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2015 Georgia Wild Pig Survey

Final Report

Michael T Mengak, PhD, CWB©,
Professor-Wildlife Outreach Specialist,
Warnell School of Forestry and Natural Resources,
University of Georgia, Athens, GA 30602 USA
mmengak@uga.edu

Summary

Photo 1. Sounder of wild pigs

No matter what we call them, wild pigs can be very destructive to forests, farms, orchards, crops, timber plantations, and other landscapes. An eight-page questionnaire was developed during the fall of 2014 substantially following the 2012 Georgia Feral Swine questionnaire. Questions were revised or modified from the 2012 survey and additional questions were added to obtain information in areas not explored in 2012. For this study, I did not sample counties in the MSA's with a population exceeding 50,000 people. I purchased landowner names and addresses from Survey Sampling International (SSI, Shelton, CT). Names were sorted into two groups – farmers (registered with USDA NRCS or other government farm assistance programs) and rural landowners (hereafter = 'non-farmers'). Non-farmers were defined as rural landowners who owned $\geq$ 5 acres of land in non-MSA areas or MSA counties with a population less than 50,000. A total of 3,000 surveys were delivered to randomly selected recipients during February and March 2015 and 1,109 useable surveys were returned. This yielded a response rate of 37.8%.

Surveys were sent to residents in 95 counties in Georgia; responses were received from residents of 89 counties. The majority of all survey respondents were male (65.6%), older (mean age = 63.97 years; SD = 12.38 years), and have owned land in Georgia for an average of 28.2 years (SD = 16.7 years). Most respondents (81%) knew feral swine could be a problem for landowners but most (57.8%) believe feral swine are native or were unsure of their status. Feral swine occurred on property owned by 28.7% of the respondents and 63% reported that feral swine have caused damage to their land. Row crop production was the most often reported land use (31% of respondents). Nearly half (48.1%) of respondents reported that feral swine or feral swine damage has been occurring on their land for more than 5 years. Hay and pasture was the land use most often (43%) reported damaged followed by peanuts (37%). Rooting/grubbing (98%) and wallowing (58%) were the types of damage most often reported. Across the state, based on self-reported estimates of economic damage and acreage reported in this survey, feral swine caused 98.87 million dollars in crop damage and 51.74 million dollars in non-crop damage in 2014.

Three hundred eighteen respondents said wild pigs were present on their land. Thirty-five percent (n=114) of respondents who reported wild pigs on their land sought help from outside sources to address damage issues and 63% (n=72) felt these sources helped reduce the damage but 20% said it did not help with their wild pig damage. Thirty-eight percent of respondents felt the feral swine population was higher than last year while 52% and 53% felt it was higher than 3 years ago and 5 years ago, respectively. Lack of hunting pressure (54%) and natural causes (53%) were the reasons most often given for the increasing feral swine populations. Nearly 40% of respondents felt the laws for hunting feral swine on private land were "about right" but 38% were "unsure" of the laws and almost one-fifth

(18.5%) of respondents felt the laws were “too strict”. Sixty-nine percent (69.3%) of respondents agreed with the statement that it should be a felony to transport and release feral swine in Georgia. Trapping and opportunistic shooting (47% each) and still hunting (46%) were the most frequently reported lethal control measures employed by respondents when dealing with feral swine damage. Trapping and various hunting techniques were considered to be effective but harassment and fencing were not considered effective at controlling feral swine damage.

Respondents, by a large majority felt that state and federal agencies do not currently offer assistance with feral swine problems but these agencies should be offering assistance. For example, only 11% of respondents felt that Georgia Wildlife Resource Division currently offers assistance with feral swine problems but 54% of respondent felt they should offer assistance. Similarly, only 8% of respondents felt USDA/APHIS/Wildlife Services offers assistance but 45% felt they should offer assistance.

Finally, most respondents disagreed with positive statements about feral swine such as “I enjoy seeing feral swine around my property” and agreed with negative statements such as “Feral swine are a nuisance” and “Feral swine harm native plants and wildlife”.

Introduction

Feral swine (*Sus scrofa*) are not native to United States. Most authorities believe the Spanish first introduced them in the mid-1500's. Many feral swine present in our forests and fields today are descendants of farm animals turned loose from family farms during the Depression and early part of the 20th century. Other feral swine originated from animals intentionally released for stocking and hunting opportunities - a practice that is generally illegal throughout most of the South. Some stock was imported from Europe - so called "Russian Boars" or "Russian Wild Hogs" - in 1884 (Mayer and Brisban 1993). All pigs (or feral swine) are the same species and there is no biological difference between farm pigs, wild boars, wild pigs, feral swine, or feral hogs. Farm pigs will revert to the natural color, size, and attitude of "wild boars" within a few generations. They will be generically referred to as wild pigs or feral swine in this report.

No matter what we call them, free-ranging wild pigs can be very destructive to forests, farms, orchards, crops, and timber plantations. They can also be a challenging animal to hunt and are pursued by many big game hunters throughout the southeastern US. Wild pigs are reported to occur in at least 36 states (SCWDS 2014). In most cases, they cause significant financial and ecological damage. They carry important diseases that may be transmitted to hunters, domestic livestock and pets. In a recent study in the journal *Human-Wildlife Conflicts*, swine brucellosis was reported in up to 14% of animals tested with highest occurrence of infected animals in South Carolina, Alabama, and Hawaii (Hartin et al. 2007).

Physical descriptions of wild pigs and valuable information about their management, control, spread, ecology, and biology are available in recent publications. These are available from the Berryman Institute (www.berrymaninstiture.org/publications; Monograph No. 1 - Managing Wild Pigs: A Technical Guide); Mississippi State University Extension Service (http://msucares.com/pubs; Publication 2659 - A landowner's guide for wild pig management); Georgia Landowner's Guide to Wild Pig Management (www.georgiawildpigs.com); and the Warnell School Outreach Publication Library at the University of Georgia (http://www.warnell.uga.edu/outreach/pubs/wildlife.php).

Photo 2. Wild pig rooting damage to agriculture field in southwest Georgia.

While information is easily available on the biology and ecology of wild pigs, less is known about wild pig management, control, and their impacts to farms, agricultural producers, and landowners. Few studies are available on public attitudes towards wild pigs and their presence in the environment (Harper et al. 2016). The objectives of this project were to use a statistically valid and reliable survey methodology to (1) assess the extent of wild pig distribution in Georgia; (2) assess the damage (physical and economic) attributable to wild pigs in the state; and, (3) gather information on the opinions of landowners regarding the presence of wild pigs in the state.

Study Area

Georgia has the largest land area of any state east of the Mississippi River (57, 513 mi^2; https://www.census.gov/geo/reference/state-area.html). Georgia has a 2015 human population of 10.2 million ranking it 8th in total US population (http://www.census.gov/popest/data/state/totals/2015/index.html). The state is divided into 159 counties and 14 US Census Bureau, Metropolitan Statistical Areas (MSA's) (http://georgiainfo.galileo.usg.edu/topics/maps/articles/political). Large metropolitan areas include Atlanta, Augusta, Savannah, Columbus, Macon, and Athens (total 2014 population estimate in MSA's was 8.4 million (82.4% of state total population) and include all or parts of 52 counties. Georgia consists of over 25 million acres of forestland (Georgia Forestry Commission, 2015) and over 9.6 million acres of farmland (Georgia Farm Bureau, 2015).

Methods

Photo 3. Sounder of wild pigs caught in a simple to construct hog trap.

For this study, I did not sample counties in the MSA's with a population exceeding 50,000 people. I purchased landowner names and addresses from Survey Sampling International (SSI, Shelton, CT). Names were sorted into two groups – farmers (registered with USDA Natural Resource Conservation Service (NRCS) or other government farm assistance programs) and rural landowners (hereafter = 'non-farmers'). Non-farmers were defined as rural landowners who owned $\geq$ 5 acres of land in non-MSA areas or MSA counties with a population less than 50,000. There were 4,759 names on the farmer list and 19,312 names on the non-farmer list. A proportional random sample of 3,000 farmers and non-farmers was obtained from SSI (594 farmers and 2,406 non-farmers). The total sample of 3,000 names was arbitrarily determined by the funding available for this survey.

I developed an eight-page questionnaire during fall 2014 that was a modification of a recently conducted wild pig survey in Georgia (Mengak 2012). Questions were taken from similar wild pig surveys recently completed in Texas, Mississippi, Alabama, and Louisiana. In addition, questions were modified from a recent survey of Georgia residents regarding attitudes towards black bears in Georgia. All questions were modified (re-written or re-phrased) to apply to Georgia and to wild pigs. Experts in survey research also provided input in the survey design. These included Dr. Craig Miller, Senior Scientist, Illinois Natural History Survey and Dr. Gary Green, Professor, Warnell School-UGA. The University of Georgia Office of The Vice President for Research Institutional Review Board approved the final questionnaire (IRB Study #00001660; approved 5 January 2015). The final questionnaire is included in Appendix A of this report. In addition, an information letter (Appendix B) and list of frequently asked questions (FAQ - Appendix C) was developed and included in material sent out to all randomly chosen survey participants.

The first mail package consisted of: 1 - the questionnaire, 2 - the information letter, 3 - the FAQ sheet, and 4 - a postage paid pre-addressed return envelope. The first mailing of 3,000 survey packets

was sent from Athens, GA on 4 February 2015. Returned and undeliverable surveys were deleted from the list of addresses and reminder postcards were sent on 18 February 2015 (15 days). Another complete survey packet was mailed to each non-respondent on 4 March 2015 (15 days). Accounting for undeliverable surveys (due to bad address, deceased individuals, miscellaneous undeliverable reasons), 2,939 surveys were delivered.

A technician entered all survey data into an EXCEL spreadsheet and a second technician checked every entry for accuracy. Data analysis was conducted in both EXCEL and SPSS (IBM, Version 23, August 2015). Data analysis consisted of frequency histograms, counts, and percentage responses for qualitative and binomial (YES-NO) questions, and means (and standard deviation) for numerical data. Other analysis consisted of Person's Chi-square and One-way Analysis of Variance (ANOVA) models. Opinion questions were phrased in such a way that they could be answered using a 7-point Likert-type scale (Strongly Disagree, Disagree, Somewhat Disagree, Neutral, Somewhat Agree, Agree, Strongly Agree). Data are presented as frequency histograms, pie charts, tables or numeric responses (average and standard deviation). A response to each question or question cluster is discussed individually below and throughout the remainder of this report.

Results and Discussion

Background

Using statistics on Georgia agriculture from the Georgia Statistics Database – County Guide at the UGA College of Agriculture & Life Sciences (www.countyguide.uga.edu, 33rd edition – 2015), a background profile on the state of agriculture in the approximately 100 counties receiving surveys (Figure 1) was assembled. The most recent figures in the Georgia Statistics Database are from 2012. Georgia is divided into four districts by the UGA Cooperative Extension Service (http://extension.uga.edu/about/county/index.cfm) and each district consists of approximately 40 counties. Farms cover 9,620,836 acres of land in Georgia with 42,257 individual farms (http://www.gfb.org/aboutus/georgia_agriculture.html, accessed on 12 February 2016). Agriculture contributes over $72.5 billion to the state economy and the 2013 total Farm Gate value of all farm products was $13.6 billion. Most acreage is located in the southern half of the state (Table 1 and 2). Deleting counties in the MSA's with over 50,000 people resulted in total farmland acreage of 9,053,346 (94.24% of total farmland acreage). Most deleted acres were in the Northwest district, which included the Atlanta MSA and surrounding counties.

A total of 2,939 surveys were delivered to recipients and 1,109 useable surveys were returned. This yielded a response rate of 37.7%. Other surveys of this nature typically report response rates of 22-40%. Agee (UGA, MS Thesis 2008) used a similar self-administered mail survey sent to residents of middle Georgia counties regarding attitudes toward black bears and reported a response rate of 34.6%. Mingie (UGA, PhD Dissertation 2015) surveyed big game hunters in Georgia and reported a response rate of 24.4%. A total of 594 surveys were sent to recipients identified as farmers. Response rate from farmers was 42.26% (n=251). A total of 2,406 surveys were sent to recipients identified as non-farmers. Response rate from non-farmers was 35.7% (n=858).

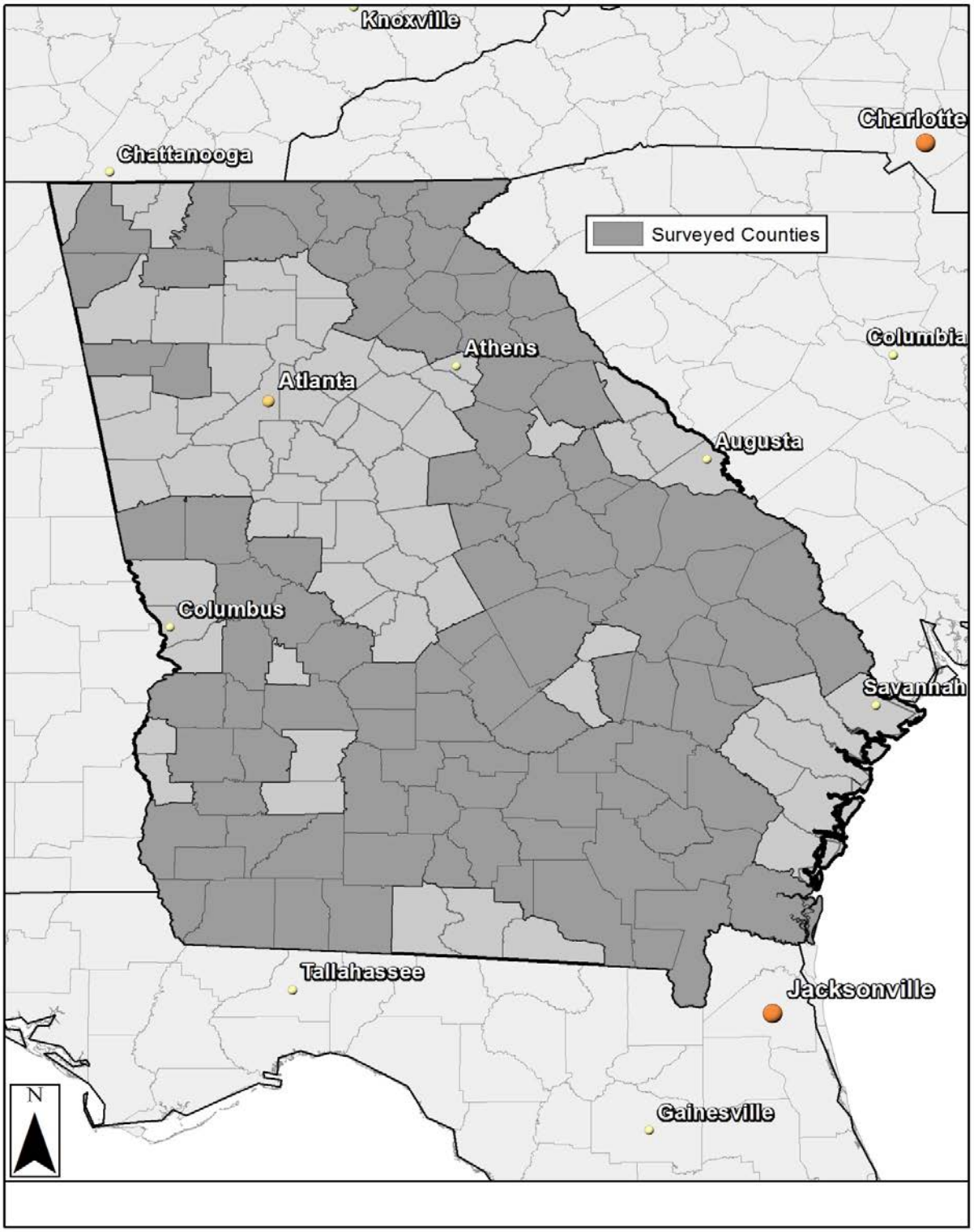

Figure 1. Counties (dark shading) in which recipients of the 2014 Georgia Feral Swine survey resided. A total of 3,000 surveys were distributed by mail. Counties did not receive equal numbers of surveys.

For this report, I assumed that presence of feral swine, damage from feral swine and methods of addressing damage are consistent across ownership categories. In other words, feral swine occur on all lands ownership types randomly and management activities taken to reduce damage are consistent across ownership types. Therefore, for all questions in Section I and III of the survey, I combined both ownership categories (farmer and non-farmer) in the analysis. For Section II, I analyzed the data by two categories. The first category included respondents with feral swine on their land. The second category included respondents who reported that they did not have feral swine on their land or that they were "Unsure" if feral swine were present on their land.

Table 1. List of metropolitan areas and metropolitan statistical areas in Georgia from US Census Bureau and counties with more than 50,000 human population deleted from land area calculations of farm area in Georgia for the 2015 Georgia Feral Swine Survey. (Source: U.S. Census Bureau, Metropolitan Statistical Areas (http://www.census.gov/population/metro/ ; Accessed 5 April 2016).

Metropolitan Areas	2015 Population Estimates	Counties Eliminated from farmland area calculations
Atlanta	5,710,795	Fulton, Gwinnett, Cobb, DeKalb, Clayton, Cherokee, Henry, Forsyth, Hall, Paulding, Douglas, Coweta, Carroll, Fayette, Bartow, Newton, Rockdale, Walton, Barrow, Spalding
Augusta	590,146	Richmond, Columbia
Savannah	379,199	Chatham, Effingham
Columbus	313,749	Muscogee
Macon	230,096	Bibb
Athens	203,189	Clarke
Gainesville	193,535	Hall
Warner Robbins	188,149	Houston
Albany	153,526	Dougherty
Dalton	143,781	Whitfield
Valdosta	142,875	Lowndes
Brunswick	116,003	Glynn
Rome	96,504	Floyd
Hinesville-Fort Stewart	80,198	Liberty

Table 2. Distribution of farmland acreage among the four Cooperative Extension Service districts in Georgia in 2015.

District	Acres in Farmland	Farm acreage included in this survey	Percent Included
Northeast	1,468,833	1,380,950	94.02
Northwest	1,253,893	1,019,980	81.35
Southeast	2,803,890	2,749,799	98.07
Southwest	4,080,422	3,902,617	95.64

Demographics and General Information about Survey Respondents (Section III)

Demographic questions were included in Section III of the survey. There were 1,109 useable surveys. Males made up 65.6% of respondents while females made up 29.2% and 5.2% of respondents did not answer the GENDER question. The average age of all respondents (n=1,040) was 63.97 years. Average age by gender was 63.8 years (SD=12.46 years) for males and 64.3 years (SD=12.08 years) for females (F=0.207, P=0.813). Respondents (n=1,051) have lived in Georgia for an average of 53.34 years (SD=19.67 years; Figure 2). Respondents (n=1,045) reported living on their land for an average of 28.2 years (SD=16.72 years; Figure 3).

On two general knowledge questions, 81.1% (n=899) of respondents reported that they knew feral swine could be a problem for landowners while 14.2% (n=158) reported not knowing feral swine could be a problem and 4.7% (n=52) did not respond to this question.

On the question “Are feral swine considered native wildlife in Georgia or a non-native species”, 17.1% (n=190) responded “native”, 36.3% (n=403) responded “non-native”, 40.7% (n = 451) are “unsure” and 5.9% (n=65) did not answer this question.

When asked, “In the past 2 years, have you attended any type of feral swine education event or program in Georgia”, 92.6% (n=1027) responded “no”, 2.5% (n=28) responded “yes”, and 4.9% (n=54) did not respond. When asked, “Are you a non-agricultural landowner such as forester, consulting forester, wildlife biologist, real estate agent, etc.”, 72.0% (n=799) responded “no”, 21.8% (n=242) responded “yes”, and 6.2% (n=68) did not respond.

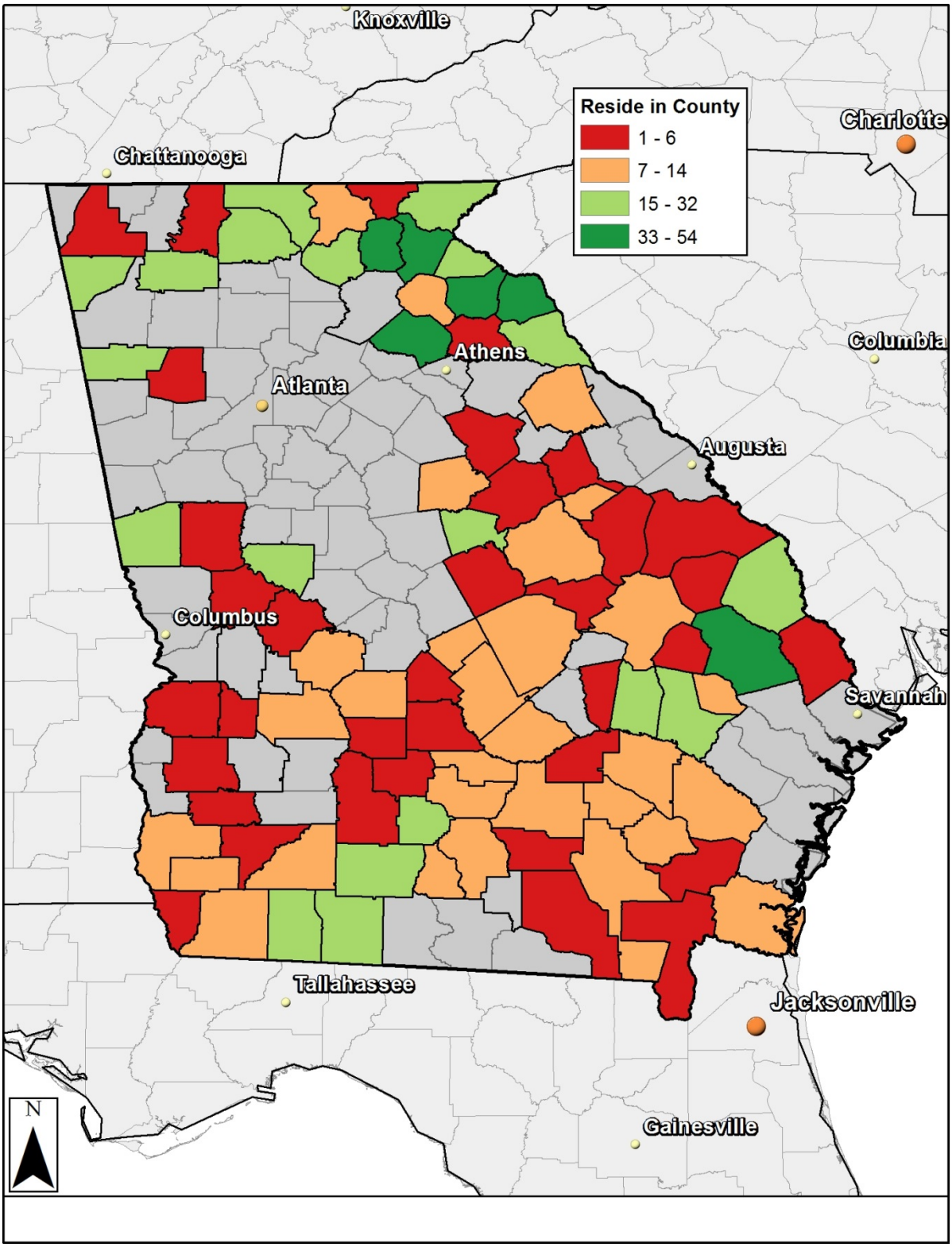

Figure 2. Counties in which respondents to the 2014 Georgia Feral Swine survey reside. The numbers in the legend box correspond to the number of respondents from each county. A total of 1,110 responses were received for this survey.

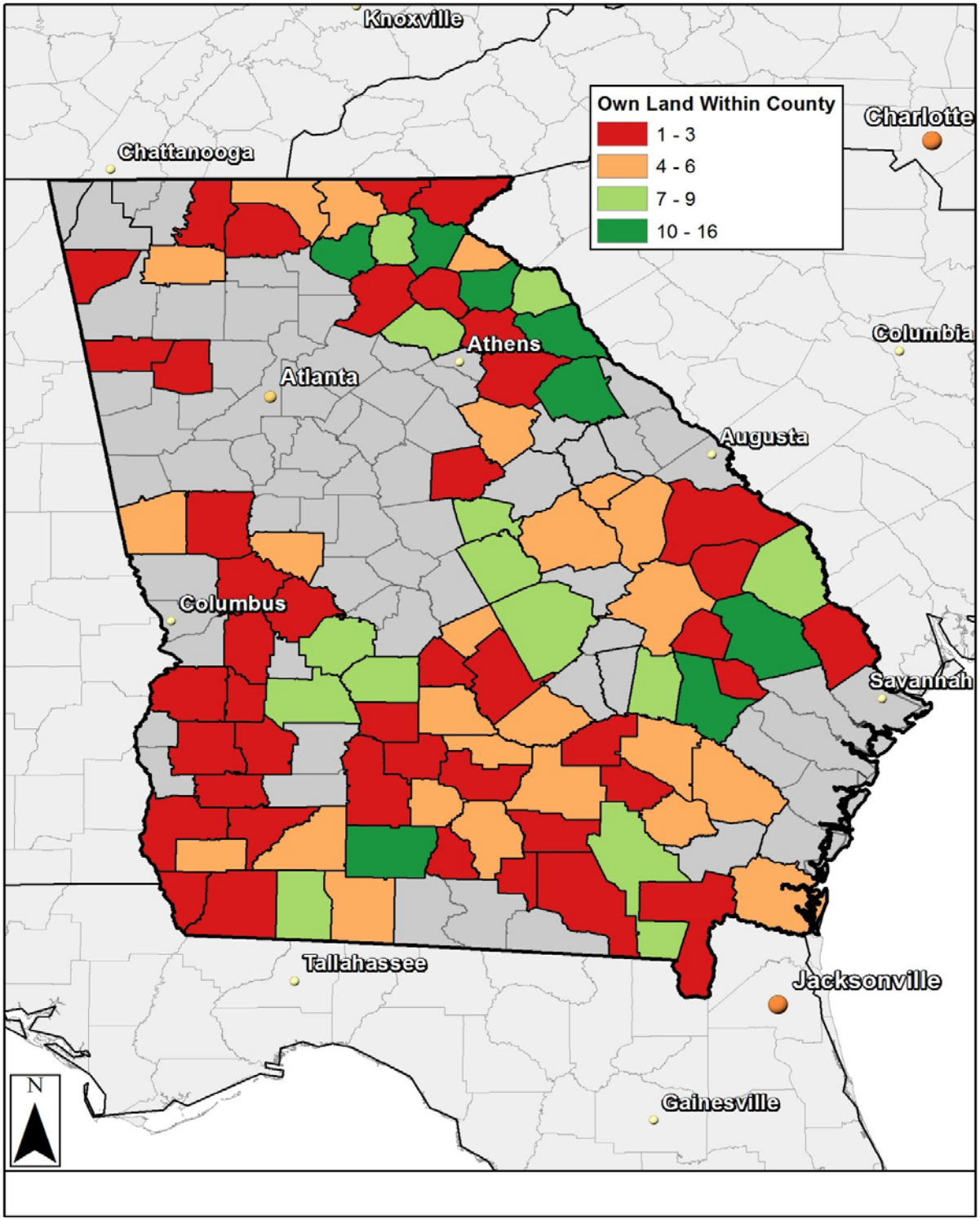

Figure 3. Counties where respondents to the 2014 Georgia Feral Swine survey reported owning, leasing or renting land. The numbers in the legend box correspond to the number of parcels of land in each county that are included in the survey. A total of 388 parcels were included in the survey.

Distribution and Impact of Feral Swine across the state of Georgia (Section I)

I combined all surveys regardless of whether the respondent was a "farmer" (i.e., agricultural producer) or "non-farmer" (i.e., rural landowner).

Question 1: Are feral swine present on your land? (Please circle one)

Feral swine occurred on property owned by 28.7% of the respondents (n=318) while 2.5% of respondents left this question blank (Figure 4).

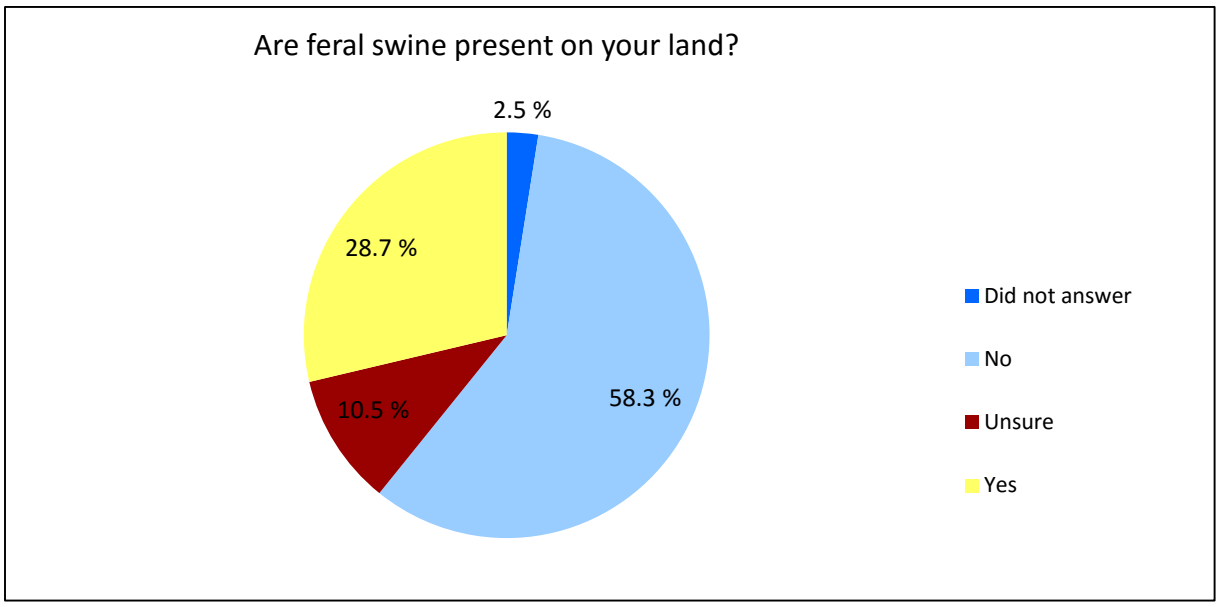

Figure 4. Prevalence of feral swine on private property as reported by rural landowners responding to the Georgia 2015 Feral Swine survey. Survey administered between 4 February 2015 and 4 March 2015 to rural landowners in Georgia, USA. Responses based on 1,110 useable surveys returned.

If respondents responded "YES" to Question 1, they were asked to continue with the survey. Otherwise, they were instructed to skip ahead to Question 23. Only 318 people reported that feral swine were present on their land so there should be a maximum of 318 responses to most of the remaining questions. However, this was not the case as many survey respondents ignored or did not fully understand the instructions to skip ahead to Question 23. Therefore, many questions will have a sample size greater than 318. I counted all responses without regard to the response to Question #1.

Question 1a asked respondents if they hunted or shot feral swine on their land while Question 1b asked if respondents allowed others to hunt or shoot feral swine on their land. I received 388 responses to Q1a and 55.9% (n=217) of respondents hunt or shoot feral swine on their land. I received 382

responses to Q1b and 61.4% (n=234) of respondents allow others to hunt or shoot feral swine on their land.

Question 2: Have feral swine ever caused any type of damage to your land?

There were 459 responses to this question and 62.7% (n=288) of respondents reported feral swine damage to their land.

Question 3: List the **county** in Georgia in which you own/lease/rent land and indicate the number of acres you own/lease/rent.

In this question, respondents had the opportunity to report the county and acreage of land they controlled, farmed, managed, or on which they resided. Respondents could fill in as many parcels and counties as they wanted. For this question, 388 respondents indicated a county where they own/lease/rent land; 106 respondents reported a second county; 33 respondents reported a third county. Respondents were instructed to choose the largest parcel they owned, leased, or rented and to confine further survey responses to that single parcel.

Table 3. County of ownership reported by 388 respondents (respondents owned, leased, or rented land) to the 2015 Georgia feral swine self-administered mail questionnaire conducted between 4 February 2015 and 4 March 2015 for rural landowners in Georgia, USA.

County of Ownership	Number of respondents who own/lease/rent	Total acreage reported for this county
Appling	5	1,472.0
Atkinson	2	620.0
Bacon	2	1,553.0
Baker	1	1,000.0
Baldwin	7	522.0
Banks	1	8.0
Ben Hill	5	2,732.0
Berrien	5	5,371.0
Bleckley	4	3,686.6
Bullock	12	5,282.0
Burke	2	3,150.0
Calhoun	3	1,025.0
Camden	5	64.0
Chandler	1	400.0
Charlton	2	130.0
Chattooga	1	800.0
Clinch	1	9,600.0
Coffee	4	2,265.0
Colquitt	10	4,352.0

Table 3. Continued.

Cook	2	380.0
Crisp	2	420.0
Decatur	1	700.0
Dodge	3	4,800.0
Dooly	8	13,680.0
Early	2	4,550.0
Effingham	1	450.0
Elbert	12	1,500.7
Emanuel	4	2,889.5
Evans	2	976.0
Fannin	4	53.1
Franklin	16	2,551.5
Gilmer	3	91.1
Glascock	4	1,850.0
Gordon	5	1,191.5
Grady	7	4,458.5
Greene	6	1,567.0
Habersham	11	418.7
Hall	1	160.0
Hart	9	652.0
Irwin	3	520.0
Jackson	8	464.0
Jeff Davis	1	523.0
Jefferson	4	2,850.0
Jenkins	2	3,150.0
Lanier	1	0.0
Laurens	7	2,492.0
Lumpkin	10	809.8
Macon	8	7,726.0
Madison	1	300.0
Marion	1	200.0
Meriwether	1	195.0
Miller	6	7,530.0
Mitchell	5	2,210.0
Murray	1	15.0
Oglethorpe	2	1,999.0
Paulding	1	300.0
Pierce	6	1,349.0
Polk	1	26.0
Pulaski	1	370.0

Table 3. Continued

Putnam	2	161.0
Rabun	3	287.0
Randolph	3	5,100.0
Screven	9	5,916.0
Seminole	1	3,500.0
Stephens	5	234.0
Stewart	1	202.0
Sumter	7	13,769.0
Talbot	2	3,793.5
Tattnall	11	10,934.0
Taylor	2	375.0
Telfair	6	2,870.0
Terrell	1	1,400.0
Thomas	6	4,806.0
Tift	4	166.8
Toombs	9	3,886.0
Towns	1	5.0
Troup	4	111.5
Turner	1	500.0
Union	6	284.0
Upson	6	852.0
Ware	7	2,921.0
Washington	6	4,130.0
Wayne	4	3,680.0
Webster	2	560.0
White	7	805.6
Wilcox	6	5,765.9
Wilkes	10	4,634.0
Wilkinson	7	862.3
Worth	3	1,182.5
Total	374[1]	204,095.3

[1] A total of 388 respondents listed a county where they own/lease/rent land but only 374 reported acreage values.

Question 4: From Question #3, pick the LARGEST parcel you own/lease/rent. What is the **Primary** use for this land?

For this question, respondents were asked to select a single, primary use for the largest parcel they reported to own/lease/rent in Question 3. There were a total of 464 answers to this question from

382 individual respondents. The most frequently selected land use was row crop production followed by "other" (Figure 5). A total of 117 respondents reported that row crops production was the primary use and 82 listed a crop. Peanuts was the most often named crop (28 respondents listed peanuts) followed by corn (listed by 22 respondents) and cotton (listed by 19 respondents). Other crop uses include blueberries (n=1), soybeans (n=3), vegetables (n=1), wheat (n=2). In the category 'livestock production', cattle were listed by 55 for the 61 respondents. Other livestock included chicken, hogs, horses, and sheep (listed once each).

Of 81 respondents who selected "other" as the primary use, home or residence was listed by 39 (48%), 15 listed hay production or pasture as the "other" use (18.5%), pecan orchard was list by 5 respondents, no current use listed by 4, blueberry production listed by 3. Other listed uses include beef cattle (n=1), dairy farm (n=1), garden site (n=2), timber production (n=2), horses (n=2), rental cabins on site (n=1), and hunting property (n=2).

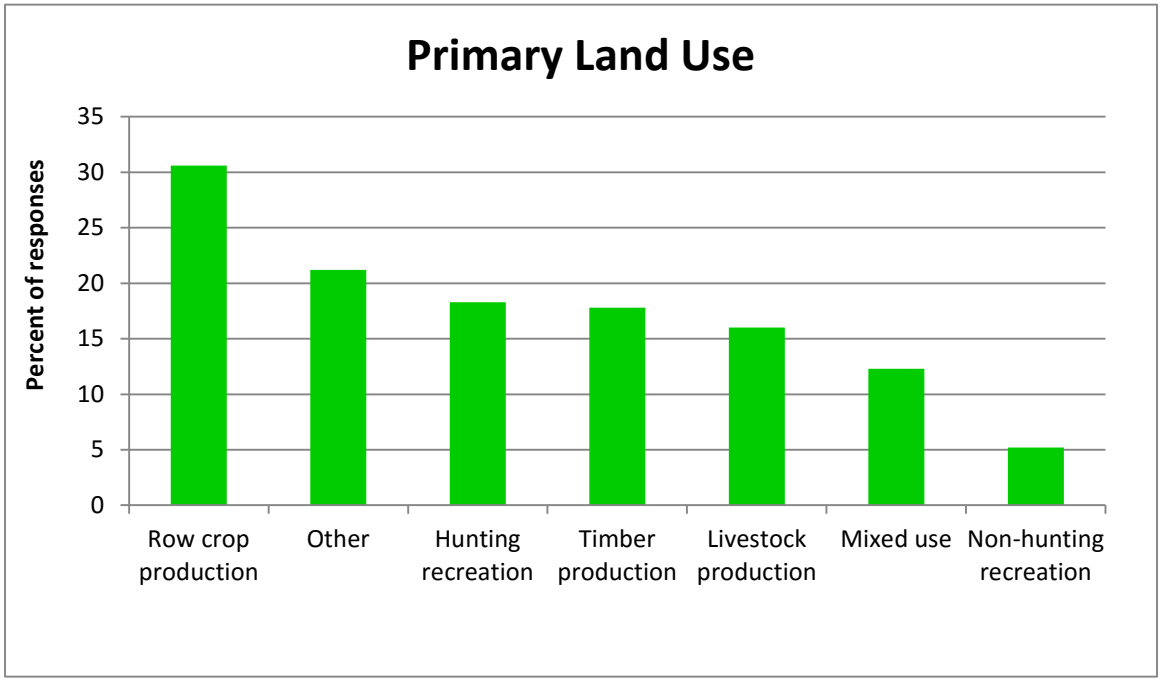

Figure 5. Primary land use (%) reported by respondents (n=382) to the 2015 feral swine survey conducted between 4 February 2015 and 4 March 2015 in Georgia, USA

Question 5: When did you first notice feral swine or damage related to feral swine on this property?

There were 324 responses to this question with 48.1% (n=156) of respondents reporting that feral swine or feral swine damage has been present for more than 5 years and only 5.9% (n=19) respondents stated that 2014 was the first year they notice feral swine or feral swine damage (Figure 6). Similar to the 2012 Georgia Wild Pig Survey, the current year was the least frequently chosen response while "more than 5 years ago" was the most frequently chosen. In 2012, respondents indicated that feral swine have been a problem since prior to 2007. The current survey confirms that feral swine remain a

serious pest and with 6% of respondents reporting 2014 as the first year for swine or damage, this suggests the problem is expanding across the state.

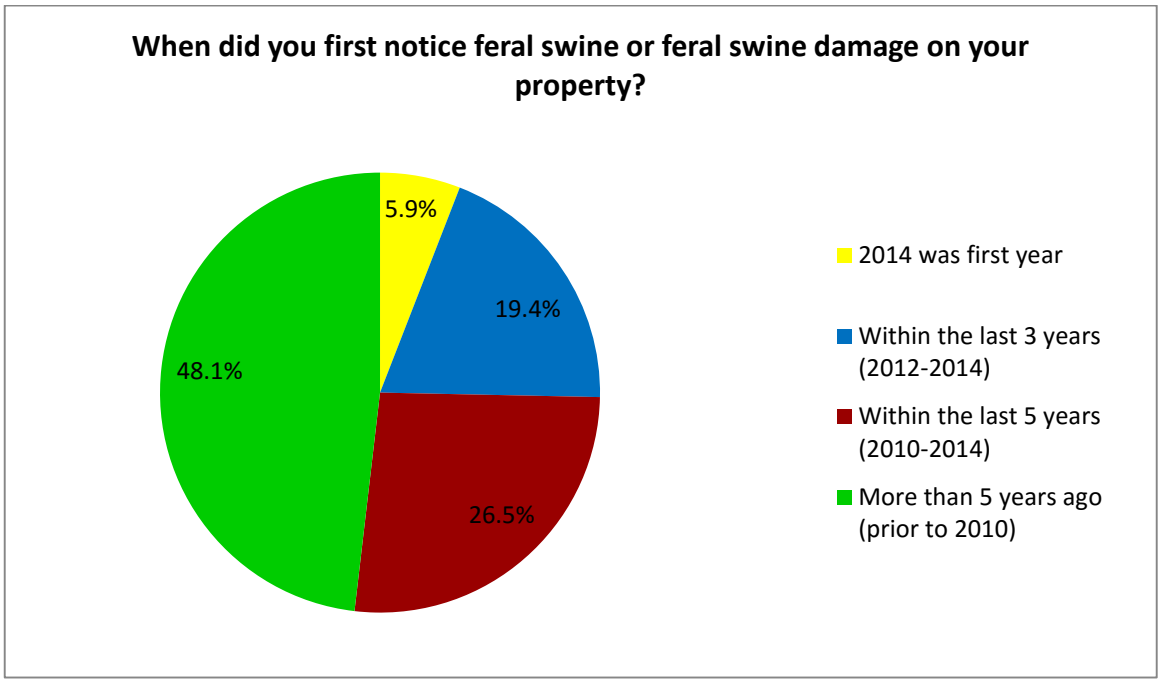

Figure 6. Reported time when feral swine or evidence of their presence was first noticed by respondents to the 2015 feral swine assessment survey administered between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

Question 6. During 2014, which of the following were damaged by feral swine? (Please select ALL that apply).

Respondents were asked to indicate the type or types of damage they suffered from a list of damage events. The two most frequently selected types of damage were damage to non-timber cash crops and damage to food plots (Table 4). Responses to the choice "other" included damage to roads (n=8), rooting in forest (n=5), personal injury to human or domestic stock (n=4), damage to deer feeders (n=2), and answers unable to be classified or "none" (n=13).

Q6a. From the list in question 6, please tell us the ONE type of damage that was most important to you.

There were 288 individual responses to this open-ended question but I did not attempt to categorize or summarize the responses. A cursory examination of the responses suggests frustration with feral swine damage to a wide variety of items including row crops, landscape, general rooting, damage to timber or forest soils, erosion, creation of wallows, and a range of other responses.

Q6b. The type of damage caused by feral swine is viewed differently by landowners. How do you define importance?

There were 270 responses to this question. The most frequently selected response was "Cost me money" (n=155; 57.4%) followed by "Changed appearance of my land in a bad way" (n=91; 33.7%), and "Had a negative impact on how I use my land" (n=88; 32.6%). Fifty-four respondents selected "other". I did not attempt to categorize or summarize the responses but a cursory examination of the responses suggests that feral swine changed the appearance of the land through the actions of rooting and caused a general nuisance to gardens, food plots, fences, roads and similar items.

Table 4. Damage reported by respondents to the Georgia Feral Swine impact assessment survey conducted between 4 February and 4 March 2015 by mail questionnaire sent to 3,000 residents across Georgia. Useable surveys were received from 1,110 respondents of which 318 respondents reported feral swine occurrence on their land and 288 reported damage from feral swine. Responses exceed 100% because multiple answers were possible.

Type of Damage	Response Count	Response Percent
Damage to non-timber cash crop	136	44.3
Damage to food plots	130	42.3
Damage to pastures	119	38.8
Damage to streams or ponds	84	27.4
Damage to landscapes or yards	70	22.8
Damage to timber	70	22.8
Damage to fences	40	13.0
Damage to equipment	8	2.6
Damage to stored commodities	3	1.0
Other types of damage not listed above	32	10.4
Total number of responses to this question	307	

Question 7. Please tell us the crops you grow or produce that were damage by feral swine. (Please select all that apply)

There were 272 responses to this question. Hay fields/pastures were the primary crop reported damaged by feral swine followed by peanuts, corn and timber (Figure 7). Crops reported by more than 5% of respondents are shown in Figure 7. Minor crops also reported damaged by feral swine include watermelon (n=13; 4.8%), blueberry/blackberry (n=9; 3.3%), fruit trees (n=7; 2.6%), landscape/yards (n=7; 2.6%), pecans (n=7; 2.6%), sunflowers (n=2; 0.7%), mushrooms (n=1; 0.4%), and reefer (n=1; 0.4%).

Crops reported damaged in this survey did not differ substantially from the 2012 Georgia Feral Swine survey. Peanuts (74.9% reporting damage) were the most frequently damaged crop in 2012 followed by corn (54.6%), cotton (36.9%), and timber (30.5%). Differences between the two surveys may be due to the geographic area covered by each survey. The 2012 survey covered only southwest Georgia while the 2015 survey was statewide. In the 2015 survey, hay fields/pastures were reported damaged in all 4 Cooperative Extension Districts across the state while peanut, corn, and cotton damage was largely confined to the SE and SW cooperative extension districts as expected.

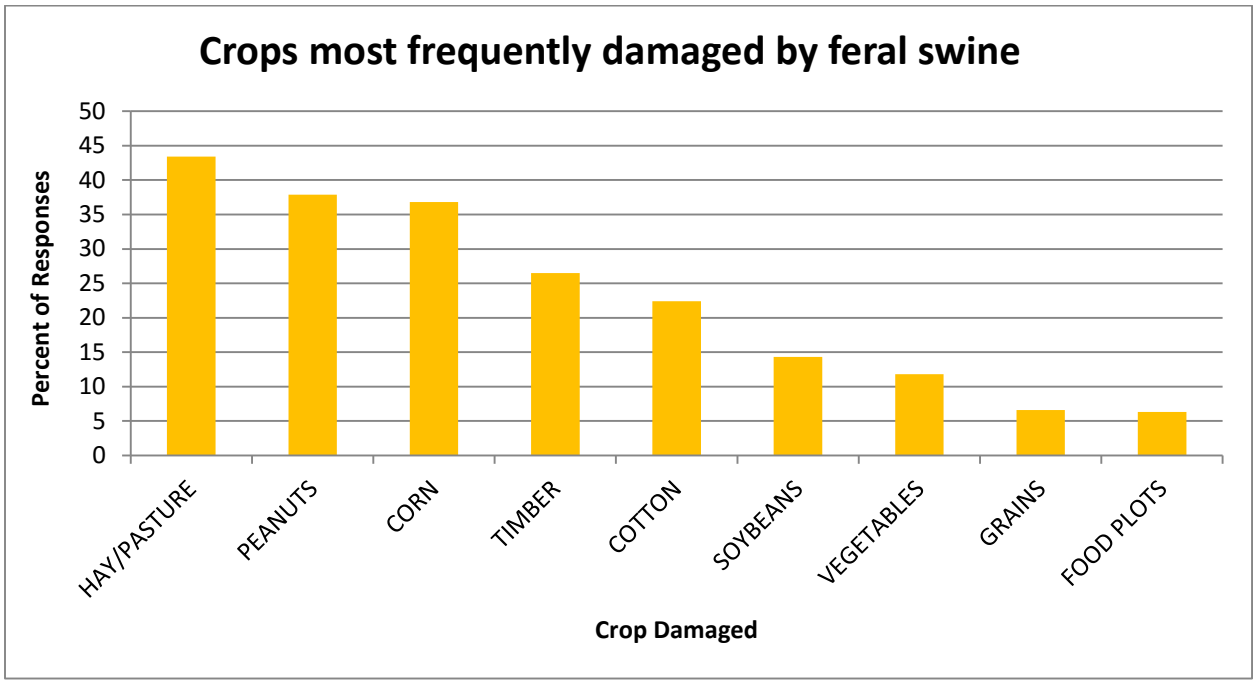

Figure 7. Crops reported to be most often damaged by feral swine based on 272 responses to the 2015 Georgia Feral Swine survey. Only crops reported by at least 5% of respondents are listed here, see text for additional crops reported damaged by feral swine.

Question 8. During 2014, what type of damage did you have? (Please select all that apply)

Not all survey respondents were farmers so this question was intended to examine damage from feral swine in a more general sense. It asked the type of damage rather than the specific crop receiving the damage. There were 297 responses to this question. Rooting (or grubbing) and wallowing were the most frequently reported type of damage (Figure 8). Minor (reported by less than 5% of respondents) include damage to irrigation equipment or pipes (n=8, 2.7%), injury to livestock (n=5, 1.7%), disease transfer to domestic pigs (n=5, 1.7%), injury to pets (n=4, 1.3%). In the category "other", damage reported included decreased hunting opportunities or wildlife habitat destruction (n=4), damage to food plots (n=2), damage to crops (n=2), damage to deer feeders (n=1), damage to pine straw production (n=1), and odor (n=1).

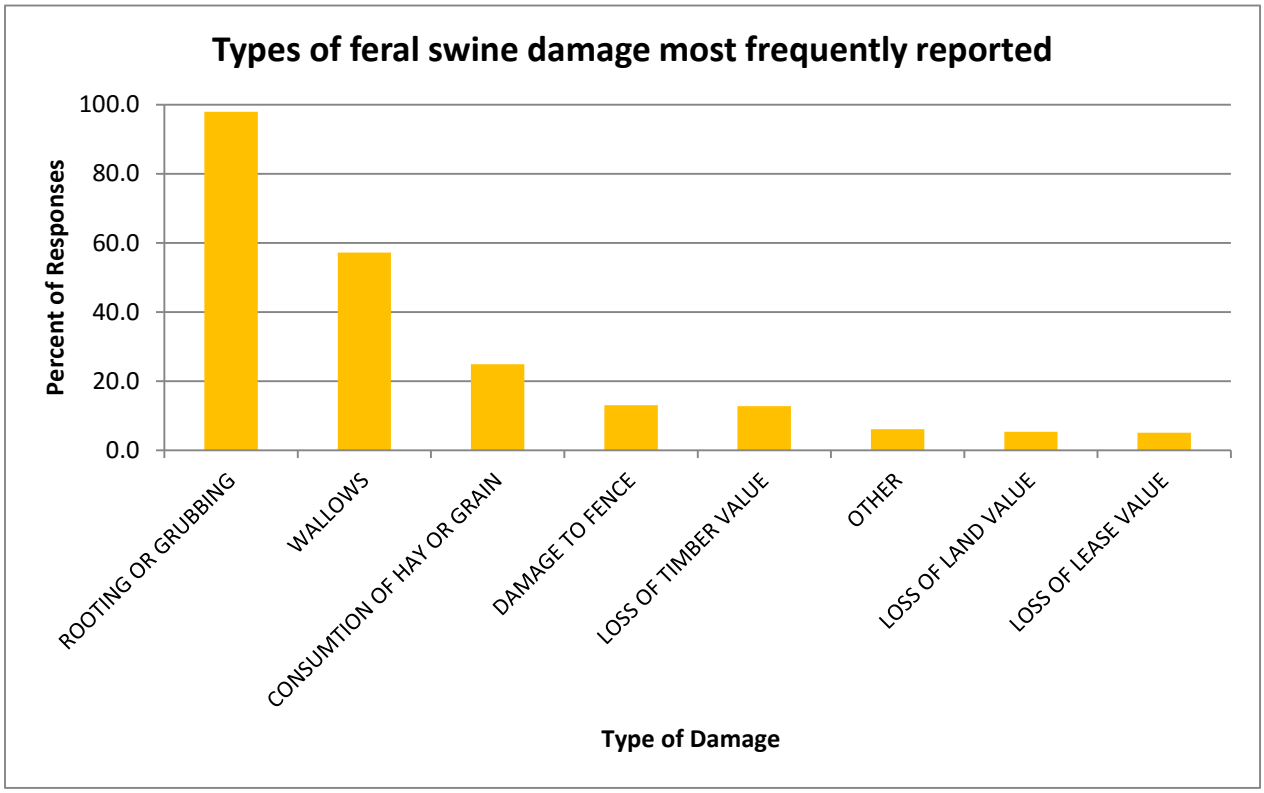

Figure 8. Types of damage most frequently reported due to feral swine based on 297 responses to the 2015 Georgia Feral Swine survey. Only damage categories reported by at least 5% of respondents are listed here, see text for additional damage reported by survey respondents.

Question 9. Estimates of financial damage due to feral swine.

Question 9a: Please estimate your losses to crops and/or crop related damage (i.e., equipment damage, etc.) by feral swine during the past year.

Question 9b: Please estimate your losses to items other than crops (ie., timber, food plots, lease values, etc.) caused by feral swine during the past year.

For this analysis and summary, I summed the dollars of damage reported by all respondents and summed the acreage reported by the respondents. If a dollar amount or an acreage amount was not reported, the information was not used in this calculation. All responses were summarized by UGA Cooperative Extension District. A caveat is necessary. The number of acres used in these calculations is the number of acres reported in Question 3. This is the total acreage a respondent owns/leases/rents and not the acreage actually damaged. I did not ask respondents to separate damaged acreage from total acreage thus I assumed damage occurred equally on all acres. This will result in a very conservative

estimate of monetary damage. For example, if a landowner owns 200 acres and reported $600 in damage the estimate of damage is $3.00 per acre. However, if only 50 acres were actually damaged, the estimate of damage would have been $12 per acre. At the present time, there is no generally accepted method to parse damaged acres from total acres owned. Two additional assumptions common to surveys like the one reported here is to assume the landowner/producer can make an accurate estimate of the damage incurred and can accurately assign that damage to wild pigs and not other ungulates. These assumptions should be tested in future research.

For crop damage estimates, there were only two data points from all the responses from the Northwest District so I combined the Northwest and Northeast District results. For non-crop estimates, there were only four data points from all the responses from the Northwest District so I combined the Northwest and Northeast District results. A total of 132 useable responses were used in this analysis. The Southwest District has the largest amount of farmland acreage (See Table 2; 2012 data; www.countyguides.uga.edu) and the highest dollar estimate of crop damage (Table 5). The calculated average dollar amount lost per acre was applied to the number in Column 3, Table 2 to arrive at the total dollar loss for the district. Similar calculations were completed for the reported average dollar amount lost per acre for non-crop items (Table 6). Based on dollar losses reported in this survey, the estimated loss in 2014 due to feral swine is $ 98.87 million to crops and $ 51.74 million to non-crop property. The combined estimated economic impact by feral swine to farms and farm related property exceeds 150.61 million dollars in Georgia.

Table 5. Total economic cost in crop loss and crop related damage based on self-reported estimates from respondents to the 2015 feral swine assessment survey administered between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

District	Dollars of crop damage reported in this District	Number of Responses	Average dollar loss per acre of farmland	Total estimated crop loss
Northeast	$ 44,100	24	---	----
Northwest	$ 600	2	---	----
Combined NE & NW	$ 44,700	26	$ 11.53	$ 27,682,722
Southeast	$ 371,450	55	$ 11.98	$ 32,942,592
Southwest	$ 478,800	51	$ 9.80	$ 38,245,646
Total				$ 98,870,961

Table 6. Total economic cost in non-crop damage based on self-reported estimates from respondents to the 2015 feral swine assessment survey administered between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

District	Dollars of non-crop damage reported in this District	Number of Responses	Average dollar loss per acre of farmland	Total estimated non-crop losses
Northeast	$ 28,000	22	---	----
Northwest	$ 6,350	4	---	----
Combined NE & NW	$ 34,350	26	$ 8.24	$ 19,783,663
Southeast	$ 149,460	42	$ 6.47	$ 17,791,200
Southwest	$ 99,000	34	$ 3.63	$ 14,166,500
Total				$ 51,741,363

These figures may be conservative or excessive. Accuracy depends on the skill, ability, and honesty of the survey respondent to self-report losses. Damage from wild pigs takes many forms. One survey respondent reported that a sounder of pigs might damage 2-5 acres in a 100-acre peanut field. The damage may be scattered across the entire field. Losses thus take the form of lost harvest and also wasted fertilizer, irrigation water, tractor time, and operator time as well as additional seed. Such losses are subtle and not easy to quantify across the entire state. However, such losses are very real and perhaps significant to an individual. As is often the case with wildlife damage, a small percentage of producers may bear the majority of the damage. Everyone does not equally share damage.

To the extent that damage is scattered among producers and diffuse across the landscape, the figures reported here might be conservative. The caveat is this is a crude estimate of damage as reported by survey respondents. Further refinement of these figures will require additional research that may need to be site specific rather than region-wide. However, the figures give an approximate starting point for future discussion around the overall negative financial impacts of feral swine.

An alternative argument could be that the figure reported here ($150.61 million) is an over-estimate. If the damage estimate reported here is only one-half the actual amount then the losses are still very substantial. If double the actual amount, the financial impact is vast. There can be no doubt that the ecological impacts and financial losses attributable to wild pigs are significant. Estimates of damage to wildlife and to ecological services (clean water, erosion, etc.) are not included in these figures. A recent news story from Oklahoma (http://www.newson6.com/story/31988137/ok-wildlife-commissioner-feral-hog-bill-wildlife-law-enforcement-nightmare) by Tess Maune (posted May 16, 2016) reported an estimated 1.6 million “feral” hogs in Oklahoma that “cause more than a billion dollars damages [SIC] each year”.

Question 10. Because of damage you expected to receive from feral swine, did you avoid planting one crop (which would receive high damage and plat a crop of lower value?

Question 10a. If you answered "YES" to question #10, what crop (or crops) did you avoid planting because you expected feral swine damage?

Question 10b. If you answered "YES" to question #10, which crop did you plant instead?

Question 10c. How much money do you estimate that you LOST because feral swine caused you to plant a lower value crop? This is the difference between the dollars you would have earned if you planted the higher value crop compared to the dollars you earned from planting the lower value crop.

There were 281 responses to Q10. Of the 281 responses, 198 respondents (70.5%) stated that they did not plant a crop of lower value, while 65 respondents (23.1%) said YES and 18 respondents (6.4%) were unsure. Respondents had the opportunity (Q10a) to list one or more crops they avoided planting. Of the crops listed, peanut or peanuts in combination with other crops was listed by 31 respondents (47.7%), corn or corn in combination with other crops was listed by 19 respondents (29.2%). Other crops listed include alfalfa, chufa, clover, soybeans, sunflowers, vegetables, and wheat. The most common responses to Q10b included cotton or cotton in combination with other crops (n=32; 49.2%), nothing planted (n=10; 15.4%), and then numerous crops or combinations. There were 34 responses to Question 10c. While the sample size was very small, respondents reported a mean dollar value lost (because they planted a lower value crop) of $14,416.91 per respondent (SE = $3,443.16, Range = $25 - $100,000).

Q11. Did you take any action to correct the problem?

Of 281 answers to this question, 85 respondents (30.2%) said "NO" while 196 respondents (69.8%) answered affirmatively.

Q12. When you have had damage, did you seek outside help?

If YES, please tell us who you contacted. (Please select all that apply)

____ Cooperative Extension Service
____ Georgia Forestry Commission
____ Georgia Wildlife Resources Division
____ Private hog control company
____ USDA Wildlife Services
____ Other (Please list) _____

Of 318 respondents who said wild pigs were present on their land, 114 (35.5%) said they sought outside help (Q12) and 152 respondents (47.7%) said they did not seek outside help. Of those 114 respondents seeking outside help, the most frequent source for help was "other" (n=79) and the second most frequent response was to use a private hog control company (n=61 respondents; Figure 9). Of the 79 respondents selecting "other", 59 listed some form of "hunting" as the method used, followed by family or neighbors trapping feral swine (n=8). Hunting generally included the landowner, family, neighbors, and/or friends.

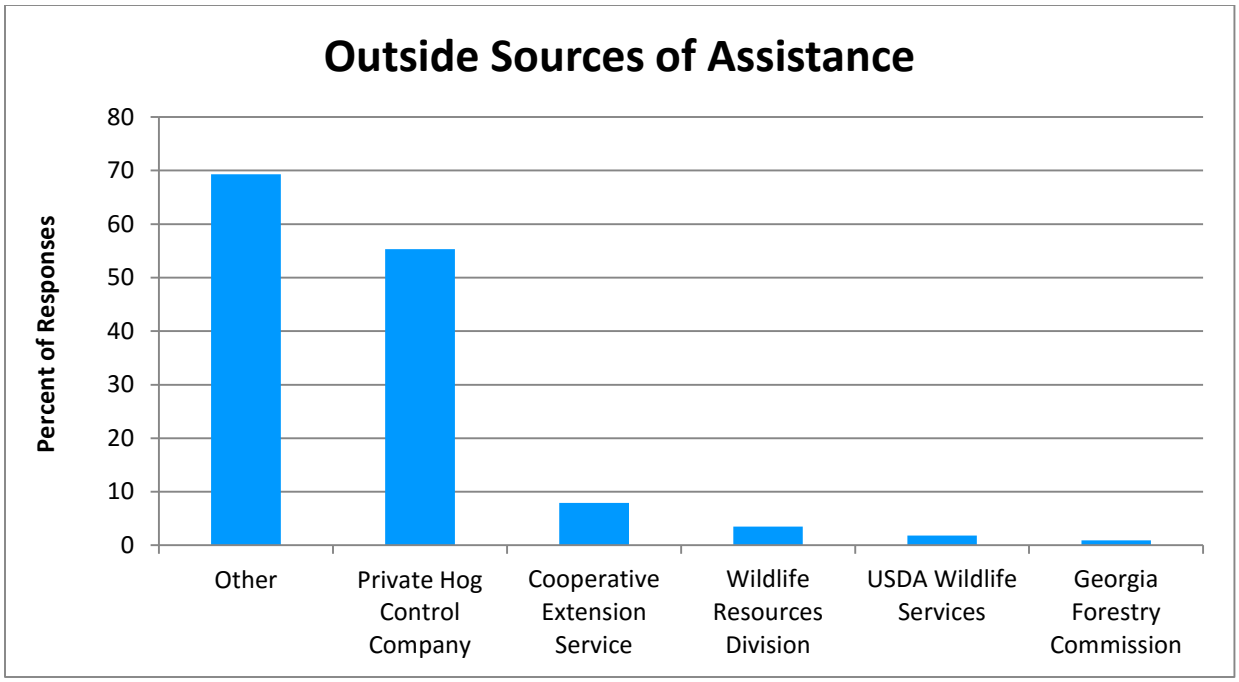

Figure 9. Sources of feral swine control assistance used by survey respondents who reported seeking outside help to solve feral swine damage issues as reported in the 2014 Georgia feral swine survey. Total responses are greater than 100% because multiple answers were possible.

12a. Did this outside help reduce the damage?

There were 114 answers to this sub-question. Generally, respondents felt outside help did reduce damage (n=72; 63.2%) but 20% (n=22) said it did not reduce damage and 14% (n=16) were unsure of the outcomes.

12b. Would you seek outside help again from this source?

Of 114 respondents who sought outside help (question 12), 90.3% (n=103) reported that they would seek help from the same source, four said “no” and five were “unsure”.

12c. Would you seek help form another source?

Of 114 respondents who sought outside help (question 12), 63.2% (n=72) reported that they would return to the same source for assistance while nine said they would not use the same source and 29 were unsure.

Q13. Considering the current population of feral swine on land you own, lease or rent – how has the population changed in the following time spans (Please circle one answer in each row).

Respondents were asked to select one choice from "Lower", "Same", "Higher" or "Unsure" for each of three time steps – last year (2014), 3 years ago (2012), or 5 years ago (2010). Thirty-eight percent of respondents (n=292) felt the feral swine population was 'higher' than last year (2014) while 51.8% and 53.4% felt the population was 'higher' than 3 years ago and 5 years ago, respectively (Figure 10). Respondents seem to have noticed increasing feral swine populations in 2010 and 2012 but fewer respondents felt the population had increased from 2013 to 2014. This may indicate the feral swine populations are "leveling" off in most areas or, alternatively people are more accustomed to the population size and are not noticing a change in population size. This may indicate a new "normal" or those respondents are resigned to the current level of swine.

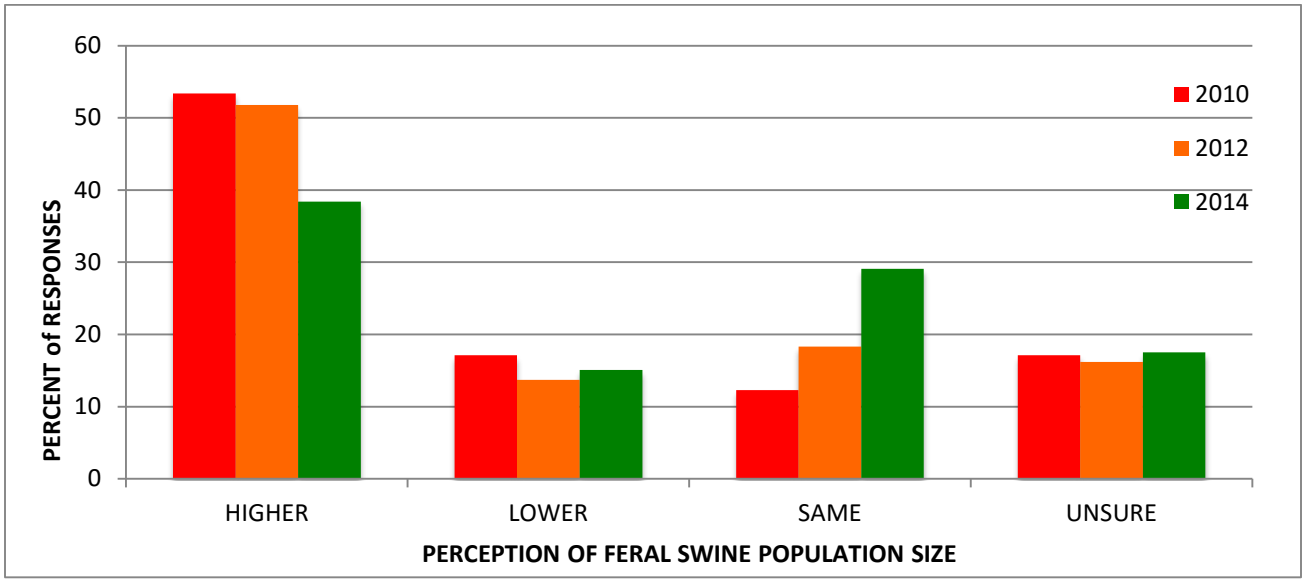

Figure 10. Surveys responses to questions about the current perceived level or size of the feral swine population compared to the perceived population size in three previous time periods.

Q14. If feral swine are increasing, what do you think is/are the reasons? (Please select all that apply).

There were 272 total responses to this question. Most respondents felt that lack of hunting pressure and natural causes were the primary reasons for any perceived increase in feral swine population (Table 7). When asked to fill in responses for the choice "Other", respondents wrote in responses such as "prolific breeding", "rapid reproduction", and "reproduction rate". Answers such as these were re-coded as "natural causes" and included in the count for that answer choice. Other re-coded responses included "safe havens like government land and unhuntable private land" (neighbor), "WMA's in Burke and Jenkins County create safe haven" (neighbor), "stock laws need to be improved – no transport" (stock laws) and "many hunt clubs refuse to let them be hunted" (neighbor). Generally, respondents suggested that lack of hunting pressure and the naturally high reproductive rate of feral swine combined to create many of the current population problems. In other words, respondents seem to understand that high reproductive output and little or limited hunting are underlying causes of the

feral swine problem (Table 7). This may suggest a basic understanding among the general rural public that hunting alone will not reduce feral swine populations or problems.

Q15. Have you noticed a decline in other wildlife or game? Please circle one.

If NO, please go to Question #16.

Q15a. If YES, do you believe the decline is related to feral swine (YES – NO)

Q15b. What species of wildlife do you believe have been affected by feral swine? Please select all that apply.

Q15c. Have these declines increased or decreased your income?

Q15d. Have these declines increased or decreased your wildlife enjoyment?

There were 342 responses to this question and the majority of respondents (n=182; 53.2%) reported a decline in other wildlife compared to 160 (46.8%) that said they had not noticed a decline. For respondents reporting a decline in other wildlife, 78.3% (n=126) felt the decline was related to feral swine (Q15a) while 21.7% (n=35) did not feel the decline was related to feral swine and 21 did not answer. Of the 182 respondents (Q15b) who reported noticing a decline in other wildlife due to feral swine, 79.1% noticed a decline in turkey, 74.7% noticed a decline in deer, 67.1% noticed a decline in quail followed by other species such as – rabbit (34.1%), gopher tortoise (18.1%), waterfowl (9.9%), songbirds (8.2%) and "other wildlife" (6.6%). There were 203 responses to Q15c and 68.5% of respondents reported no change in their income followed by 16.3% who were unsure, 14.3% who had a decrease in income, and 1.0% who reported an increase in income. There were 206 responses to Q15d and 65.5% reported their enjoyment of wildlife has decreased followed by 23.8% who reported no change, 6.8% were unsure, and 3.9% said their enjoyment of wildlife increased due to feral swine.

Table 7. Perceived reasons for increasing feral swine populations in Georgia based on the 2015 Georgia feral swine survey conducted between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

Perceived reasons for feral swine increase	Number	Percent
Lack of hunting pressure	148	54.4
Natural causes	125	52.9
Illegal release or transfer	116	42.6
Hunt clubs are releasing them	78	29.0
Neighbor's management practices	39	15.4
Wildlife department policy	19	7.0
Domestic producers	18	6.6
Timber management is changing	10	4.8
Other	9	3.3
Stock laws	3	1.5
Local government	3	1.5

Q16. Please give your opinion on the laws for hunting feral swine on private property in Georgia. Please circle one.

Essentially there are few if any laws for hunting feral swine on private property in Georgia at the time this survey was conducted. Feral swine have no closed season and no bag limits on private land. They can be hunted at night, with lights, and over bait. They cannot be hunted from a vehicle on private land and numerous commercial outfitters offer "pay to hunt" opportunities. How these liberal hunting laws affect law enforcement activities aimed at controlling whitetail deer poaching is unknown. For this survey, 336 respondents offered an opinion on the laws for hunting feral swine on private land in Georgia. 39.6% of respondents reported that laws were "about right" while 38.1% reported that they were "unsure" of current laws, 18.5% felt that the current laws were "too strict" and finally, 3.9% felt that the current laws were "not strict enough".

Q17. Dou you currently allow hunters to hunt feral swine on your property? Please circle one.

Q17a. If you allow hunting on your land, do you feel this has reduced damage from feral swine? Please circle one.

Of 337 respondents to Q17, 65.0% (n=219) allow feral swine hunting on their property while 35.0% (n=118) do not. Of 239 respondents to Q17a, 58.2% (n=139) felt that hunting has reduced damage from feral swine while 41.0% (n=98) reported that it did not and 2 respondents were unsure (circled both "YES" and "NO").

Q18. What damage to other wildlife or habitat has been caused by feral swine? Please select all that apply.

There were 276 responses to this question. Respondents could choose multiple answers so responses total to more than 100%. The most frequently chosen response was "damage to turkey or quail nests" followed by "damage to habitat", "damage to food plots" and "damage to forest vegetation" (Figure 11).

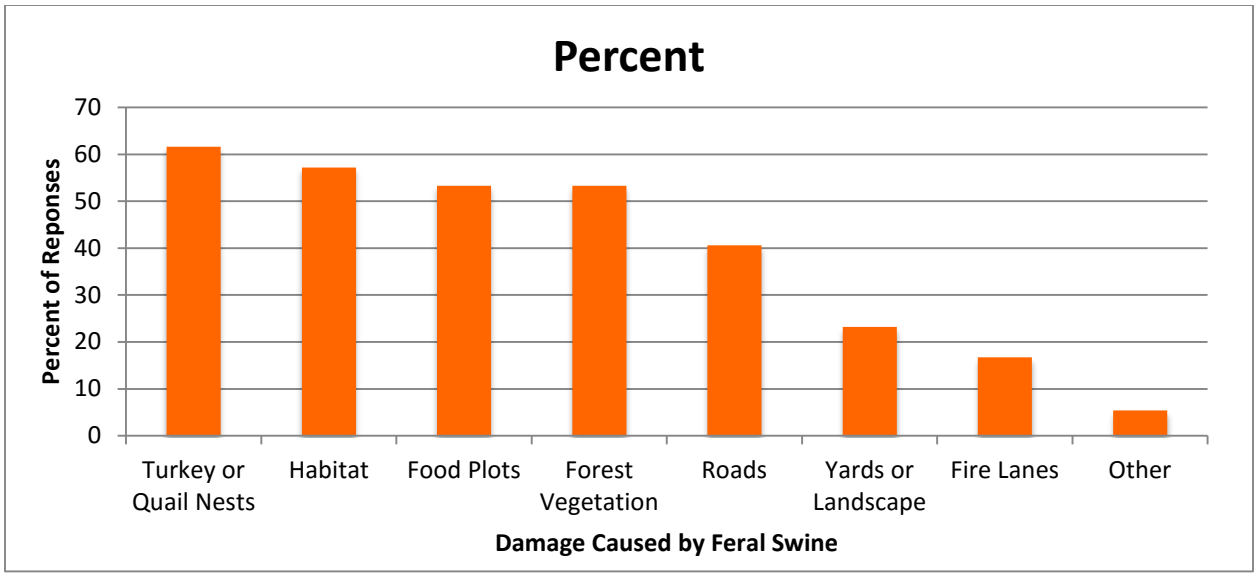

Figure 11. Types of damage reported by 276 respondents to the 2015 Georgia Feral Swine survey. Total responses are greater than 100% because multiple answers were possible. 2015 feral swine assessment survey administered between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

Control Measures applied to feral swine

With the next series of questions, I assessed the various control measures currently used on feral swine and the satisfaction with those efforts.

Q19. In the past year (2014), which lethal control measures have you used on feral swine on tis property? Please select all that apply.

Q19a. Are you satisfied with the results obtained from these control measures?

There were 317 responses to this question. Trapping and opportunistic shooting were the two most frequently selected answer choices (47.0% each; Figure 12). Respondents were not satisfied with the results of these lethal control measures (47.4% “NO”, 30.1% “YES”, and 22.4% “UNSURE”).

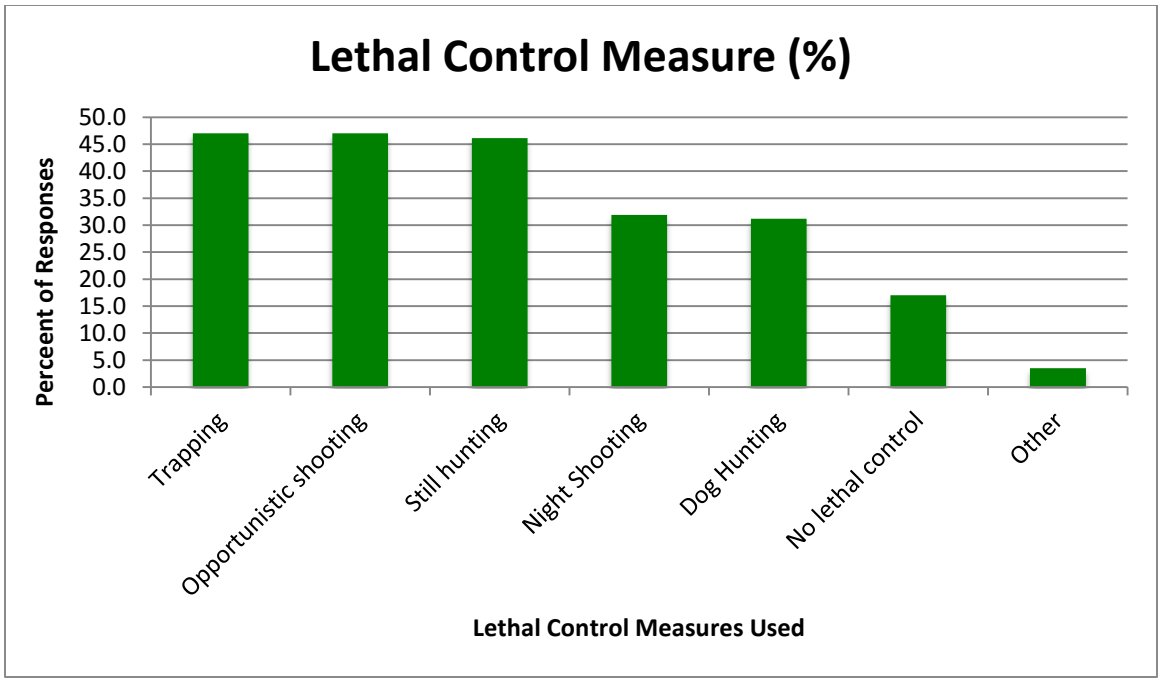

Figure 12. Lethal control measures used most often (percent of respondents) as reported by respondents to the 2015 feral swine assessment survey administered between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

Q20. In the past year (2014), which non-lethal control measures have you used on feral swine on tis property? Please select all that apply.

Q20a. Are you satisfied with the results obtained from these control measures?

There were 280 responses to this question. Few respondents reported deploying non-lethal control measures. The most frequent response was "NONE" selected by 81.8% of respondents. Other responses included "Harassment" (11.1% of respondents), "Electric Fence" (6.8% of respondents), "Non-electric Fence (3.2% of respondents), and "Repellent" (1.4% of respondents). Respondents were not satisfied with the results of non-lethal control measures (53.2% "NO", 17.0% "YES", and 29.8% "UNSURE").

Q21. In your experience, which control measures work best? Please select all that apply.
Q22. In your experience, which control measures do not work. Please select all that apply.

There were 301 responses to question 21. Trapping, night shooting and dog hunting were the control methods ranked by respondents as being highest in effectiveness (Figure 13). When asked which of the same list of control methods do not work, respondents (n=268) reported that non-electric fencing, electric fencing, and harassment were the methods least likely to control of feral swine (Figure 13). The two questions taken together can be interpreted as complimentary to each other. The method ranked as most likely to be effective (trapping) was selected by the fewest respondents as least effective and so forth. The two questions simply provide a check on each other. It was difficult to categorize the

responses in the "other" category for Question 22. Answers included such responses as "trap and release at another site", "plant lure crops", "all work to some degree", "nothing works at all", "local government", and "neighbors use these methods and hogs still present".

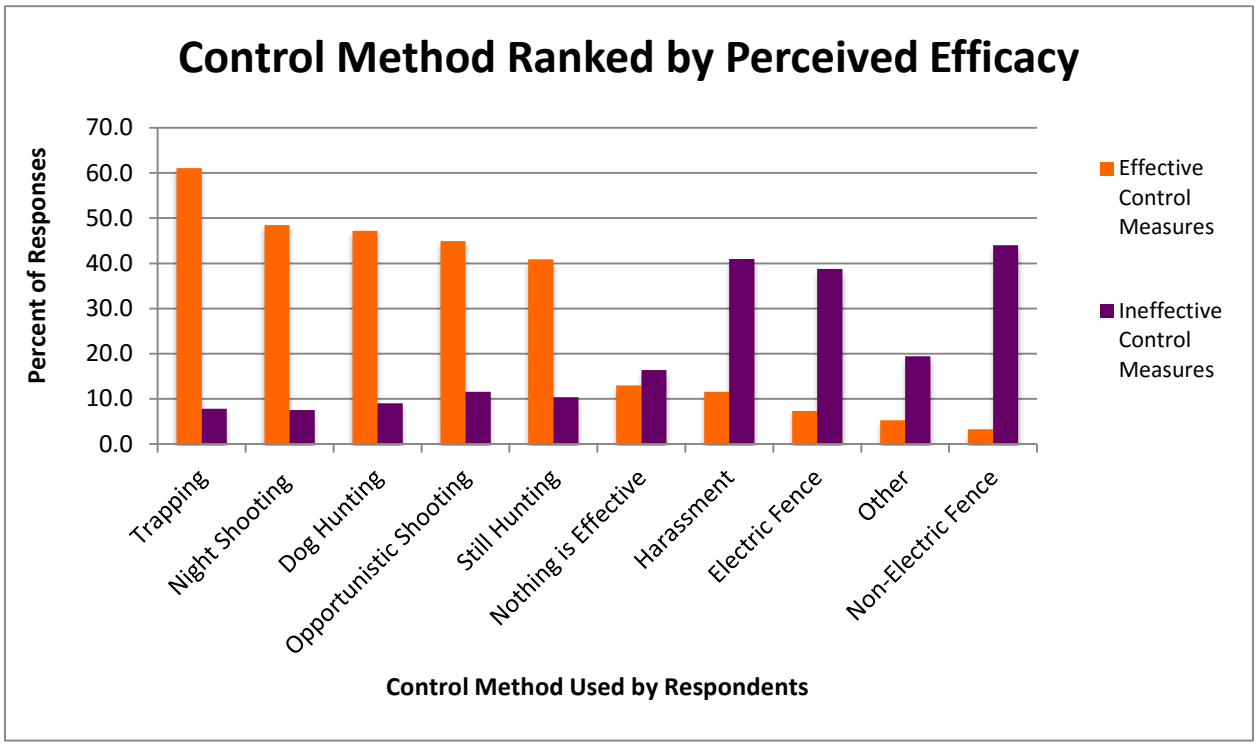

Figure 13. Control measures ranked by perceived efficacy by survey respondents (percent of respondents) as reported by respondents to the 2015 feral swine assessment survey administered between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

I analyzed the following two questions together -

Q23. Based on your experience, who CURRENTLY offers assistance for feral swine management on private lands. Please check all that apply.

Q24. Based on your experience, who SHOULD BE offering assistance for feral swine management on private lands? Please check all that apply.

If survey respondents reported that they had NO feral swine on their land (Question 1), they were instructed to proceed to Question 23 and 24 and to complete the remaining sections of the survey. Respondents with feral swine on their land (answer to Question 1 = YES) they completed the entire survey and eventually reached Questions 23 and 24. There were 913 total responses to Q23 and 927 total responses to Q24. Respondents reported that "friends and family" (n=317; 34.7%) or "no one"

(n=256; 28.0%) currently offer assistance with feral swine management (Figure 14). Two hundred nine respondents selected "other" as their answer to Q23. The most frequently written response to this option was "Don't Know" (176/209 responses, 84.2%) followed by "no problems" (6/209 responses, 2.9%). Other responses included "landowner", "animal control", "county", or various other responses.

There were 927 responses to Q24. The most frequently selected responses were "GA WRD" (Georgia Wildlife Resources Division, n=501, 54.0%) and "USDA WS" (US Department of Agriculture, Animal Plant Health Inspection Service, Wildlife Services, n=413, 44.6%; Figure 14). One hundred twenty-two respondents selected "other" as their answer to Q24. The most frequently written responses to this option was "Don't Know" (n=70/122, 57.4%) followed by "no problems" (7/122, 5.7%) and "government" (6/122, 4.9%).

The overwhelming majority of respondents felt that some form of federal or state assistance should be available to deal with feral swine management issues (Figure 14). Similarly, most respondents felt that private or personal management was the common current state of affairs when dealing with feral swine damage issues (Figure 14). It is unlikely, in the current political and economic climate, that governments (state or federal) will be able to solve local feral swine problems. Further, it seems equally unlikely that government assistance will be widely available to address (e.g., local reductions in feral swine damage) damage issues related to feral swine. Limited federal assistance is available from USDA/APHIS/Wildlife Services as a result of a recent national feral swine initiative. Currently, in Georgia, this assistance is in the form of a limited cost-share program. USDA/APHIS/WS charges only for biologist/technician time on-site; traps and other equipment, travel, bait, ammunition is not charged at this time.

In the absence of coordinated government assistance, individual landowners may turn to private entities to address feral swine problems. If this occurs, it seems critical that private entities be fully vetted, trained, and licensed by the state wildlife department. If landowners are forced to address feral swine problems without oversight or assistance a host of problems could arise. These problems could range from mismanaged localized control or localized education of feral swine due to poorly implemented hunting or trapping programs. Worse problems such as indiscriminate killing or illegal poisoning of feral swine with significant secondary ecological effects and negative publicity could also result.

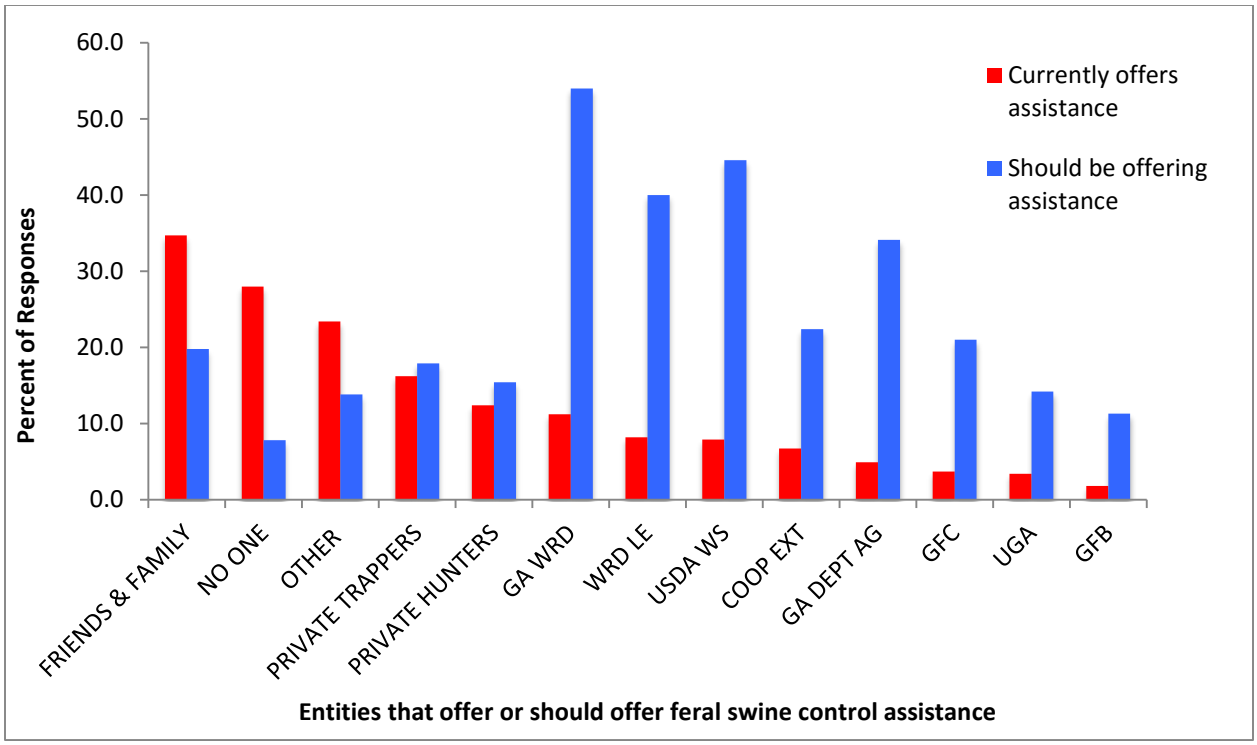

Figure 14. Responses to two questions about entities that CURRENTLY offer assistance and those that SHOULD offer assistance ranked by survey respondents (percent of respondents) to the 2015 feral swine assessment survey administered between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA. Abbreviations USDA WS = USDA APHIS Wildlife Services; GA WRD = Georgia Wildlife Resources Division; COOP EXT = UGA Cooperative Extension Service; WRD LE = Georgia Wildlife Resources Division, Law Enforcement; GA DEPT AG = Georgia Department of Agriculture; GFC = Georgia Forestry Commission; GFB = Georgia Farm Bureau; UGA = University of Georgia.

Opinions regarding feral swine and their impact on landowners (Section II)

This section of the survey asked participants give their views on feral swine in their area (i.e., community or county). Nineteen statements about feral swine were presented in the survey. These statements could be grouped as "positive" statements about feral swine (e.g., I enjoy seen feral swine around my property.) and "negative" statements (e.g., Feral swine are a nuisance.). The statements were not grouped in the survey but will be discussed as "positive" or "negative". The statements were presented as a 7-point Likert scale from 1 = Strongly Disagree to 7=Strongly Agree. A neutral point (score=4) was presented.

Due to an error in the survey when it was sent to the printer, the scale was printed as 1 = strongly disagree, 2 = somewhat disagree, 3 = disagree, 4 = neutral, 5 = agree, 6 = somewhat agree, and 7 = strongly agree. The original intent was for 2 = disagree and 3 = somewhat disagree with the same gradation on the "agree" side (i.e., 2 and 3 were transposed as was 5 and 6). While this error was

unfortunate and not intentional, the results are not changed. A mean score less than 4 indicates respondents disagree with the statement and a mean score greater than 4 indicates agreement with the statement. A score of 4 indicates neutrality about the statement. Similarly, scores of 1 and 7 indicate the strongest response to the statement. Transposing 2 and 3 as well as 5 and 6 are inconvenient in that the degree or intensity of disagreement or agreement is less clear.

Positive statements about feral swine

In general, respondents disagreed with positive statements about feral swine. This indicates an overall lack of positive feelings for feral swine and a frustration and awareness of the problems associated with feral swine (Table 8). Two exceptions to this general summation are with the statement "Feral swine are common where I live" and a desire for additional information about feral swine. Regarding the commonness of feral swine, respondents were almost equally divided among the choices (Table 8). Twenty-two percent of respondents selected "agree" while 18.6% were neutral, 17.7% selected "strongly disagree" and 16.8% selected "strongly agree". The mean score on this question was 4.2 overall but among landowners with feral swine on their land the mean score was nearly 5.4 (Table 9; indicating agreement with the statement) but only 3.6 (Table 9; indicating disagreement) among landowners that also responded (Question 1) that feral swine are not present on their land.

From Section III, 92.6% of respondents stated that in the prior 2 years they had not attended any type of educational event related to feral swine. Also, (page 8 above) 57.8% of respondents incorrectly answered the question "Are feral swine a native or non-native species in Georgia". In Section II (Tables 8 and 9), 35.3% of respondents were neutral about wanting to learn more about feral swine biology or control but 49.4% responded on the "agree" side of the scale to the statement "I would like to learn more about feral swine biology and feral swine control methods". The overall score for this statement was 4.6 but only 4.2 (neutral) among respondents who reported no feral swine on their land compared to 5.4 (agree) among respondents who reported have feral swine on their land (Table 9).

Respondents strongly disagreed ("Strongly Disagree" had the highest number of responses; Table 9) with the statements "I enjoy seeing feral swine around my property" (66.6%), "People should learn to live with feral swine near their homes or farms" (52.4%), and "Feral swine are an important part of the environment" (48.6%). Respondents also felt that feral swine were a threat to the safety of people and did not welcome feral swine to the suite of big game animals they could hunt. Respondents generally felt that feral swine were responsible for declines in deer and other wildlife (Question 15, see page 24).

Negative statements about feral swine

Overall, respondents agreed with negative statements about feral swine. Forty-nine percent of respondents strongly agree with the statement "Feral swine are a nuisance" and 75.2% agreed at some level with this statement (Table 8). In fact, this statement had the highest mean score (5.6) of any of the negative statements about feral swine (Table 9). Respondents overwhelmingly agreed with statements that feral swine harm native plants and wildlife (71.9%), damage deer and turkey food plots (70.1%), and damage the environment (70.0%; Table 8).

Laws regarding hunting feral swine

Georgia has liberal hunting laws regarding feral swine. In 2015, on private land, there was no closed season and no limit on feral swine harvest. Feral swine could be hunted at night with a light carried on a person. While you cannot hunt from a vehicle, hunting over bait is legal and no license is required if hunting on land owned by the hunter or their immediate family (i.e., blood or dependent relationship). Non-residents are required to purchase a hunting license.

With this background, 69.3% of all survey respondents agreed (Table 8) with the statement "It should be a FELONY to transport and release feral swine in Georgia". However, 50.6% of all respondents (n=975) were neutral on the statement "The laws for hunting feral swine on private land in Georgia are adequate" (Table 8). Among respondents (n=336) who reported the occurrence of feral swine on their land (Question 1), 38.1% felt that the laws for hunting feral swine on private property were "too strict" and 39.6% felt the laws were "about right" (Question 16, page 25). It is unclear as to what additional measures could be removed in order to reduce the perceived restriction on feral swine hunting on private land.

Of note, the statement "The laws for hunting feral swine on private land in Georgia are adequate" had the lowest mean score (4.221) among the negative statements (Table 9). It is also noteworthy that only this statement had no statistical difference among respondents with and without feral swine on their land ($F = 1.805$, $P=0.165$, Table 9). If respondents were unsure about the presence of feral swine on their land they were also neutral (mean score = 4.089) on the statement about the adequacy of hunting laws (Table 9).

Acknowledgements

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Table 8. Percent (%) response to 19 statements about feral swine in Georgia based on 1,109 returned surveys from the 2015 Georgia feral swine survey conducted between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

	n	Strongly Disagree	Somewhat Disagree	Disagree	Neutral	Agree	Somewhat Agree	Strongly Agree
- - - - Positive statements about feral swine - - - -								
I enjoy seeing feral swine around my property.	1004	66.6	3.2	9.1	13.4	2.8	1.8	3.1
Feral swine are an important part of the environment.	1009	48.6	5.6	13.0	19.5	7.7	2.6	3.1
Feral swine are not a threat to the safety of people.	1011	39.7	8.7	19.8	12.4	8.4	4.6	6.4
Feral swine are common where I live.	993	17.7	6.6	12.5	18.6	22.6	8.2	16.8
People should learn to live with feral swine near their homes and farms.	1006	52.4	7.9	15.8	13.4	5.9	1.9	2.8
Feral swine are a welcome addition to the number of big game species I can hunt.	992	37.6	4.2	10.9	28.4	10.3	3.6	4.9
I would like to learn more about feral swine biology and feral swine control methods.	991	7.5	1.2	6.7	35.3	23.2	6.2	20.0
- - - - Negative statements about feral swine - - - -								
I worry about problems feral swine might cause to my property.	1012	12.4	3.2	4.6	16.9	18.5	5.8	38.7
Feral swine are a nuisance.	1013	4.7	1.6	3.3	14.7	20.5	6.2	49.0
Feral swine are a source of disease.	994	3.4	1.9	3.8	31.1	20.0	8.7	31.1
Feral swine should be eliminated wherever possible.	1001	6.5	3.3	10.6	16.5	16.4	5.3	41.5
Feral swine detract from deer hunting opportunities.	998	3.4	3.0	8.7	30.8	18.6	8.2	27.3
Feral swine have a negative impact on our local deer population.	1005	5.4	2.6	9.4	36.0	15.7	8.4	22.6
Feral swine cause a great deal of damage to deer and turkey food plots.	1012	2.6	0.7	3.8	22.9	23.7	9.7	36.7
It should be a FELONY to transport and release feral swine in Georgia.	1002	6.0	2.0	4.8	18.0	20.6	5.7	43.0
The laws for hunting feral swine on private land in Georgia are adequate.	975	7.2	3.0	5.7	50.6	19.6	6.2	7.8
Feral swine damage the environment.	1013	2.1	2.2	4.8	20.9	22.8	9.5	37.7
Feral swine are harmful to native plants and wildlife in Georgia.	1010	2.2	1.4	4.7	19.9	23.4	9.5	39.0
Feral swine affect songbird populations.	969	3.7	1.7	6.6	58.1	10.9	4.7	14.2

Table 9. Mean responses to statements about feral swine from all respondents and separated by respondents with and without feral swine on their property. Responses are ranked by a mean score of all respondents. Responses were scaled on a 7-point Likert scale where 1=Strongly Disagree, 2=Somewhat Disagree, 3 = Disagree, 4 = Neutral, 5=Agree, 6 = Somewhat Agree, and 7=Strongly Agree. Based on 1,109 returned surveys from the 2015 Georgia feral swine survey conducted between 4 February 2015 and 4 March 2015 to rural residents in Georgia, USA.

Statement about Feral Swine	All Respondents	Are feral swine present on your land: No	Unsure	Yes	F stat	P value
- - - - Positive statements about feral swine - - - -						
I enjoy seeing feral swine around my property.	2.003	2.064	2.425	1.752	7.855	0.000
People should learn to live with feral swine near their homes and farms.	2.293	2.401	2.636	1.948	10.816	0.000
Feral swine are an important part of the environment.	2.523	2.735	2.840	2.003	20.860	0.000
Feral swine are not a threat to the safety of people.	2.808	2.879	3.132	2.528	5.418	0.005
Feral swine are a welcome addition to the number of big game species I can hunt.	3.002	3.241	3.175	2.470	18.796	0.000
Feral swine are common where I live.	4.194	3.603	4.214	5.374	100.719	0.000
I would like to learn more about feral swine biology and feral swine control methods.	4.640	4.210	4.818	5.424	62.420	0.000
- - - - Negative statements about feral swine - - - -						
The laws for hunting feral swine on private land in Georgia are adequate.	4.221	4.293	4.089	4.133	1.805	0.165
Feral swine affect songbird populations.	4.421	4.269	4.505	4.693	9.618	0.000
Feral swine have a negative impact on our local deer population.	4.696	4.468	4.615	5.166	18.660	0.000
Feral swine detract from deer hunting opportunities.	4.919	4.679	4.718	5.445	24.184	0.000
I worry about problems feral swine might cause to my property.	4.984	4.735	5.028	5.437	12.149	0.000
Feral swine are a source of disease.	5.127	4.962	5.231	5.418	8.652	0.000
Feral swine should be eliminated wherever possible.	5.147	4.877	4.913	5.721	21.576	0.000
It should be a FELONY to transport and release feral swine in Georgia.	5.342	5.173	5.077	5.758	12.352	0.000
Feral swine damage the environment.	5.395	5.203	5.276	5.819	17.227	0.000

Table 9. Continued

Statement about Feral Swine	All Respondents	Are feral swine present on your land: No	Unsure	Yes	F stat	P value
Feral swine cause a great deal of damage to deer and turkey food plots.	5.402	5.221	5.189	5.812	16.697	0.000
Feral swine are harmful to native plants and wildlife in Georgia.	5.454	5.296	5.257	5.844	14.625	0.000
Feral swine are a nuisance.	5.592	5.440	5.264	5.990	13.258	0.000

Photo Acknowledgements

Title page (top photo) – USDA Wildlife Services file photo
Title Page (bottom photo) – USDA Wildlife Services file photo
Page 3 – J. Cumbee – USDA Wildlife Services

Literature Cited

Georgia Farm Bureau. 2016. Agriculture – Georgia's $74 billion industry. Georgia Farm Bureau, Macon, GA. http://www.gfb.org/aboutus/georgia_agriculture.html . Accessed on 8 June 2016.

Georgia Forestry Commission. 2016. Forest Management. Georgia Forestry Commission, Covington, GA. http://www.gfc.state.ga.us/forest-management/ . Accessed on 8 June 2016.

Harper, E. E., J. J. Vaske, C. A. Miller, M. T. Mengak, and S. Bruno. (*in press*). Stakeholder attitudes and beliefs toward wild pigs in Georgia and Illinois. Wildlife Society Bulletin 40(2):269-273.

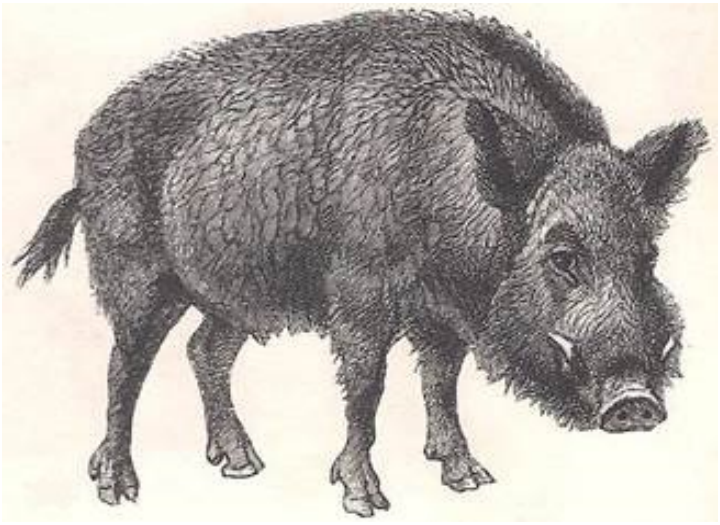
Hartin, R. E., M. R. Ryan, and T. A. Campbell. 2007. Distribution and disease prevalence of feral hogs in Missouri. Human-Wildlife Conflicts 1(2): 186-191.

Mayer, J. J. and I. L. Brisbin, Jr. 1991. Wild pigs of the United States: Their history, morphology, and current status. University of Georgia Press, Athens, GA USA, 313 pages.

Mengak. M. T. 2012. 2012 Georgia wild pig survey – final report. Warnell School of Forestry and Natural Resources, University of Georgia. Outreach Publication WMS-12-16. 42 pages. Revised 8 June 2015.

SCWDS. 2014. Feral swine populations, 2014. Map located at http://swine.vet.uga.edu/nfsms/information/maps/swineDistribution2014.jpg, Accessed 11 July 2016.

Feral Swine on Private Lands in Georgia



ALL RESPONSES ARE CONFIDENTIAL

THANK YOU FOR YOUR COOPERATION!

Postage-paid return envelope provided

Warnell School of Forestry and Natural Resources
University of Georgia

Please take 15 minutes of your time to complete this questionnaire. Your responses will tell us more about feral swine in Georgia.

The Warnell School of Forestry and Natural Resources is requesting your assistance in gathering information about the status of feral swine in Georgia. Disclosure of information is voluntary.

Survey # _____

GEORGIA FERAL SWINE SURVEY

Feral swine are present in many southern states. Some people view them as a valuable wildlife resource while others consider them to be a nuisance animal. Although landowners and others in Georgia may encounter feral swine, we know little about damage they cause in our state. Therefore, your help is critical for determining the type and extent of damage from feral swine. Your answers are important. Your answers will increase our understanding of how feral swine affect landowners. The answers you provide will also help us develop more effective programs to deal with feral swine. We will share our results with state and local officials to make them aware of the concerns people have about feral swine. Individual responses will be kept strictly confidential.

Please take 15 minutes to answer the following questions about your views on feral swine. Whether you have feral swine on your property or not, your answers are important to us. Your time is valuable and we appreciate that you are willing to share some of your time with us to complete this survey. If you have questions or would like a copy of the results, please contact us at the address on the last page of this survey.

THANK YOU for your time.

Section I. The following questions are important in helping us understand feral hog damage in Georgia and how people feel about feral swine in this area. Please answer every question as completely as possible.

1. Are feral swine present on your land? (Please circle one) YES NO UNSURE

If **YES**, please continue below. If **NO**, please skip ahead to **Question 23**.

1a. Do you hunt/shoot feral swine on your land? Please circle one. YES NO

1b. Do you allow others to hunt/shoot feral swine on your land? Please circle one. YES NO

2. Have feral swine ever caused any type of damage to your land? Please circle one. YES NO

IF YES, please continue below. IF NO, please skip ahead to **Question 23**.

3. Please tell us about where you **own, lease, or rent** land. List the **County** in Georgia in which you own/lease/rent land and indicate the number of acres you own/lease/rent. If you need more space, please use the BACK of this survey.

County _____ _____ Acres
County _____ _____ Acres
County _____ _____ Acres

For the remainder of this survey, please think about the LARGEST parcel you own, lease or rent and tell us about that one parcel.

4. From Question #3, pick the LARGEST parcel you own, lease or rent. What is the **Primary** use for this land? (Please select ONLY ONE answer)

_____ Hunting Recreation
_____ Non-hunting Recreation
_____ Timber Production
_____ Livestock Production – List animals you raise _____
_____ Row Crops – List crops you produce _____
_____ Mixed use (no one use is more than 50% of acreage)
_____ Other (please specify) _____

5. When did you first notice feral swine or damage related to feral swine on this property? (Please select one)

____ 2014 was first year
____ Within the last 5 years (2010-2014)
____ Within the last 3 years (2012-2014)
____ More than 5 years ago (before 2010)

6. During 2014, which of the following were damaged by feral swine? (Please select ALL that apply)

_____ Cash crop (non-timber)
_____ Streams or ponds
_____ Fences
_____ Landscape (e.g. personal garden, yard)
_____ Stored commodities
_____ Other (please specify) _____
_____ Food plots
_____ Pastures
_____ Equipment
_____ Timber

6a. From the list above, please tell us the ONE type of damage that was most important to you. _____

6b. The type of damage caused by feral swine is viewed differently by landowners. The importance of that damage also differs. In Question #7a above, you told us which type of damage was MOST IMPORTANT to you. How do you define importance?

_____ Cost me the most money
_____ Had a negative impact on how I use my land
_____ Other (please explain) _____
_____ Changed the appearance of my land in a bad way

7. Please tell us the crops you grow or produce that were damaged by feral swine. (Please select all that apply)

_____ Blueberry
_____ Fruit Trees
_____ Soybeans
_____ Watermelon
_____ Cotton
_____ Peanuts
_____ Timber
_____ Other (Please list) _____
_____ Corn
_____ Pasture or Hay
_____ Vegetables

8. During 2014, what type of damage did you have? (Please select ALL that apply)

_____ Rooting or grubbing
_____ Damage to fences
_____ Consumption of grain or hay
_____ Injury to pets
_____ Loss of lease value
_____ Loss of land value
_____ Other (please specify) _____
_____ Wallows
_____ Damage to irrigation equipment or pipes
_____ Disease transfer to pets, livestock, or humans
_____ Injury to livestock
_____ Loss of timber value

9. From your experience with feral hog damage:

9a. Please estimate your losses to crops and/or crop related damage (i.e., equipment damage, etc.) by feral swine during past year. _____ DOLLARS

9b. Please estimate your losses to items other than crops (i.e. timber, food plots, lease values, etc.) caused by feral swine during the past year. _____ DOLLARS

10. Because of damage you expected to receive from feral swine, did you avoid planting one crop (which would receive high damage) and plant a crop of lower value? YES NO UNSURE

10a. If you answered "YES" to question #10, what crop (or crops) did you avoid planting because you expected feral swine damage? _____

10b. If you answered "YES" to question #10, which crop did you plant instead? _____

10c. How much money do you estimate that you LOST because feral swine caused you to plant a lower value crop? This is the difference between the dollars you would have earned if you planted the higher value crop compared to the dollars you earned from planting the lower value crop. _____ DOLLARS

11. Did you take any action to correct the problem? Please circle one. YES NO

12. When you have had damage, did you seek outside help? (Please circle one) YES NO

If YES, please tell us who you contacted. (Please select all that apply)

____ Cooperative Extension Service
____ Georgia Forestry Commission
____ Georgia Wildlife Resources Division
____ Private hog control company
____ USDA Wildlife Services
____ Other (Please list) _____

12a. Did this outside help reduce the damage? YES NO UNSURE

12b. Would you seek outside help again from this source? YES NO UNSURE

12c. Would you seek help from another source? YES NO UNSURE

13. Considering the current population of feral swine on land you own, lease or rent -- how has the population changed in the following time spans? (Please circle one answer in each row)

Compared to last year	LOWER	SAME	HIGHER	UNSURE
Compared to 3 years ago	LOWER	SAME	HIGHER	UNSURE
Compared to 5 years ago	LOWER	SAME	HIGHER	UNSURE

14. If feral swine are increasing, what do you think is/are the reasons? (Please select all that apply)

____ Domestic producers
____ Hunting clubs are releasing them
____ Illegal release/transfer
____ Lack of hunting pressure
____ Local government
____ Natural causes
____ Neighbor's management practices
____ Stock laws
____ Timber management is changing
____ Wildlife department policy
____ Other (please specify) _____

15. Have you noticed a decline in other wildlife or game? Please circle one. YES NO

IF NO, please go to Question #16.

15a. IF YES, do you believe the decline is related to feral swine? YES NO

15b. What species of wildlife do you believe have been affected by feral swine? (Please select all that apply)

_____ Bobwhite Quail
_____ Gopher Tortoise
_____ Rabbits
_____ Songbirds
_____ Waterfowl
_____ White-tailed deer
_____ Wild Turkey
_____ Other (Please list) _____

15c. Have these declines increased or decreased your income?

DECREASED INCREASED NO CHANGE UNSURE

15d. Have these declines increased or decreased your wildlife enjoyment?

DECREASED INCREASED NO CHANGE UNSURE

16. Please give your opinion on the laws for hunting feral swine on private property in Georgia. Please circle one.

TOO STRICT ABOUT RIGHT NOT STRICT ENOUGH UNSURE

17. Do you currently allow hunters to hunt feral swine on your property? Please circle one. YES NO

17a. If you allow hunting on your land, do you feel this has reduced damage from feral swine? Please circle one. YES NO

18. What damage to other wildlife or habitat has been caused by feral swine? Please select all that apply.

_____ Damage to fire lanes
_____ Damage to forest vegetation
_____ Damage to roads
_____Damage to my yard or landscape
_____ Other (Please list) _____
_____ Damage to my food plot
_____ Damage to habitat
_____ Damage to turkey or quail nests

19. In the past year (2014), which lethal control measures have you used on feral swine on this property? Please select all that apply.

____ None
____ Dog Hunting
____ Still Hunting
____ Other (please specify) _____
____ Night shooting
____ Opportunistic shooting
____ Trapping

19a. Are you satisfied with the results obtained from these control measures? YES NO UNSURE

20. In the past year (2014), which non-lethal control measures have you used on feral swine on this property? Please select all that apply.

_____ None
_____ Electric Fence
_____ Harassment (lights, dogs, donkeys, noisemakers, etc.)
_____ Repellent
_____ Non-electric Fence

20a. Are you satisfied with the results obtained from these control measures? YES NO UNSURE

21. In your experience, which control measures work best? Please select ALL that apply.

_____ Dog Hunting
_____ Opportunistic shooting
_____ Trapping
_____ Harassment
_____ None of these control measures is effective
_____ Other (list _____)
_____ Night shooting
_____ Still Hunting
_____ Electric Fence
_____ Non-electric Fence

22. In your experience, which control measures do not work? List them or write "ALL".

_____ Dog Hunting
_____ Opportunistic shooting
_____ Trapping
_____ Harassment
_____ All of these control methods are ineffective
_____ Night shooting
_____ Still Hunting
_____ Electric Fence
_____ Non-electric Fence
_____ Other (list _____)

23. Based on your experience, who **currently offers** assistance for feral hog management on private lands? Please check ALL that apply.

_____ USDA Wildlife Services
_____ Cooperative Extension Service
_____ GA Department of Agriculture
_____ GA Farm Bureau
_____ Private Trapping Company
_____Some of my friends and family
_____ GA Wildlife Resource Division
_____ GA Wildlife Law Enforcement Officers
_____ GA Forestry Commission
_____ University of Georgia
_____ Private Hunting Company
_____ No one offers any assistance
_____ Other (Please List _____)

24. Based on your experience, who **should be** offering assistance for feral hog management in your area? Please check ALL that apply.

_____ USDA Wildlife Services
_____ Cooperative Extension Service
_____ GA Department of Agriculture
_____ GA Farm Bureau
_____ Private Trapping Company
_____Some of my friends and family
_____ GA Wildlife Resource Division
_____ GA Wildlife Law Enforcement Officers
_____ GA Forestry Commission
_____ University of Georgia
_____ Private Hunting Company
_____ No one offers any assistance
_____ Other (Please List _____)

Please answer the questions on the following two pages.

SECTION II. Whether or not you have had damage from feral swine, please give us your views about feral swine in your area. Your views help us better understand how citizens and landowners feel about feral swine.

Please indicate how strongly you agree or disagree with the following statements about feral swine by **circling one number** on each row that matches your view about feral swine.

Statement about feral swine	Strongly Disagree	Somewhat Disagree	Disagree	Neutral	Agree	Somewhat Agree	Strongly Agree
I enjoy seeing feral swine around my property.	1	2	3	4	5	6	7
I worry about problems feral swine might cause to my property.	1	2	3	4	5	6	7
Feral swine are an important part of the environment.	1	2	3	4	5	6	7
Feral swine are not a threat to the safety of people.	1	2	3	4	5	6	7
Feral swine are common where I live.	1	2	3	4	5	6	7
People should learn to live with feral swine near their homes or farms.	1	2	3	4	5	6	7
Feral swine are a nuisance.	1	2	3	4	5	6	7
Feral swine are a source of disease.	1	2	3	4	5	6	7
Feral swine should be eliminated wherever possible.	1	2	3	4	5	6	7
Feral swine detract from deer hunting opportunities.	1	2	3	4	5	6	7
Feral swine have a negative impact on our local deer population.	1	2	3	4	5	6	7
Feral swine cause a great deal of damage to deer & turkey food plots.	1	2	3	4	5	6	7
Feral swine are a welcome addition to the number of big game species I can hunt.	1	2	3	4	5	6	7
It should be a felony to transport and release feral swine in Georgia.	1	2	3	4	5	6	7
The laws for hunting feral swine on private land in Georgia are adequate.	1	2	3	4	5	6	7
Feral swine damage the environment.	1	2	3	4	5	6	7
Feral swine are harmful to native plants and wildlife in Georgia.	1	2	3	4	5	6	7
Feral swine affect songbird populations.	1	2	3	4	5	6	7
I would like to learn more about feral swine biology and feral swine control methods.	1	2	3	4	5	6	7

Section III. Please tell us about yourself. All answers are strictly confidential and specific responses will not be shared with others.

1. In what **county** do you live? _____ County

2. How many years have you farmed or owned this land? _____Years

3. How long have you resided in Georgia? _____Years

4. In what year were you born? 19_____

5. What is your gender? Please circle one. MALE FEMALE

6. Before you received this survey, did you know that feral swine could be a problem for landowners? Please circle one. YES NO

7. Are you a non-agricultural landowner such as forester, consulting forester, wildlife biologist, real estate agent, etc. Please circle one. YES NO

8. In the past 2 years, have you attended any type of feral swine education event or program in Georgia? Please circle one. YES NO

9. Are feral swine considered native wildlife in Georgia or a non-native species? Please circle one. NATIVE NON-NATIVE UNSURE

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY. Your answers are important to our understanding of issues related to feral swine in Georgia.

PLEASE RETURN THIS SURVEY IN THE POSTAGE PAID ENVELOPE PROVIDED.

IF YOU HAVE QUESTIONS OR IF YOU WOULD LIKE A COPY OF THE RESULTS OF THIS SURVEY, PLEASE CONTACT:

Dr. Michael T. Mengak
Professor -- Wildlife Specialist
Warnell School of Forestry & Natural Resources
180 E. Green St.
University of Georgia
Athens, GA 30602

Phone: 706.583.8096
Email: mmengak@uga.edu

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