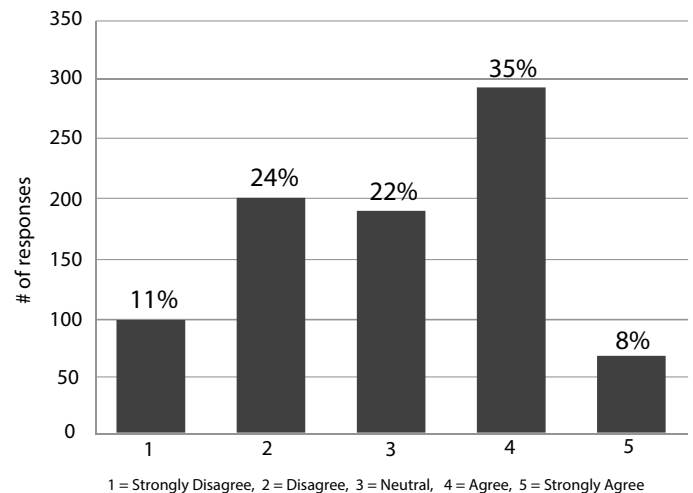


Figure 15. Respondent agreement with the statement, "I am satisfied with my chances to harvest a quality buck on WMAs." Mean response = 3.04; n = 827.

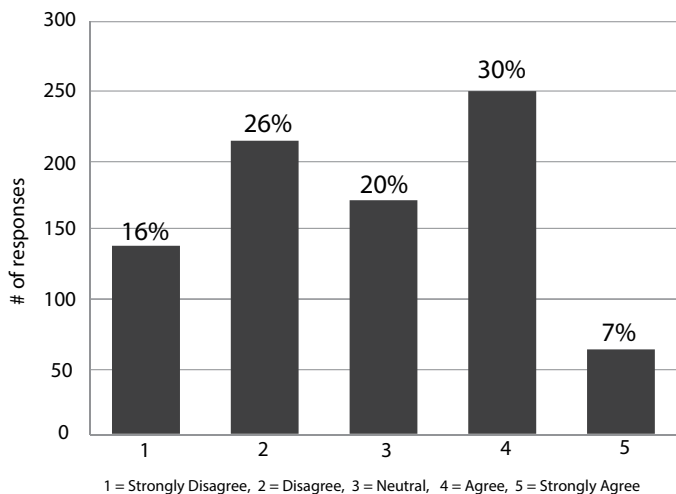


Figure 16. Respondent agreement with the statement, "I believe that WMAs provide as good a chance of harvesting a quality buck as private lands." Mean response = 2.86; n = 826.

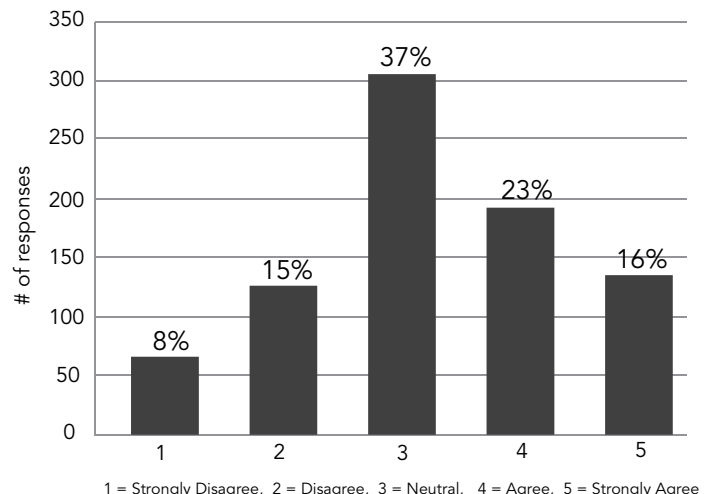
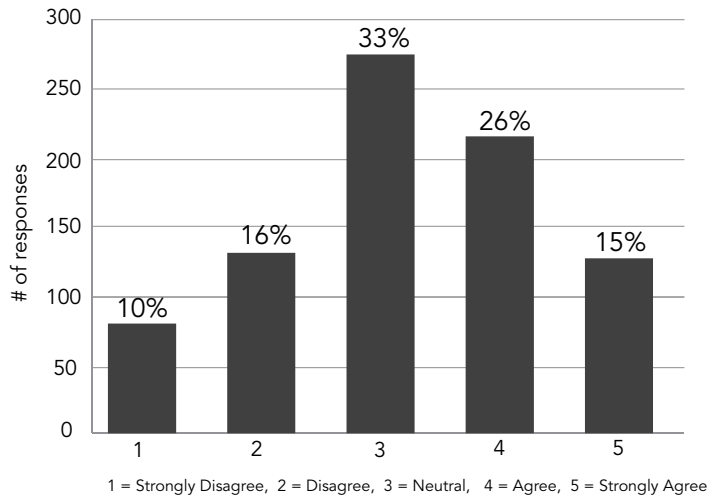
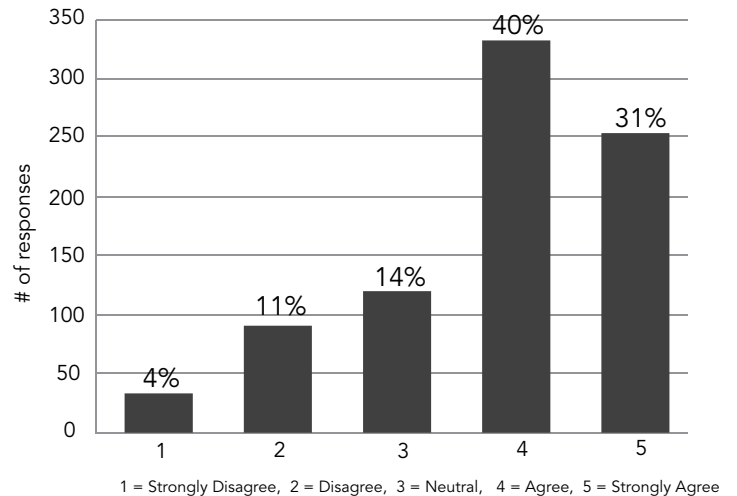


Figure 17. Respondent agreement with the statement, "MDWFP should increase the number of special youth only hunts for deer on WMA." Mean response = 3.25; n = 824.

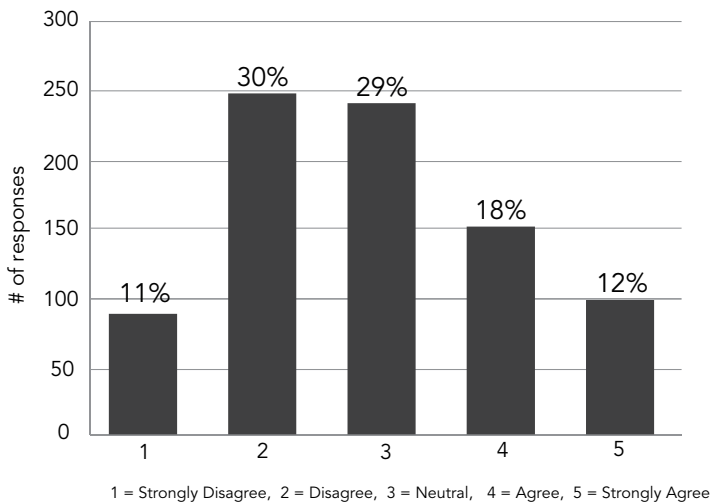




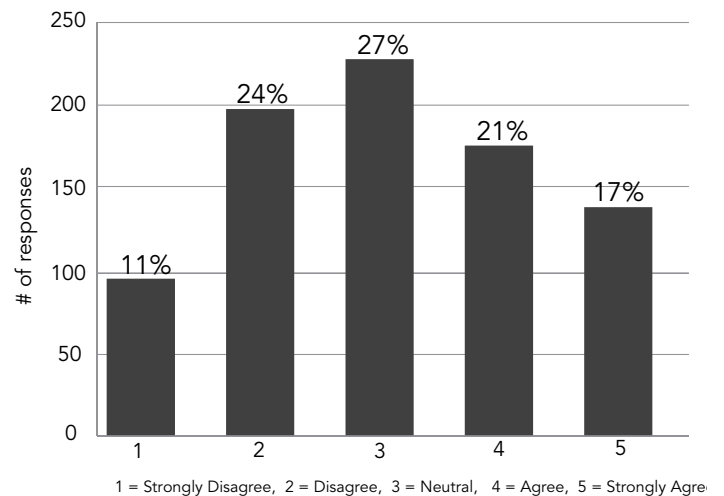
**Figure 18. Respondent agreement with the statement, "The number of limited draw hunts for deer hunting should be increased on WMAs." Mean response = 3.22; n = 822.**



**Figure 19. Respondent agreement with the statement, "It is more important to have abundant deer of both sexes to harvest than to only have a few trophy bucks to harvest on WMAs." Mean response = 3.82; n = 824.**



**Figure 20. Respondent agreement with the statement, "Management on WMAs puts too much emphasis on quality bucks." Mean response = 2.91; n = 819.**



**Figure 21. Respondent agreement with the statement, "WMAs should have more restrictions on harvesting smaller bucks to increase the number of larger bucks available for harvest." Mean response = 3.08; n = 827.**

## Waterfowl

Respondents were asked, "If you hunted waterfowl on a WMA from March 1, 2010 to February 28, 2011, please indicate the extent you agree or disagree with each of the following statements about waterfowl hunting on WMAs." Their responses to specific statements about waterfowl hunting on WMAs are provided in Figures 22-30.

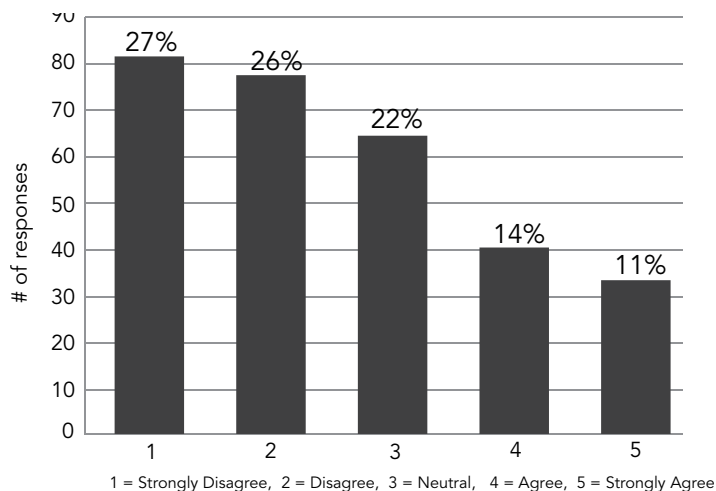


Figure 22. Respondent agreement with the statement, "If WMAs did not provide waterfowl hunting, I would not hunt waterfowl at all." Mean response = 2.55; n = 295.

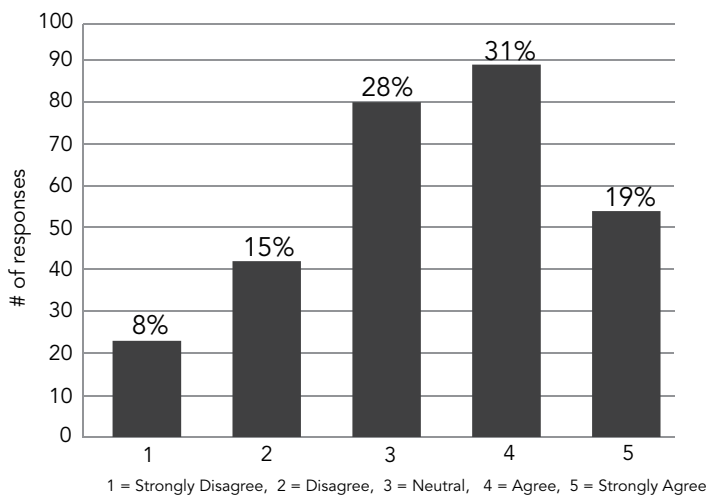


Figure 23. Respondent agreement with the statement, "WMAs provide unique waterfowl hunting opportunities not available on private lands." Mean response = 3.38; n = 288.

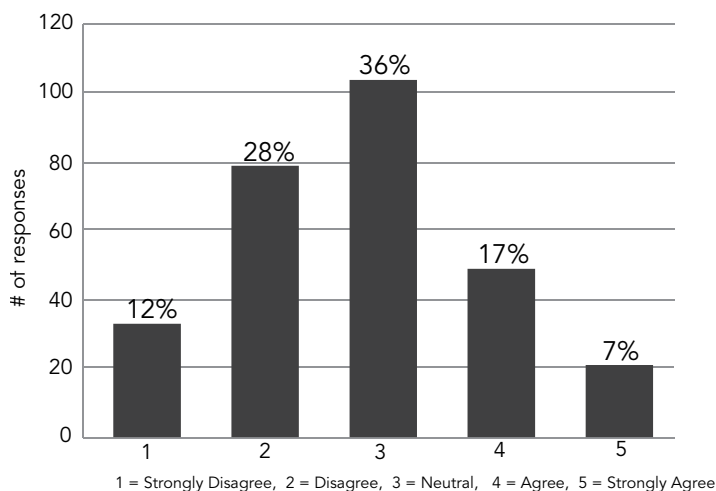


Figure 24. Respondent agreement with the statement, "WMAs have more waterfowl than private lands." Mean response = 2.81; n = 286.

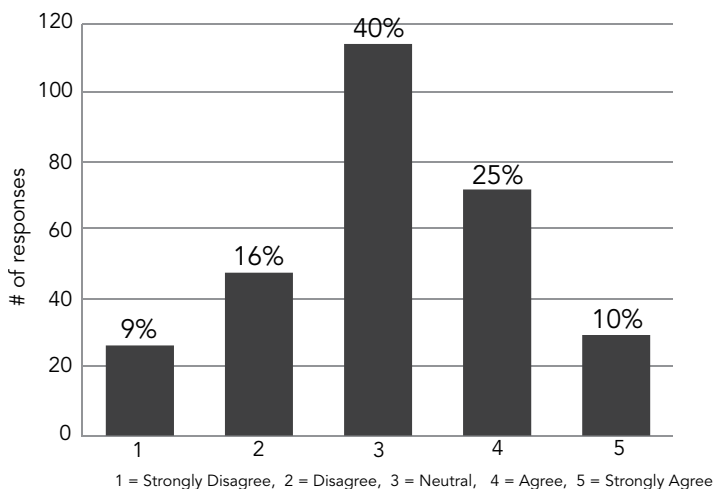
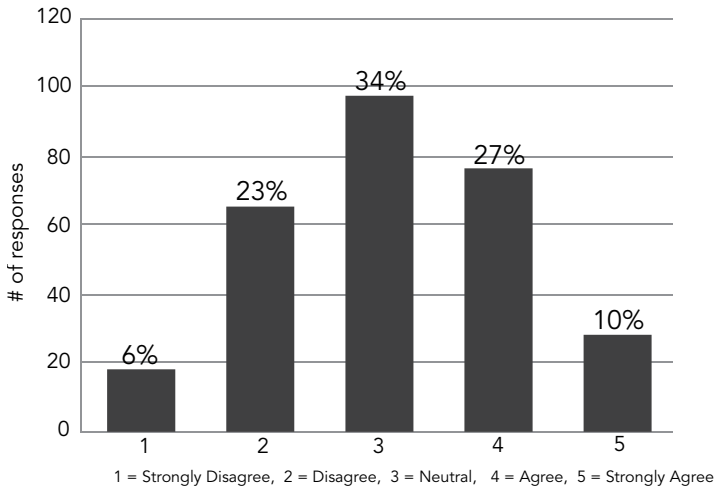
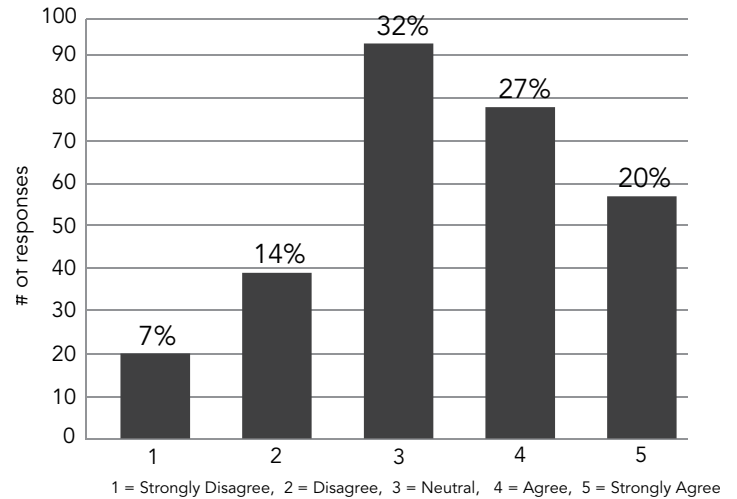


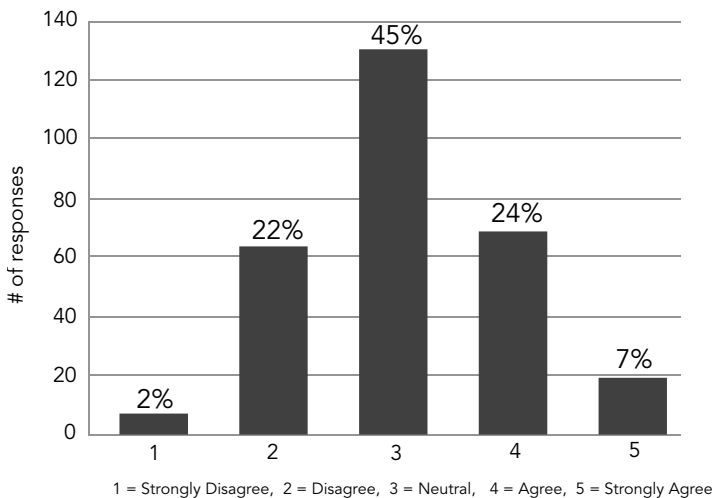
Figure 25. Respondent agreement with the statement, "Habitat management activities for waterfowl are better on WMAs than those on private lands." Mean response = 3.10; n = 286.



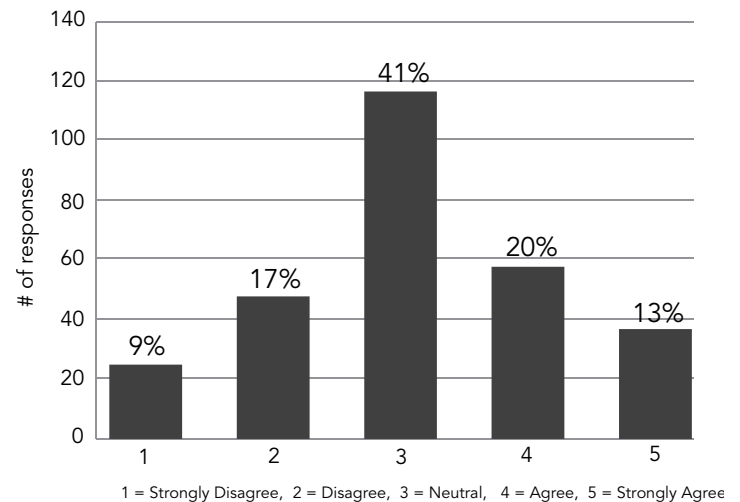
**Figure 26.** Respondent agreement with the statement, “WMAs are more convenient than private lands to hunt waterfowl.” Mean response = 3.11; n = 284.



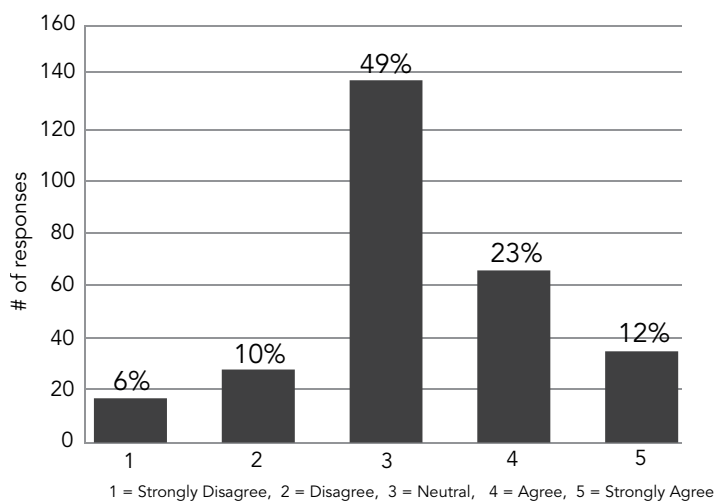
**Figure 27.** Respondent agreement with the statement, “The cost of hunting on private lands is the main reason why I hunt waterfowl on WMAs.” Mean response = 3.39; n = 287.



**Figure 28.** Respondent agreement with the statement, “There are too many waterfowl hunters on WMAs.” Mean response = 3.10; n = 286.



**Figure 29.** Respondent agreement with the statement, “MDWFP should increase the number of special limited draw hunts for waterfowl on WMAs.” Mean response = 3.12; n = 285.

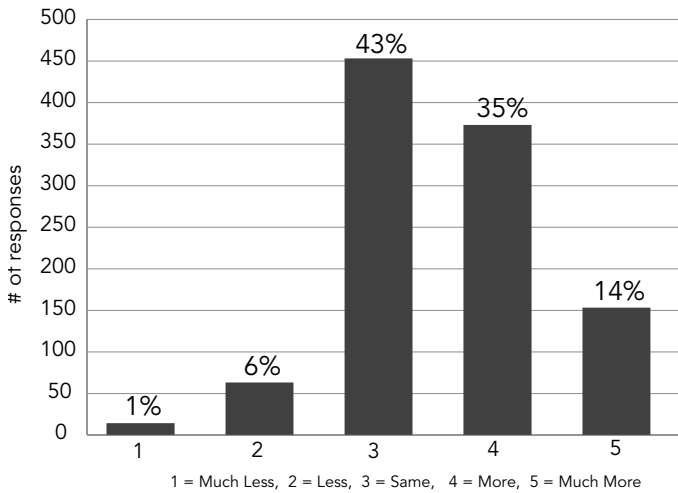


**Figure 30. Respondent agreement with the statement, "MDWFP should expand special youth only hunts for waterfowl on WMAs." Mean response = 3.26; n = 285.**

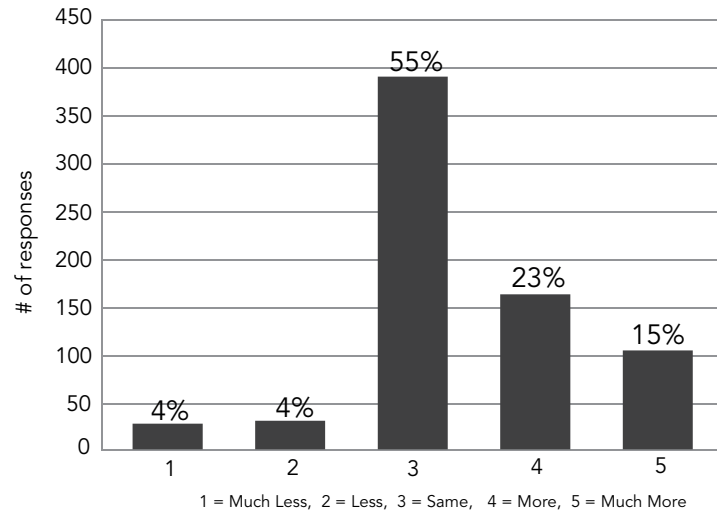


## General Impressions and Attitudes about WMAs and Private Lands

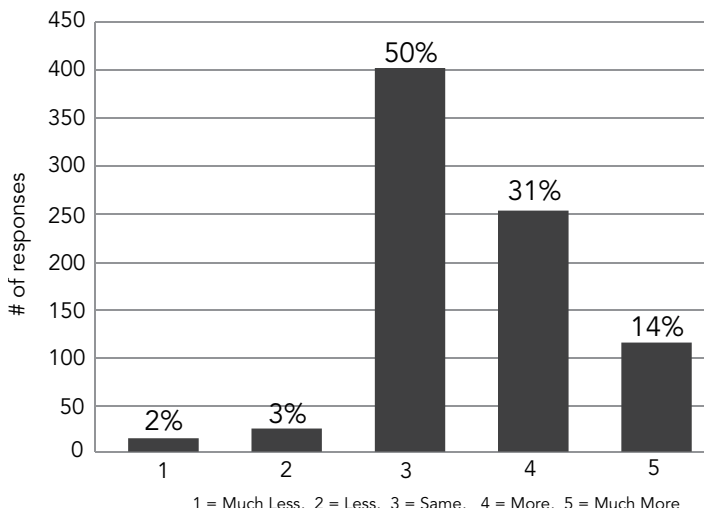
Respondents were asked a series of questions about current management practices on WMAs and how WMAs compare to private lands for hunting. Their responses are reported in Figures 31 – 46.



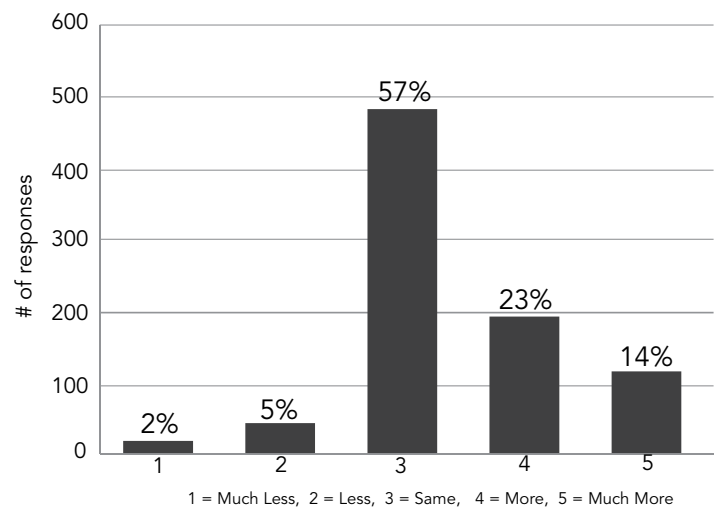
**Figure 31.** WMA hunter responses to “Compared to current level of management, how intensively should WMAs you hunted be managed for white tailed deer?” Mean response = 3.56; n = 1056.



**Figure 32.** WMA hunter responses to “Compared to current level of management, how intensively should WMAs you hunted be managed for water-fowl?” Mean response = 3.40; n = 716.

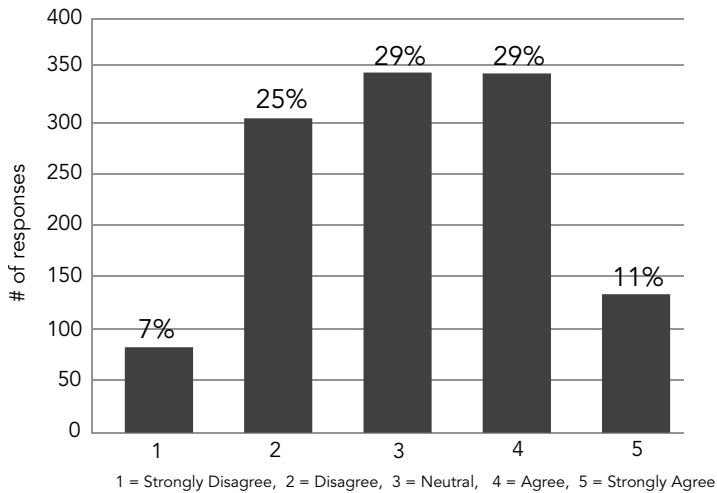


**Figure 33.** WMA hunter responses to “Compared to current level of management, how intensively should WMAs you hunted be managed for wild turkey?” Mean response = 3.53; n = 805.

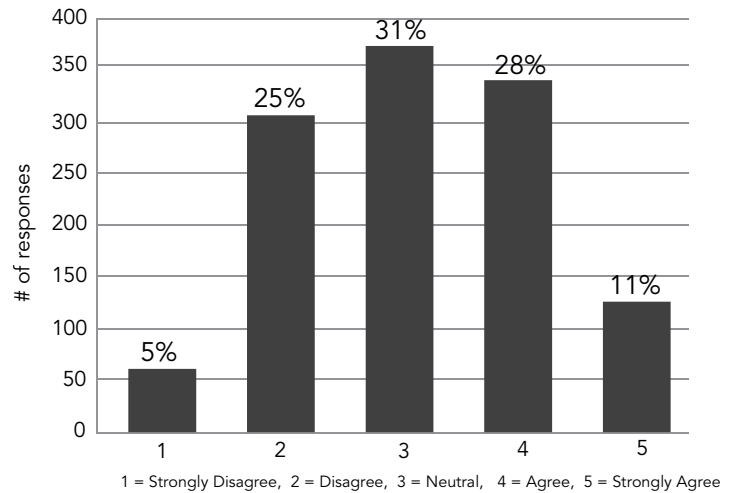


**Figure 34.** WMA hunter responses to “Compared to current level of management, how intensively should WMAs you hunted be managed for small game?” Mean response = 3.41; n = 850.

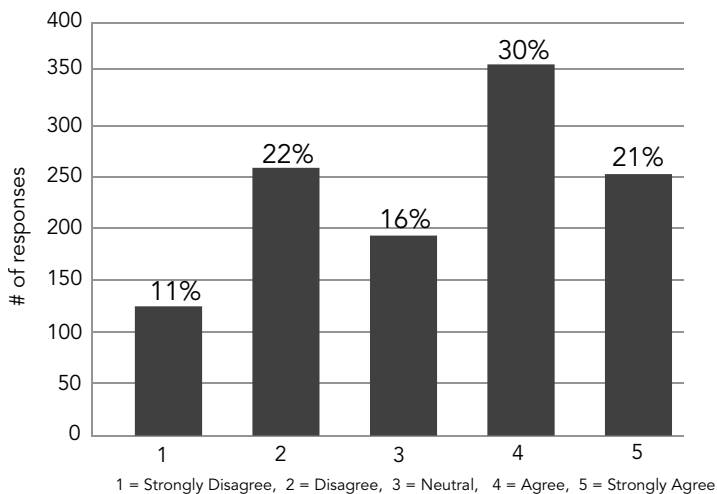
## General Impressions and Attitudes about WMAs and Private Lands (continued)



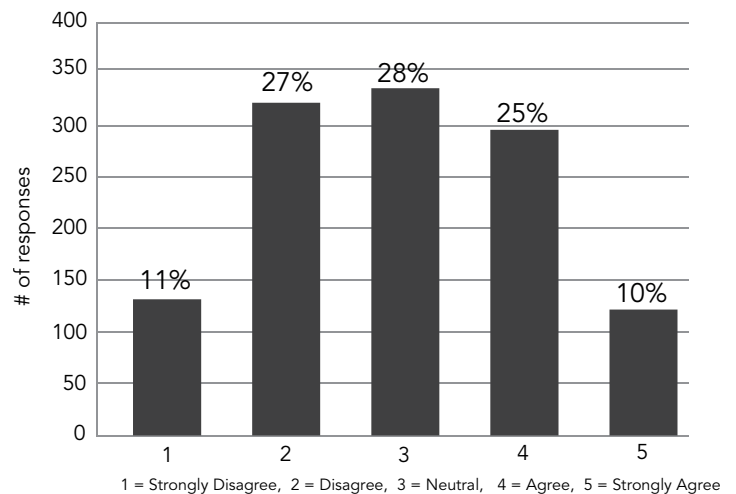
**Figure 35.** Respondent agreement with the statement, "Groups of hunters on WMAs claim large areas as their own." Mean response = 3.12; n = 1208.



**Figure 36.** Respondent agreement with the statement, "Territoriality of hunters is a problem on WMAs." Mean response = 3.14; n = 1206.

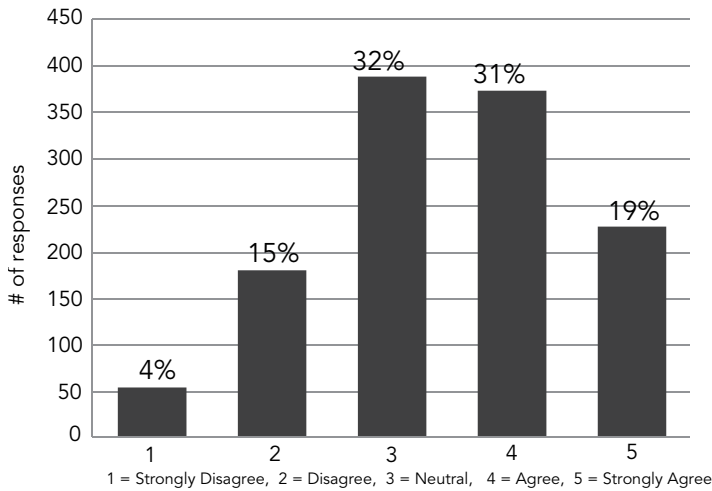


**Figure 37.** Respondent agreement with the statement, "Deer hunters should not be allowed to leave tree stands in place because this allows them to claim an area as their own." Mean response = 3.30; n = 1199.

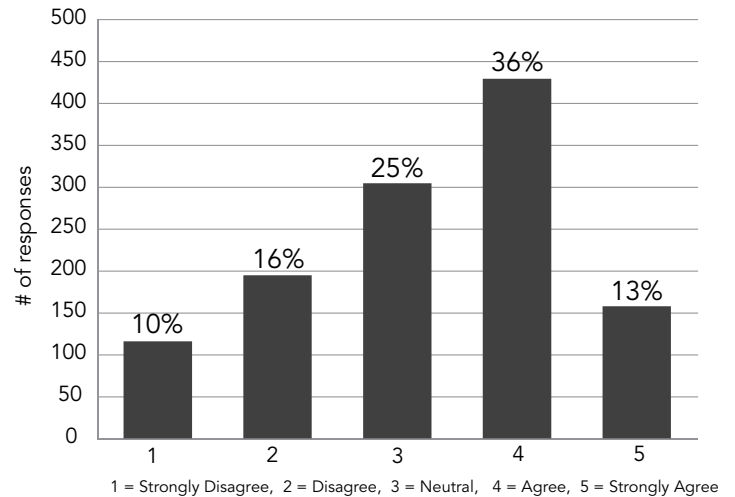


**Figure 38.** Respondent agreement with the statement, "Hunting WMAs is more convenient than hunting on private lands." Mean response = 2.96; n = 1200.

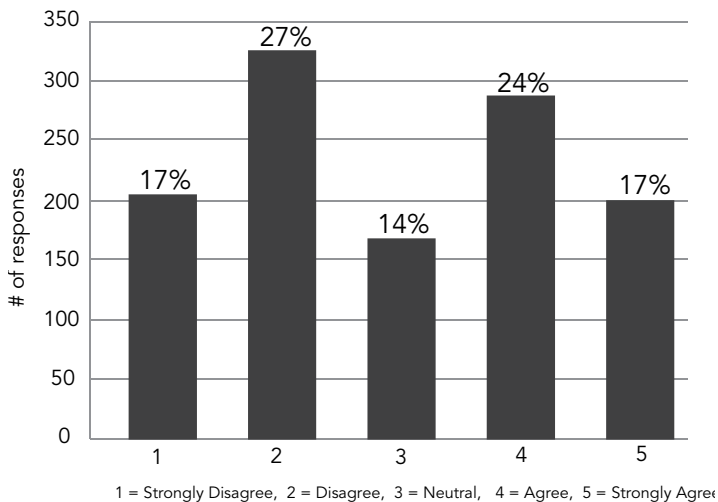
## General Impressions and Attitudes about WMAs and Private Lands (continued)



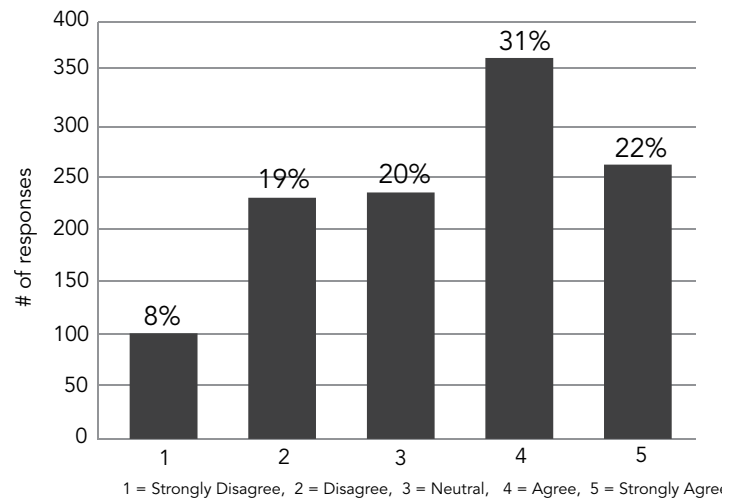
**Figure 39.** Respondent agreement with the statement, “I would hunt WMAs more if they were closer to my home.” Mean response = 3.44; n = 1212.



**Figure 40.** Respondent agreement with the statement, “WMAs are convenient to hunt because the MDWFP takes care of food plots and other habitat management activities.” Mean response = 3.26; n = 1204.

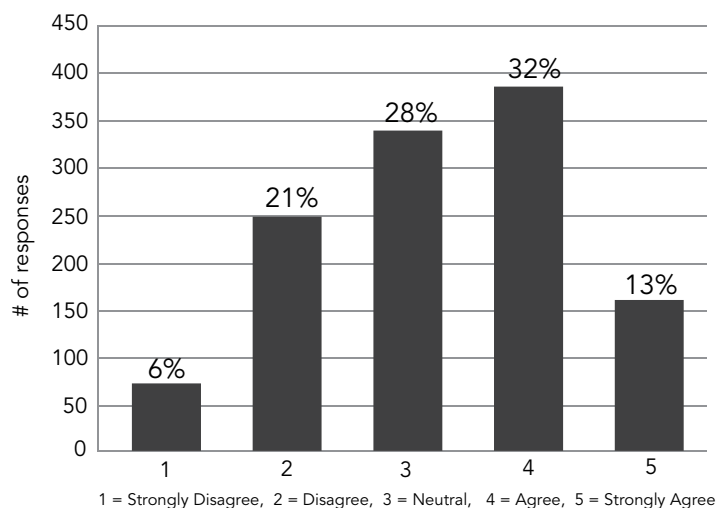


**Figure 41.** Respondent agreement with the statement, “I do not have access to free private land for hunting.” Mean response = 2.96; n = 1192.

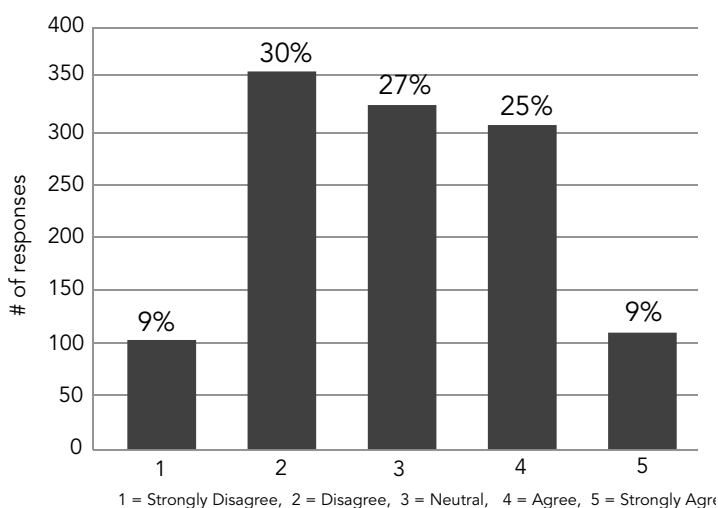


**Figure 42.** Respondent agreement with the statement, “The high cost of leasing private lands is the main reason why I hunt on WMAs.” Mean response = 3.38; n = 1206.

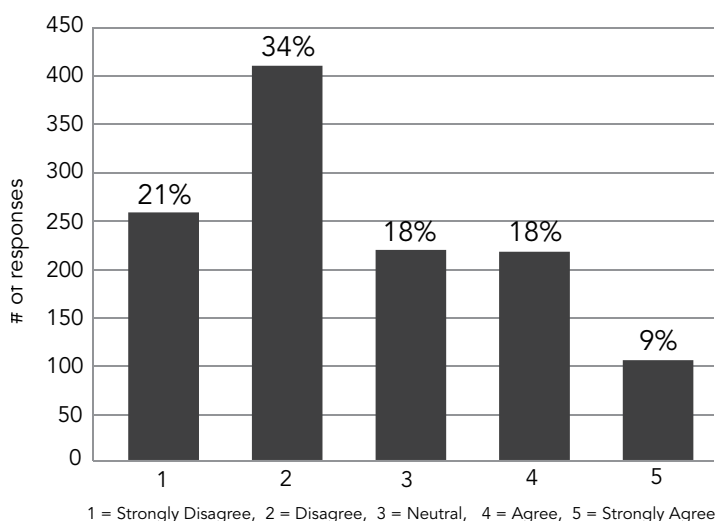
## General Impressions and Attitudes about WMAs and Private Lands (continued)



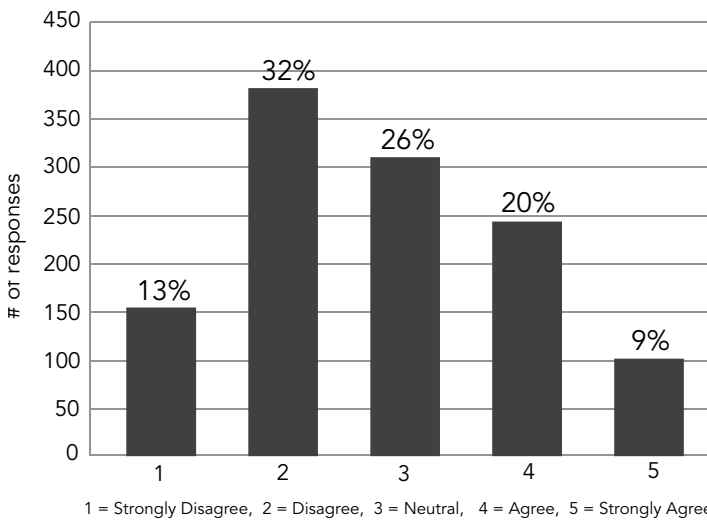
**Figure 43.** Respondent agreement with the statement, "Finding and retaining private land to lease requires too much time and commitment." Mean response = 3.26; n = 1214.



**Figure 44.** Respondent agreement with the statement, "Planting and maintaining food plots on leased lands require too much time and commitment." Mean response = 2.97; n = 1212.



**Figure 45.** Respondent agreement with the statement, "I do not hunt enough to justify spending money to lease private lands." Mean response = 2.58; n = 1209.

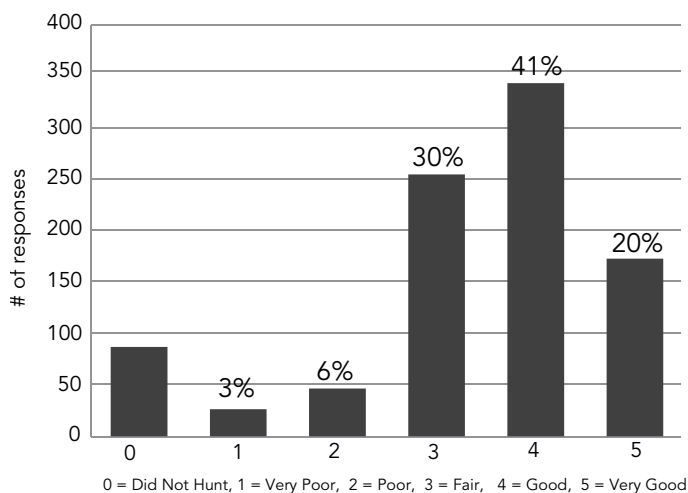


**Figure 46.** Respondent agreement with the statement, "There are no private land hunting leases near my residence." Mean response = 2.79; n = 1213.

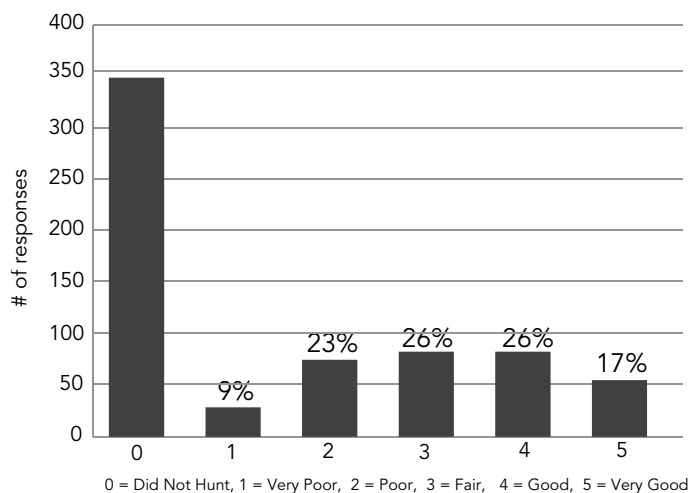


## Private Lands Comparisons

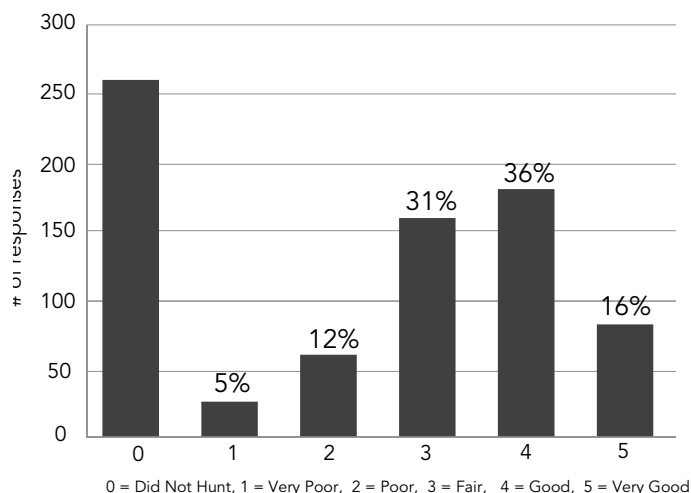
WMA hunters who also hunted private lands during the March 1, 2010 to February 28, 2011 hunting season were asked a series of questions about those private hunting lands and how they compared to WMAs. Their responses to those questions are reported in Figures 47 – 56.



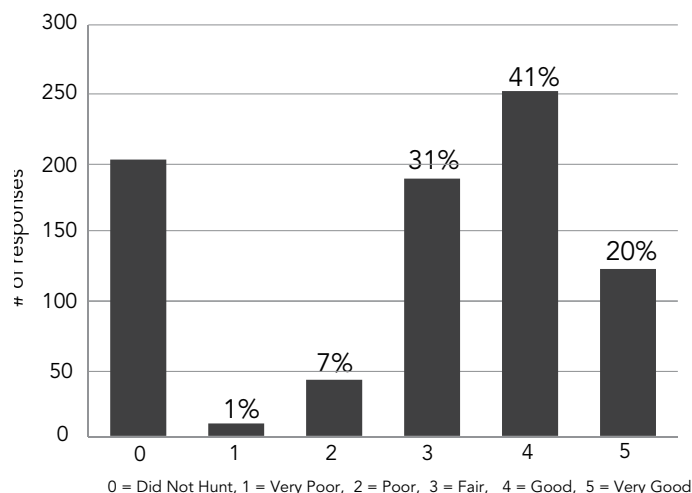
**Figure 47. Respondent ranking of the quality of deer hunting on private lands. n = 921; mean response of those hunting = 3.70. Percentages are based on responses of those hunting, n=835**



**Figure 48. Respondent ranking of the quality of waterfowl hunting on private lands. n = 684; mean response of those hunting = 3.19. Percentages are based on responses of those hunting, n=329**

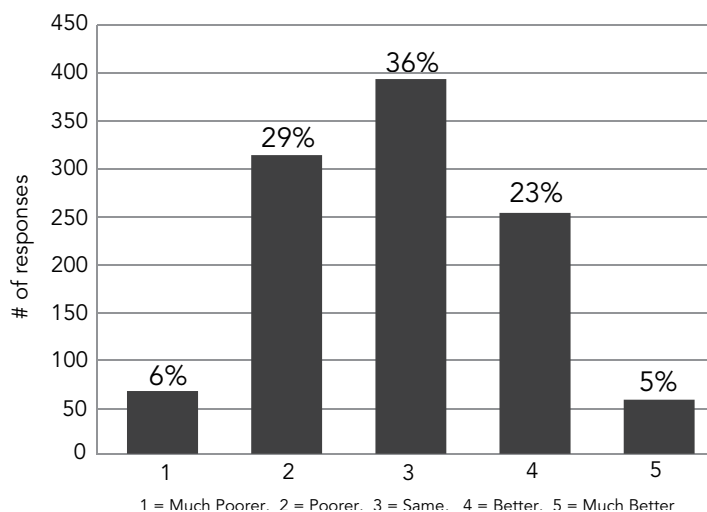


**Figure 49. Respondent ranking of the quality of wild turkey hunting on private lands. n = 760; mean response of those hunting = 3.46. Percentages are based on responses of those hunting, n=502**

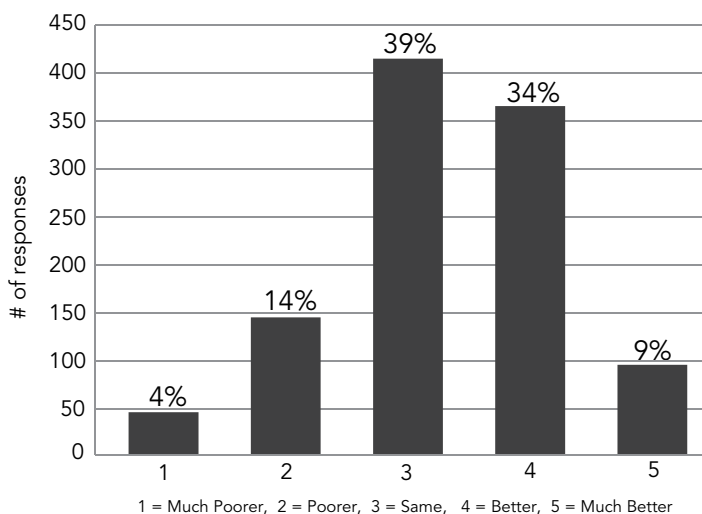


**Figure 50. Respondent ranking of the quality of small game hunting on private lands. n = 814; mean response of those hunting = 3.71. Percentages are based on responses of those hunting, n=612**

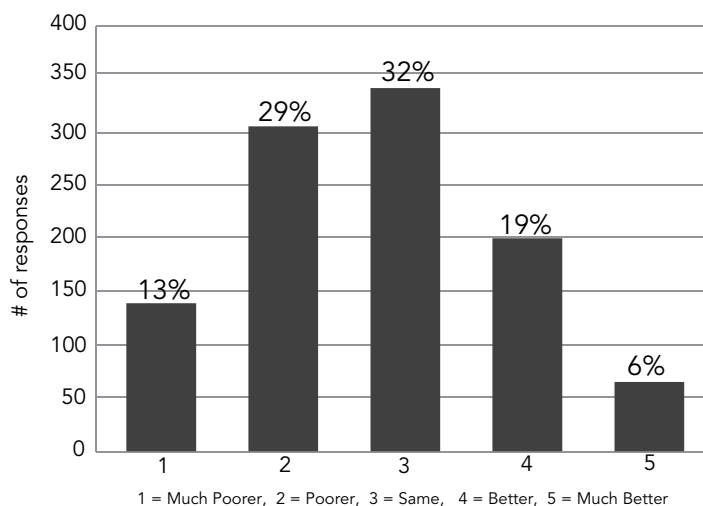
## Private Lands Comparisons (continued)



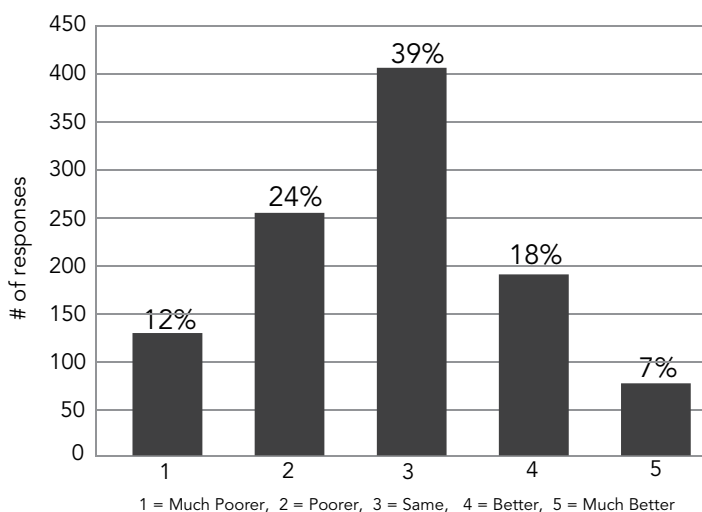
**Figure 51. Respondent rating of game abundance on the WMAs hunted compared to private lands during the March 1, 2010 to February 28, 2011 hunting season. Mean response = 2.93; n = 1070.**



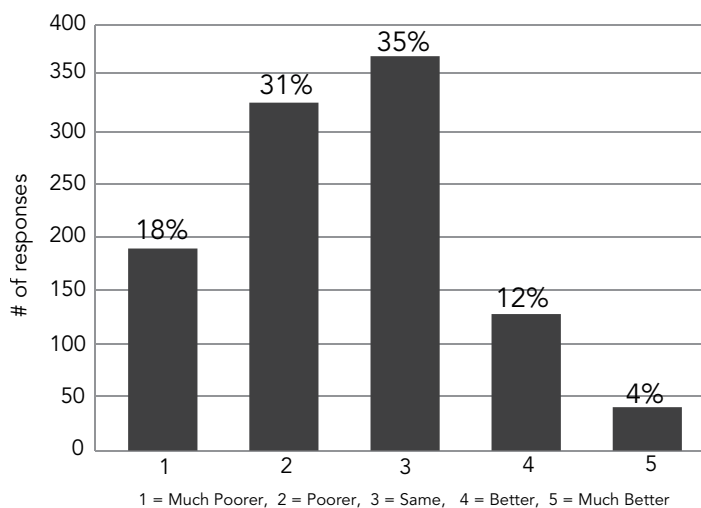
**Figure 52. Respondent rating of habitat quality on the WMAs they hunted compared to private lands during the March 1, 2010 to February 28, 2011 hunting season. Mean response = 3.30; n = 1066.**



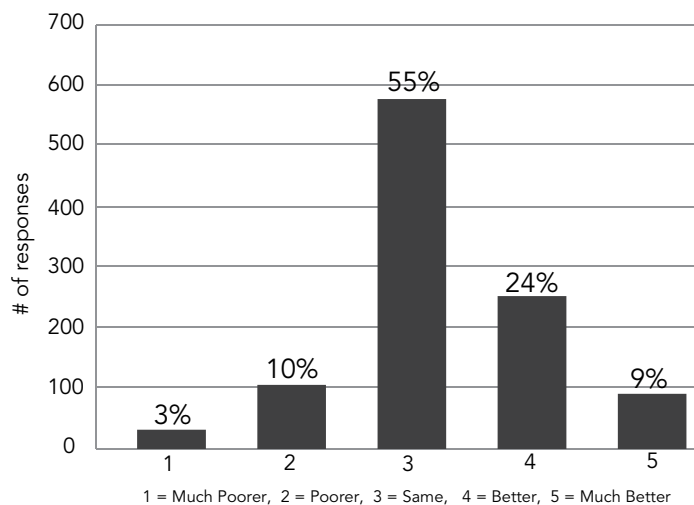
**Figure 53. Respondent rating of the quality of food plots on the WMAs they hunted compared to private lands during the March 1, 2010 to February 28, 2011 hunting season. Mean response = 2.76; n = 1050.**



**Figure 54. Respondent rating of internal access (e.g., wood roads and ATV trails) on the WMAs they hunted compared to private lands during the March 1, 2010 to February 28, 2011 hunting season. Mean response = 2.84; n = 1061.**



**Figure 55. Respondent rating of hunter crowding on the WMAs they hunted compared to private lands during the March 1, 2010 to February 28, 2011 hunting season. Mean response = 2.53; n = 1063.**



**Figure 56. Respondent rating of safety on the WMAs they hunted compared to private lands during the March 1, 2010 to February 28, 2011 hunting season. Mean response = 3.25; n = 1070.**

## E. References Cited

Dillman, D. A. 2007. Mail and internet surveys the tailored design method. Second edition. John Wiley and Sons, Inc. Hoboken, New Jersey, USA.

Heberlein, T. A., J. N. Trent, and R. M. Baumgartner. 1982. The influence of hunter density on firearm deer hunters' satisfaction. P. 665-675 in the Transactions of the forty-seventh North American wildlife and natural resources conference, Sabol, K.J. (ed.). March 26-31, 1982. Portland, Oregon, USA.

Jordan, L. A. and J. P. Workman. 1989. Overview of hunting for deer and elk on private lands in Utah. P. 190-195 in the Transactions of the fifty-fourth North American wildlife and natural resources conference, McCabe, R.E. (ed.). March 17-22, 1989. Washington, District of Columbia, USA.

Messonier, M. L. and E. J. Luzar. 1990. A hedonic analysis of private hunting and attributes using an alternative functional form. Southern Journal of Agricultural Economics 22(2):129-136.



## Appendix I – Table 3

Table 3. Number of visitors, number of visits, average number of visits per visitor, number of overnights, average number of overnight per visit, and average round trip miles travelled per visit for Mississippi WMAs as reported in a 2011 survey of WMA permit purchasers.

WMA	visitors	visits	visits/ visitor	overnights	over- nights/ visit	Ave rt miles
Bienville	53	540	10.2	72	0.13	152
Black Prairie	10	19	1.9	8	0.42	257
Calhoun County	28	335	12.0	88	0.26	234
Canal Section	67	639	9.5	51	0.08	112
Caney Creek	45	374	8.3	124	0.33	107
Caston Creek	78	862	11.1	1293	1.50	210
Chickasaw	55	550	10.0	6	0.01	84
Chickasawhay	42	528	12.6	58	0.11	76
Choctaw	50	246	4.9	300	1.22	288
Copiah County	48	409	8.5	118	0.29	148
Divide Section	33	274	8.3	27	0.10	67
Graham Waterfowl Area	7	42	6.0	5	0.12	42
Charles Ray Nix	19	115	6.1	10	0.09	138
Hell Creek	8	36	4.5	16	0.44	98
John Bell Williams	35	287	8.2	16	0.06	67
John W. Starr Memorial Forest	19	100	5.3	107	1.07	128
Lake George	40	193	4.8	298	1.54	243
Leaf River	61	424	7.0	81	0.19	143
Leroy Percy	13	33	2.5	22	0.67	167
Little Biloxi	32	202	6.3	93	0.46	81
Mahannah	90	346	3.8	220	0.64	293
Malmaison	53	364	6.9	117	0.32	231
Marion County	19	100	5.3	13	0.13	136
Mason Creek	29	234	8.1	65	0.28	136
Muscadine Farms	24	59	2.5	46	0.78	509
Nanah Waiya	23	137	6.0	68	0.50	125
Okatibbee	8	82	10.3	5	0.06	136
O'Keefe	39	214	5.5	83	0.39	592
Old River	33	374	11.3	63	0.17	52
Pascagoula	85	1188	14.0	237	0.20	131
Pearl River	35	200	5.7	12	0.06	105
Red Creek	34	397	11.7	27	0.07	61
Sandy Creek	83	681	8.2	1111	1.63	177
Sardis Waterfowl	5	27	5.4	11	0.41	110
Shipland	18	39	2.2	35	0.90	319
Stoneville	6	19	3.2	3	0.16	109
Sunflower	140	731	5.2	883	1.21	303
Tallahala	66	509	7.7	278	0.55	213
Trim Cane	0	0	0.0	0	0.00	na
Tuscumbia	14	77	5.5	9	0.12	34

## Appendix I – Table 3 (continued)

WMA	visitors	visits	visits/ visitor	overnights	over- nights/ visit	Ave rt miles
Twin Oaks	51	175	3.4	189	1.08	293
Upper Sardis	73	506	6.9	120	0.24	121
Ward Bayou	53	525	9.9	131	0.25	78
Wolf River	24	282	11.8	24	0.09	74
Yockanookany	9	17	1.9	2	0.12	111
Charlie Capps	1	3	3.0	0	0.00	45
Sky Lake	5	9	1.8	9	1.00	204
Howard Miller	39	77	2.0	87	1.13	423
MARS	2	4	2.0	7	1.75	367

## **Survey of Mississippi Wildlife Management Area Hunters**



*Conducted for the*  
**U.S. Fish and Wildlife Service's Natural Resources Economic Enterprises Program**  
*by the*  
**Human Dimensions & Conservation Law Enforcement Laboratory**  
**Forest & Wildlife Research Center**  
**Mississippi State University**



## SURVEY OF MISSISSIPPI WILDLIFE MANAGEMENT AREA HUNTERS..... PAGE 1

*In the following questions, please tell us about your hunting activity and experience. The information you provide will remain strictly confidential and you will not be identified with your answers.*

### SECTION I: PARTICPATION IN HUNTING AT MDWFP WILDLIFE MANAGEMENT AREAS

1. Did you hunt on any MDWFP Wildlife Management Areas (WMAs) between **March 1, 2010 and February 28, 2011**?

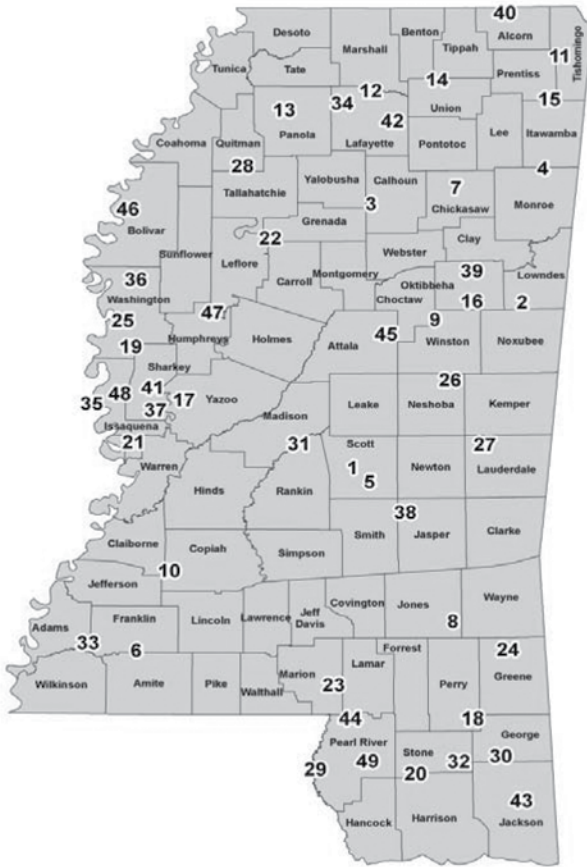
1 YES

2 NO – (If NO, please skip ahead to Section V on Page 7)

2. Please identify the five WMAs you hunted most often from **March 1, 2010 to February 28, 2011** using the map and legend located on Page 2, and note how many hunting trips you took to each WMA during this time period. A trip is defined as traveling from your home residence to a WMA and back. If you spent one or more nights away from home on a trip, please consider that as only one trip.

WMA Number	Number of round trips throughout year to hunt	Total number of nights you spent away from home throughout year on hunting trips to this WMA	Round trip miles to this WMA from your home residence	Primary species hunted at this WMA on these trips
<i>Example:</i>				
21	6	2	110	Deer

## SURVEY OF MISSISSIPPI WILDLIFE MANAGEMENT AREA HUNTERS.....PAGE 2



WMA	Number
Hell Creek	14
John Bell Williams	15
John W. Starr Memorial Forest	16
Lake George	17
Leaf River	18
Leroy Percy	19
Little Biloxi	20
Mahannah	21
Malmaison	22
Marion County	23
Mason Creek	24
Muscadine Farms	25
Nanah Waiya	26
Okatibbee	27
O'Keefe	28
Old River	29
Pascagoula	30
Pearl River	31
Red Creek	32
Sandy Creek	33
Sardis Waterfowl	34
Shipland	35
Stoneville	36
Sunflower	37
Tallahala	38
Trim Cane	39
Tuscumbia	40
Twin Oaks	41
Upper Sardis	42
Ward Bayou	43
Wolf River	44
Yockanookany	45
Charlie Capps	46
Sky Lake	47
Howard Miller	48
MARS	49

WMA	Number
Bienville	1
Black Prairie	2
Calhoun County	3
Canal Section	4
Caney Creek	5
Caston Creek	6
Chickasaw	7
Chickasawhay	8
Choctaw	9
Copiah County	10
Divide Section	11
Graham Waterfowl Area	12
Charles Ray Nix	13

## SURVEY OF MISSISSIPPI WILDLIFE MANAGEMENT AREA HUNTERS..... PAGE 3

### SECTION II: HUNTING QUALITY AND MANAGEMENT AT WMAs

3. For the three WMAs you reported hunting the most number of trips in Question #2 **between March 1, 2010 and February 28, 2011**, please rank the quality of hunting for the species you hunted on those WMAs. If you hunted fewer than three WMAs, only complete the below for the WMAs you did hunt.

WMA NUMBER \_\_\_\_\_

WMA NUMBER_____	Did Not Hunt	Very Poor	Poor	Fair	Good	Very Good
a) Deer.....0	1	2	3	4	5	
b) Waterfowl.....0	1	2	3	4	5	
c) Wild Turkey .....0	1	2	3	4	5	
d) Small Game .....0	1	2	3	4	5	

WMA NUMBER \_\_\_\_\_

WMA NUMBER_____	Did Not Hunt	Very Poor	Poor	Fair	Good	Very Good
a) Deer.....0	1	2	3	4	5	
b) Waterfowl.....0	1	2	3	4	5	
c) Wild Turkey .....0	1	2	3	4	5	
d) Small Game .....0	1	2	3	4	5	

WMA NUMBER \_\_\_\_\_

WMA NUMBER_____	Did Not Hunt	Very Poor	Poor	Fair	Good	Very Good
a) Deer.....0	1	2	3	4	5	
b) Waterfowl.....0	1	2	3	4	5	
c) Wild Turkey .....0	1	2	3	4	5	
d) Small Game .....0	1	2	3	4	5	

4. If you hunted wild turkey on a WMA from **March 1, 2010 to February 28, 2011**, please indicate the extent to which you agree or disagree with each of the following statements about wild turkey hunting on WMAs. If you did not hunt wild turkey on a WMA during this time period, please skip to Question #5 on Page 4.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) If wild turkey hunting was not available on WMAs, I would not hunt wild turkey at all.....	1	2	3	4	5
b) Wild turkey hunting is more convenient for me on WMAs than on private lands .....	1	2	3	4	5
c) There are too many restrictions on wild turkey hunting on WMAs.....	1	2	3	4	5
d) MDWFP should increase the number of special youth only wild turkey hunts on WMAs.....	1	2	3	4	5
e) The number of special limited draw hunts for wild turkeys should be increased .....	1	2	3	4	5

## SURVEY OF MISSISSIPPI WILDLIFE MANAGEMENT AREA HUNTERS..... PAGE 4

5. If you hunted small game on a WMA from **March 1, 2010 to February 28, 2011**, please indicate the extent to which you agree or disagree with each of the following statements about small game hunting on WMAs. If you did not hunt small game on a WMA during this time period, please skip to Question #6 below.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) WMAs are the primary place I hunt small game.....1	2	3	4	5	
b) If WMAs did not have small game hunting available I would not hunt small game at all.....1	2	3	4	5	
c) Hunting dogs should not be allowed on WMAs for small game.....1	2	3	4	5	
d) The amount of small game on WMAs is decreasing.....1	2	3	4	5	

6. If you hunted white-tailed deer on a WMA from **March 1, 2010 to February 28, 2011**, please indicate the extent to which you agree or disagree with each of the following statements about white-tailed deer hunting on WMAs. If you did not hunt white-tailed deer on a WMA during this time period, please skip to Question #7 on Page 5.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Quality buck hunting is the main reason why I hunt deer on WMAs....1	2	3	4	5	
b) I am satisfied with my chances to harvest a quality buck on WMAs.....1	2	3	4	5	
c) I believe that WMAs provide as good a chance of harvesting a quality buck as private lands .....1	2	3	4	5	
d) MDWFP should increase the number of special youth only hunts for deer on WMAs .....1	2	3	4	5	
e) The number of limited draw hunts for deer hunting should be increased on WMAs .....1	2	3	4	5	
f) It is more important to have abundant deer of both sexes to harvest than to only have a few trophy bucks to harvest on WMAs .....1	2	3	4	5	
g) Management on WMAs puts too much emphasis on quality bucks .....1	2	3	4	5	
h) WMAs should have more restrictions on harvesting smaller bucks to increase the number of larger bucks available for harvest.....1	2	3	4	5	

## SURVEY OF MISSISSIPPI WILDLIFE MANAGEMENT AREA HUNTERS..... PAGE 5

7. If you hunted waterfowl on a WMA from **March 1, 2010 to February 28, 2011**, please indicate the extent to which you agree or disagree with each of the following statements about waterfowl hunting on WMAs. If you did not hunt waterfowl on a WMA during this time period, please skip to Section III below.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) If WMAs did not provide waterfowl hunting, I would not hunt waterfowl at all .....	1	2	3	4	5
b) WMAs provide unique waterfowl hunting opportunities not available on private lands.....	1	2	3	4	5
c) WMAs have more waterfowl than private lands .....	1	2	3	4	5
d) Habitat management activities for waterfowl are better on WMAs than those on private lands .....	1	2	3	4	5
e) WMAs are more convenient than private lands to hunt waterfowl.....	1	2	3	4	5
f) The cost of hunting on private lands is the main reason why I hunt waterfowl on WMAs .....	1	2	3	4	5
g) There are too many waterfowl hunters on WMAs.....	1	2	3	4	5
h) MDWFP should increase the number of special limited draw hunts for waterfowl on WMAs .....	1	2	3	4	5
i) MDWFP should expand special youth only hunts for waterfowl on WMAs .....	1	2	3	4	5

## SECTION III: GENERAL IMPRESSIONS AND ATTITUDES ABOUT WMAs AND PRIVATE LANDS

8. Compared to current levels of management, how intensively should WMAs you hunted be managed for each of the following species?

	Much Less	Less	Same	More	Much More
a) White-tailed deer .....	1	2	3	4	5
b) Waterfowl.....	1	2	3	4	5
c) Wild turkey.....	1	2	3	4	5
d) Small game .....	1	2	3	4	5



## SURVEY OF MISSISSIPPI WILDLIFE MANAGEMENT AREA HUNTERS..... PAGE 6

9. Please indicate the extent to which you agree or disagree with each of the following statements about hunting in general on both WMAs and private lands.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) Groups of hunters on WMAs claim large areas as their own .....	1	2	3	4	5
b) Territoriality of hunters is a problem on WMAs.....	1	2	3	4	5
c) Deer hunters should not be allowed to leave tree stands in place because this allows them to claim an area as their own .....	1	2	3	4	5
d) Hunting WMAs is more convenient than hunting on private lands.....	1	2	3	4	5
e) I would hunt WMAs more if they were closer to my residence .....	1	2	3	4	5
f) WMAs are convenient to hunt because the MDWFP takes care of food plots and other habitat management activities .....	1	2	3	4	5
g) I do not have access to free private land for hunting .....	1	2	3	4	5
h) The high cost of leasing private lands is the main reason why I hunt on WMAs .....	1	2	3	4	5
i) Finding and retaining private land to lease requires too much time and commitment.....	1	2	3	4	5
j) Planting and maintaining food plots on leased lands requires too much time and commitment .....	1	2	3	4	5
k) I do not hunt enough to justify spending money to lease private lands .....	1	2	3	4	5
l) There are no private land hunting leases available near my residence .....	1	2	3	4	5

### **SECTION IV. HUNTING ON PRIVATE LANDS: IF YOU DID NOT HUNT ON PRIVATE LANDS FROM MARCH 1, 2010 to FEBRUARY 28, 2011, PLEASE SKIP TO SECTION V ON PAGE 7.**

10. Did you lease any private lands for hunting from March 1, 2010 to February 28, 2011?

1 YES

2 NO

11. Please rank the quality of your hunting on private lands for each of the following species.

	Did Not Hunt	Very Poor	Poor	Fair	Good	Very Good
a) Deer .....	0	1	2	3	4	5
b) Waterfowl .....	0	1	2	3	4	5
c) Wild Turkey .....	0	1	2	3	4	5
d) Small Game .....	0	1	2	3	4	5

## SURVEY OF MISSISSIPPI WILDLIFE MANAGEMENT AREA HUNTERS..... PAGE 7

12. In terms of quality, please rate the WMAs you hunted compared to private lands you hunted from **March 1, 2010 to February 28, 2011** on the following attributes.

	Much Poorer	Poorer	Same	Better	Much Better
a) WMA Game abundance .....	1	2	3	4	5
b) WMA Habitat quality .....	1	2	3	4	5
c) WMA Food plots .....	1	2	3	4	5
d) WMA Internal access (e.g., woods roads and ATV trails) .....	1	2	3	4	5
e) WMA Hunter crowding .....	1	2	3	4	5
f) WMA Safety .....	1	2	3	4	5

### SECTION V: SOCIO-DEMOGRAPHICS

13. Over the past 5 years, how many years have you purchased a hunting and/or fishing license? *(Please circle only one number)*

1    2    3    4    5

14. What is the ZipCode of your current home residence? \_\_\_\_\_

15. What is your gender?      MALE              FEMALE

16. What is your age?      \_\_\_\_\_ YEARS

17. What is your highest level of completed education? *(Please circle only one number)*

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>	<u>21</u>	<u>22+</u>
ELEMENTARY								HIGH SCHOOL				COLLEGE				GRADUATE SCHOOL					

18. What is your annual household income before taxes? *(Please circle only one number)*

- |                        |                         |
|------------------------|-------------------------|
| 1. UNDER \$10,000      | 7. \$60,000 - \$69,999  |
| 2. \$10,000 - \$19,999 | 8. \$70,000 - \$79,999  |
| 3. \$20,000 - \$29,999 | 9. \$80,000 - \$89,999  |
| 4. \$30,000 - \$39,999 | 10. \$90,000 - \$99,999 |
| 5. \$40,000 - \$49,999 | 11. \$100,000 and ABOVE |
| 6. \$50,000 - \$59,999 |                         |

*Your contribution of time to this study is greatly appreciated. Please return your completed questionnaire in the postage paid business reply envelope as soon as possible. Thank You.*

# MISSISSIPPI STATE UNIVERSITY<sup>TM</sup>

