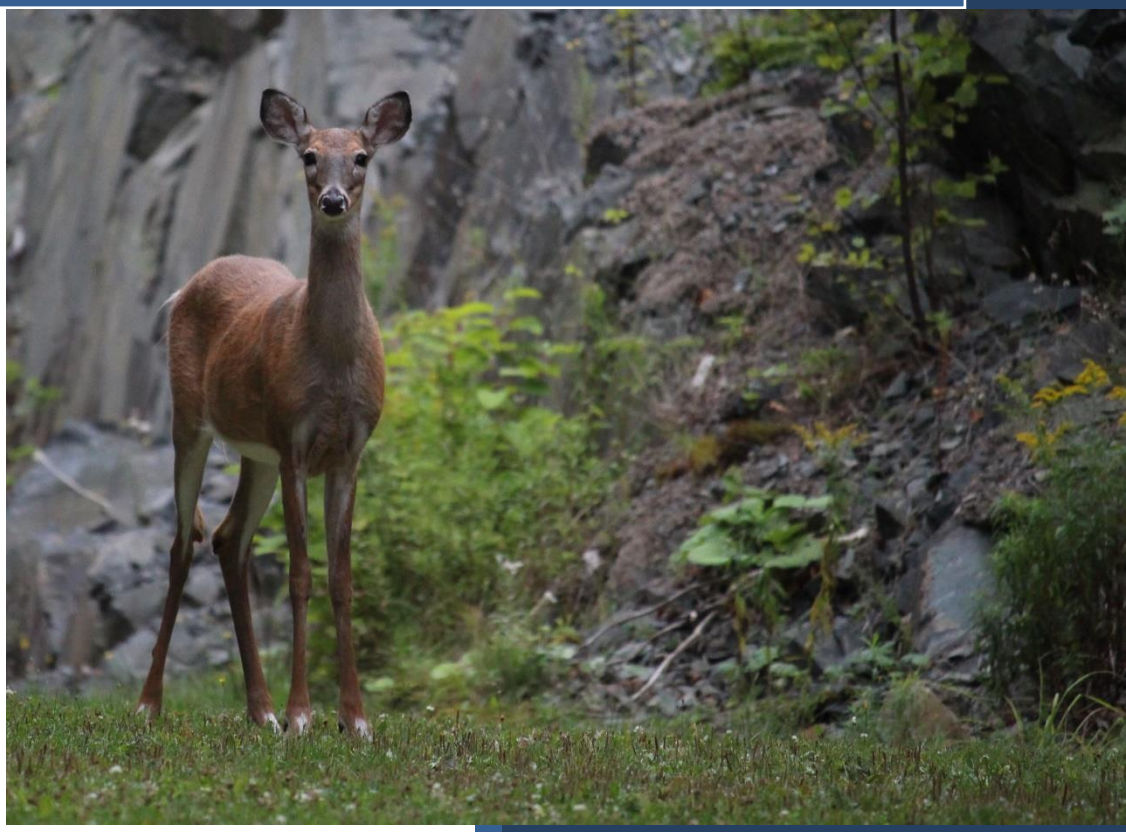
September 2014

Survey Report

Nuisance Nature
on Nova Scotia Farms



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DISCLAIMER: This work was funded by the Nova Scotia Department of Natural Resources, and Agriculture and Agri-Food Canada, and in collaboration with the Nova Scotia Federation of Agriculture, but the opinions expressed herein are not necessarily consistent with those organizations.

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Executive Summary

This report describes the results of a survey of Nova Scotia farmers in April-July, 2014, with a response rate of 13%. The survey was titled *Nuisance Nature*, and asked farmers to:

- identify plants and animals they would consider a nuisance
- to describe the nature and extent of the nuisance
- to describe how they deal with it;
- whether they experience any benefits from the species; and,
- whether – on balance – they would rather have the species or not.

Respondents were broadly representative of farmers in Nova Scotia. The most commonly mentioned nuisance species were deer, coyote, raccoon and bear, in that order, all of which were nominated by more than 30% of farmers. Generally, respondents were quite negative toward all the species they listed. This is of no surprise, as they were asked to identify *nuisance* species. There were some notable differences, however, between certain species, particularly deer and coyotes—species that were indicated as a nuisance by the majority of all respondents.

Respondents indicated that losses as a result of both coyotes and deer are largely unacceptable. Losses by deer were somewhat more acceptable. Respondents were asked to indicate if compensation for their losses had been paid by ticking a box. Many respondents opted to write in "no". This was particularly notable amongst respondents who indicated deer as a nuisance, suggesting that a lack of compensation for losses as a result of deer is an important issue for this group of farmers; for those growing field crops, beef, and fruit (including blueberry, orchard and vineyard) and woodlot owners it was the most common nuisance species listed.

Respondents did, however, experience some cultural benefits (aka cultural ecosystem services) from these same species. While respondents listing coyotes as a nuisance did not agree with many statements regarding ecosystem services provided by the species, some respondents agreed that coyotes do provide some educational opportunities and that the species is an indicator of land health. Opinions were quite mixed for deer. Many respondents agreed that they enjoyed the presence of deer, but were in less agreement as to whether the species was an indicator of land health or provided an educational opportunity. This pattern was only observed for deer out of the top four species. For coyote, bear, and racoon, the opposite was observed: the mean scores were lower (indicating less agreement) for enjoyment of the presence, but higher (indicating more agreement) for both educational opportunities and indicators of land health.

On balance and regardless of specific species, generally respondents would rather not have the species than have the species. This is overwhelmingly the case for coyotes, as the vast majority of respondents indicating coyotes selected this option. Deer, beaver, coyote and fox were the only species (indicated by a minimum of five respondents) that respondents might rather *have* than not have.

Introduction

A random sample of 625 farmers from the Nova Scotia Federation of Agriculture's mailing list was mailed a survey on April 21st 2014. Of the 625, 82 surveys were returned yielding a response rate of 13%. Once incomplete addresses and other erroneous surveys were eliminated, 79 useable surveys were used for analysis. If those receiving the survey did not consider any species to be a nuisance, they were asked simply to fill out the demographic information and return it with the animal and/or plant sections blank, as appropriate. Out of all of the Nova Scotian respondents, three mentioned no animals at all, and 23 mentioned no plant species.

Respondent Demographics

Regions

Counties are grouped together for analysis into "regional agricultural territories":

Cape Breton:	Inverness ,Victoria, Richmond, Cape Breton
Eastern:	Antigonish, Pictou, Guysborough
Central:	Cumberland, Colchester, Halifax
Valley:	Hants, Kings, Lunenburg, Queens
Western:	Annapolis, Digby, Shelburne, Yarmouth

Over half of the respondents came from the dominant agricultural areas of Central and Valley (Figure 1)

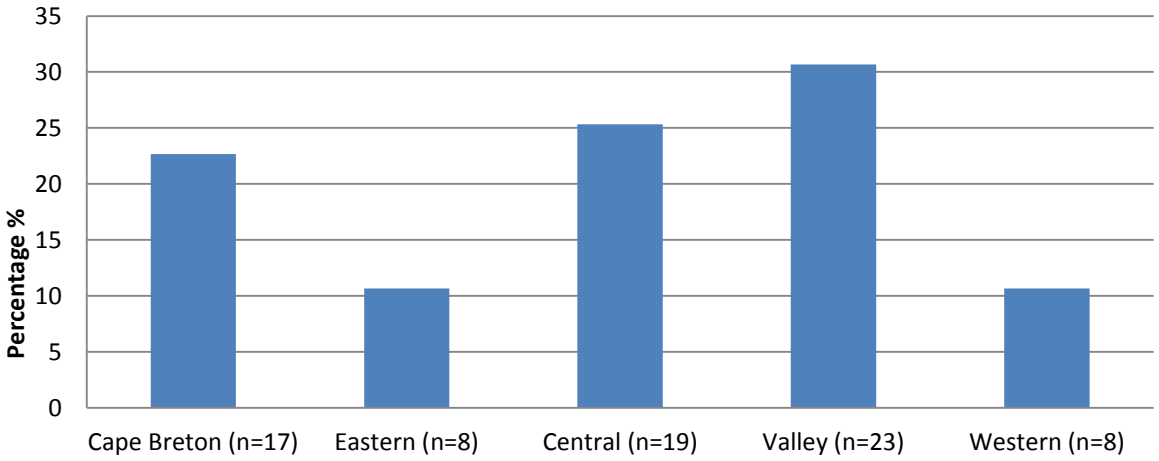

Figure 1: Distribution of Respondents by Region

Farming as primary income

Respondents were asked to indicate if farming was their primary income source. 60% of respondents (n=46) indicated "Yes", 40% (n=31) indicated "No".

Farmer Gender

Respondents were asked to indicate if they were male or female (or preferred not to say). 79% of respondents indicated they were male (n=61), 21% indicated they were female (n=16).

Farming Type

Respondents were asked to check off what commodities they produced from a list of options. Some respondents checked more than one box. Field crops, woodlots and cattle (beef) were the most frequently selected (Table 1).

Table 1: Count of farm commodities

Commodity	Count
Field Crops	48
Woodlot	38
Beef	24
Blueberries	18
Orchard	14
Sheep	11
Poultry	8
Dairy	8
Christmas Trees	6
Vineyard	5
Fur	4

Farmer Education

Respondents were asked to indicate the highest level of education completed. “Technical degree” (for example, agricultural college) was the most frequently selected, followed by bachelor and high school graduates (Table 2).

Table 2: Distribution of education level

Education type	Percent	Frequency
technical degree	41%	31
bachelor's degree	17%	13
high school grad	13%	10
graduate degree	11%	8
some bachelor	9%	7
some graduate	5%	4
some high school	3%	2
grade nine and less	1%	1

Farmer Age

Respondents were asked to indicate the year they were born. The average respondent was 57.7 years old (std dev=10.9). The youngest respondent was 30, and the eldest 84.

Animals

Respondents were asked to identify what animals they deemed a nuisance. Deer, coyote, racoon and bear were the most frequently mentioned. Over half of all respondents mentioned deer or coyotes (Table 3).

Table 3: Nuisance species identified by farmers, by frequency of mention

animal	Freq.	Percent of total mentions	Percent of farmers mentioning
deer	51	17%	65%
coyotes	44	15%	56%
racoon	29	10%	37%
bear	26	9%	33%
rodents	16	5%	20%
songbirds	15	5%	19%
crows	14	5%	18%
beaver	12	4%	15%
geese	10	3%	13%
porcupine	10	3%	13%
raptors	8	3%	10%
seagull	7	2%	9%
fox	6	2%	8%
ground hog	6	2%	8%
humans	5	2%	6%
skunk	5	2%	6%
pigeon	4	1%	5%
cats	3	1%	4%
squirrels	3	1%	4%
aphids	2	1%	3%
duck	2	1%	3%
pheasant	2	1%	3%
tick	2	1%	3%
weasels	2	1%	3%
cougar	1	0%	1%
meadow hen	1	0%	1%
mite	1	0%	1%
moose	1	0%	1%
muskrat	1	0%	1%
otters	1	0%	1%
owl	1	0%	1%
rabbit	1	0%	1%
wild turkey	1	0%	1%
TOTAL	293		

Top Four Nuisance Species: Regionally

Out of the top four species, the distribution of where those respondents reside is summarized in Table 4. There is a somewhat similar distribution of mentions of the top four species, with the exception of bear, where the majority of bear complaints are from the central part of the province. The percentage of respondents from each region that identified deer, coyote, bear, or racoon, as a nuisance species is summarized in Table 5.

Table 4: Distribution of location of top four nuisance species (Overall n may not match frequencies in Table 3 because not all respondents who nominated species gave their location).

		Cape Breton	Eastern	Central	Valley	Western
Deer	**N**	5	7	14	16	4
n=46	**%**	11%	15%	30%	35%	9%
Coyotes	**N**	8	5	8	10	5
n=36	**%**	22%	14%	22%	28%	14%
Racoon	**N**	2	3	6	11	5
n=27	**%**	7%	11%	22%	41%	19%
Bear	**N**	4	3	14	1	1
n=23	**%**	17%	13%	61%	4%	4%

Table 5: Percentage of respondents indicating a top species by region

		Deer	Coyote	Racoon	Bear
Cape Breton	N	5	8	2	4
n=17	%	29%	47%	12%	24%
Eastern	N	7	5	3	3
n=8	%	88%	63%	38%	38%
Central	N	14	8	6	14
n=19	%	74%	42%	32%	74%
Valley	N	16	10	11	1
n=23	%	70%	43%	48%	4%
Western	N	4	5	5	1
n=8	%	50%	63%	63%	13%

Nuisance Species by Commodity Type

For each commodity, the percentage of farmers reporting one of the top four species is consistent with the overall distribution of reporting of the top four species. A few commodities do stand out: all but one poultry and sheep farmer listed coyotes as a nuisance (Table 6); bears were considered most of a nuisance to blueberry and dairy farmers. 83% of Christmas tree growers indicated coyote as a nuisance, however it should be noted that there are only six Christmas tree growers in the sample, which may artificially inflate this proportion.

It should be noted that as the list goes down, there are fewer farmers that selected those commodity types.

Table 6: Distribution of mentions of nuisance species by the total number of respondents in each commodity

	Deer	Coyote	Racoon	Bear
Field Crops (n=48)	**69%**	65%	44%	33%
Woodlot (n=38)	**74%**	71%	39%	32%
Beef (n=24)	**71%**	67%	29%	29%
Blueberries (n=18)	**89%**	56%	22%	61%
Orchard(n=14)	**79%**	36%	43%	7%
Sheep (n=11)	55%	**100%**	45%	45%
Poultry (n=8)	50%	**88%**	63%	25%
Dairy (n=8)	38%	**63%**	63%	50%
Christmas Trees (n=6)	67%	**83%**	50%	17%
Vineyard (n=5)	**80%**	20%	60%	0%
Fur (n=4)	0%	0%	**25%**	0%

Nature of Nuisance

Respondents were asked to check a box, or write in the nature of the nuisance for each species. Crop damage was the most frequently identified nuisance, followed by harm to livestock (Table 7).

Table 7: Nature of the nuisance for each species, count of the number of times nuisance types were selected

	crop damage	harm to livestock	threat to personal safety	property damage	TOTAL
coyotes	6	28	29	0	63
deer	49	1	5	4	59
bear	18	10	10	8	46
racoon	19	12	7	2	40
rodents	10	3	4	4	21
songbirds	12	2	0	3	17
beaver	6	0	0	10	16
porcupine	6	4	4	1	15
crows	8	3	0	2	13
geese	9	0	0	0	9
ground hog	4	1	1	3	9
raptors	0	8	0	0	8
humans	3	1	2	1	7
seagull	5	2	0	0	7
fox	0	4	2	0	6
pigeon	0	2	1	1	4
tick	0	1	2	0	3
aphids	2	0	0	0	2
cats	0	2	0	0	2
cougar	0	1	1	0	2
pheasant	2	0	0	0	2
skunk	1	1	0	0	2
squirrels	0	0	0	2	2
weasels	0	2	0	0	2
wild turkey	1	0	1	0	2
duck	1	0	0	0	1
meadow hen	1	0	0	0	1
mite	0	1	0	0	1
moose	0	0	0	1	1
owl	0	1	0	0	1
rabbit	1	0	0	0	1
Total	164	90	69	42	365

How acceptable is the loss from this species?

Respondents were asked to indicate how acceptable the loss was (on a scale of one to five) as a result of the species (Table 8). Losses are generally unacceptable to all respondents. Over half of respondents indicated that losses as a result of coyotes, rodents, beaver, crows, songbirds, seagulls, and geese, were completely unacceptable. Deer are still largely unacceptable, but they are more acceptable than other species. Deer are also the only species that any respondent indicated the loss as "completely acceptable".

A mean score was calculated indicating the overall acceptability of the loss accrued as a result of the species. The more negative the score, the more unacceptable is the loss. The summary of the acceptability of loss by part- and full-time farmers can be found in the appendix.

Table 8: Distributions of responses indicating acceptability of loss for species mentioned at a minimum of five times

Species		Completely Unacceptable (-2)	Somewhat Unacceptable (-1)	Indifferent (0)	Somewhat Acceptable (+1)	Completely Acceptable (+2)	mean	Total
Deer	N	11	16	3	3	4	-0.73	37
	%	30%	**43%**	8%	8%	11%		
Coyotes	N	13	7	3	1	0	-1.33	24
	%	**54%**	29%	13%	4%	0%		
Racoon	N	8	11	1	1	0	-1.24	21
	%	38%	**52%**	5%	5%	0%		
Bear	N	6	11	2	0	0	-1.21	19
	%	32%	**58%**	11%	0%	0%		
Rodents	N	7	4	1	0	0	-1.50	12
	%	**58%**	33%	8%	0%	0%		
Beaver	N	5	4	0	0	0	-1.56	9
	%	**56%**	44%	0%	0%	0%		
Crows	N	5	4	0	0	0	-1.56	9
	%	**56%**	44%	0%	0%	0%		
Porcupine	N	4	2	0	3	0	-0.78	9
	%	**44%**	22%	0%	33%	0%		
Songbirds	N	6	2	0	0	0	-1.75	8
	%	**75%**	25%	0%	0%	0%		
Seagull	N	5	2	0	0	0	-1.71	7
	%	**71%**	29%	0%	0%	0%		
Geese	N	3	2	1	0	0	-1.33	6
	%	**50%**	33%	17%	0%	0%		

Was compensation paid?

Respondents were only asked to tick a box *if* compensation was paid, but many chose to write in "no". This suggests that not having any compensation paid is an important issue for many farmers. Damages as a result of deer were most frequently listed as not having received compensation (Table 9).

Table 9: Distribution (count) of responses to whether compensation was paid

animal	No	Yes	Total
deer	13	2	15
bear	6	5	11
coyotes	5	4	9
racoon	5	2	7
seagull	3	0	3
songbirds	3	0	3
beaver	2	0	2
crows	2	0	2
duck	2	0	2
geese	2	0	2
porcupine	2	0	2
raptors	2	0	2
aphids	1	0	1
fox	1	0	1
ground hog	1	0	1
meadow hen	1	0	1
muskrat	1	0	1
otters	1	0	1
pheasant	1	0	1
pigeon	1	0	1
rodents	1	0	1
squirrels	1	0	1
Total	57	13	70

Methods of coping with species

Respondents were asked to indicate how they have coped with the species they listed. It is possible for more than one answer to be selected, thus Figure 2 represents the percentage of respondents indicating one of the top four species using a method. A complete table of all responses for all species can be found in the appendix.

The farmers who find coyotes a nuisance most often shoot them to eliminate the nuisance, and to a lesser extent shoot them for fur harvest. Deer are generally hunted for food/sport, or physical barriers such as fences are erected to help deter them. Farmers use a range of different methods to cope with raccoons, but the respondents who found raccoons a nuisance most often shot them to eliminate the nuisance. There seem to be fewer methods used to cope with bear, but erecting physical barriers was the most common method employed by the farmers in this sample.

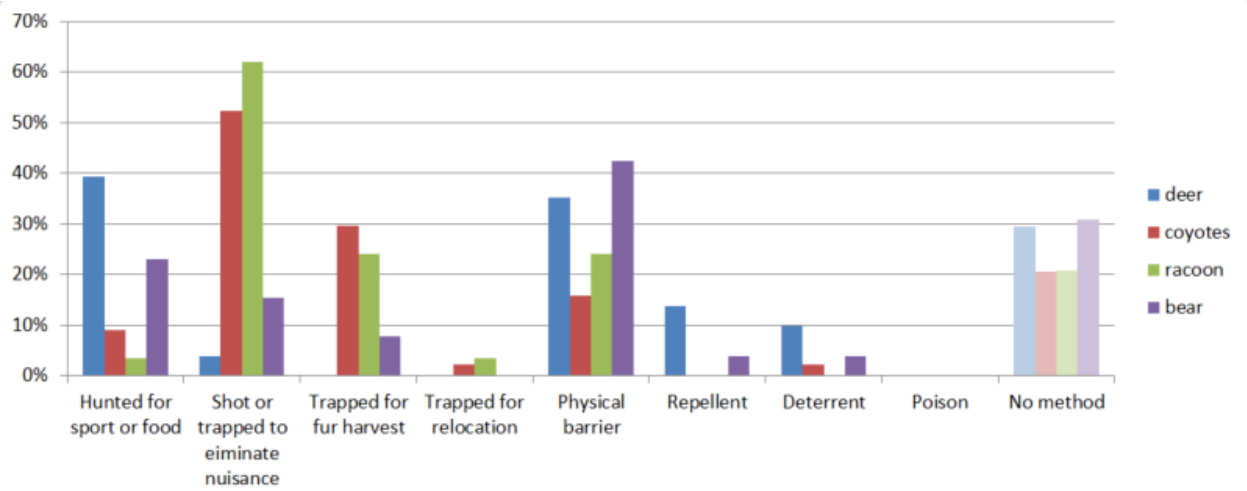

Figure 2: Methods of coping with the top four species, percentage of respondents using each method of those who indicated one of the top four species. Columns above 'no method' indicate the absence of selection of any method.

Did you seek help from government?

Out of all Nova Scotian respondents, 26 (33%) sought help from government to deal with the nuisance.

Coyotes, deer, bear and geese were the most frequently identified nuisance species for which help from the government was sought (Table 10).

Table 10: Count of species for which help from the government was sought to cope with the nuisance

Animal	Total Count
coyotes	10
deer	9
bear	7
geese	6
beaver	5
racoon	2
songbirds	2
cougar	1
duck	1
humans	1
raptors	1
seagull	1
TOTAL	46

Cultural Services Provided

All Species

Respondents were asked to indicate how much they agreed or disagreed with a series of statements regarding the potential cultural services provided by the species identified. A mean score was calculated by using the numeric equivalent of the responses: 1-completely disagree to 5-completely agree. The higher the score out of five, the more the respondents agreed with the statement.

Scores out of five were generally lower for the statement “I enjoy the presence of this species” (Table 11) compared to the scores for the statements “This species provides an educational opportunity” (Table 12) and “This species indicates my land is healthy” (Table 13).

Looking at the top four species listed, an interesting pattern emerges: Respondents were generally much more positive toward deer, indicated by the higher mean score. For deer, however, the highest mean score is from the statement: “I enjoy the presence of this species”. The score is somewhat lower for the remaining two questions. For coyote, racoon, and bear, the opposite pattern emerges. For these species respondents are in greater agreement with the statements “This species provides an educational opportunity” and “This species indicates my land is healthy”, compared to “I enjoy the presence of this species”. Mean scores were, however, consistently higher for deer compared to other species.

Table 11: Count of responses to "I enjoy the presence of this species". Most frequent answer bolded for each species where that value >1.

animal	Completely Disagree (1)	Somewhat Disagree (2)	Indifferent (3)	Somewhat Agree (4)	Completely Agree (5)	Mean Score	Total
deer	6	3	5	**22**	5	3.4	41
coyotes	**20**	7	2	5	1	1.9	35
racoon	**15**	4	4	2	1	1.8	26
bear	**7**	5	2	**7**	0	2.4	21
rodents	**14**	0	0	0	1	1.3	15
crows	**6**	4	2	2	0	2.0	14
songbirds	**6**	2	3	0	1	2.0	12
geese	2	2	**4**	2	0	2.6	10
porcupine	**5**	0	1	3	1	2.5	10
beaver	**4**	1	1	**4**	0	2.5	10
raptors	1	**2**	0	**2**	**2**	3.3	7
seagull	**6**	1	0	0	0	1.1	7
fox	1	1	0	**3**	0	3.0	5
ground hog	**2**	**2**	1	0	0	1.8	5
skunk	**3**	1	0	0	0	1.3	4
pigeon	1	0	1	0	1	3.0	3
squirrels	1	0	1	1	0	2.7	3
cats	**3**	0	0	0	0	1.0	3
pheasant	0	0	1	1	0	3.5	2
aphids	1	0	1	0	0	2.0	2
tick	1	0	1	0	0	2.0	2
duck	1	1	0	0	0	1.5	2
humans	**2**	0	0	0	0	1.0	2
moose	0	0	0	0	1	5.0	1
rabbit	0	0	0	0	1	5.0	1
cougar	0	0	0	1	0	4.0	1
owl	0	0	0	1	0	4.0	1
muskrat	0	0	1	0	0	3.0	1
otters	0	0	1	0	0	3.0	1
meadow hen	1	0	0	0	0	1.0	1
mite	1	0	0	0	0	1.0	1
wild turkey	1	0	0	0	0	1.0	1
TOTAL	111	36	32	56	15		250

Table 12: Count of responses to "This species provides an educational opportunity". Most frequent answer bolded for each species where that value >1.

animal	Completely Disagree (1)	Somewhat Disagree (2)	Indifferent (3)	Somewhat Agree (4)	Completely Agree (5)	Mean Score	Total
deer	10	3	7	**16**	4	3.0	40
coyotes	**20**	1	4	6	2	2.1	33
racoon	**14**	2	6	2	1	2.0	25
bear	5	3	4	**6**	1	2.7	19
rodents	**14**	0	0	0	0	1.0	14
crows	**5**	2	2	4	0	2.4	13
songbirds	**7**	2	2	0	1	1.8	12
porcupine	**3**	1	2	**3**	1	2.8	10
geese	**4**	2	1	1	0	1.9	8
beaver	**2**	**2**	**2**	**2**	0	2.5	8
seagull	**7**	0	0	0	0	1.0	7
raptors	**2**	**2**	0	**2**	1	2.7	7
skunk	**3**	0	0	1	0	1.8	4
ground hog	**2**	1	0	0	1	2.3	4
fox	1	0	1	**2**	0	3.0	4
cats	**3**	0	0	0	0	1.0	3
tick	**2**	0	0	0	0	1.0	2
aphids	1	0	0	1	0	2.5	2
duck	1	0	0	1	0	2.5	2
pigeon	1	1	0	0	0	1.5	2
pheasant	0	0	0	1	1	4.5	2
squirrels	0	1	0	0	1	3.5	2
humans	1	0	0	0	0	1.0	1
meadow hen	1	0	0	0	0	1.0	1
mite	1	0	0	0	0	1.0	1
wild turkey	1	0	0	0	0	1.0	1
cougar	0	0	1	0	0	3.0	1
muskrat	0	0	0	1	0	4.0	1
otters	0	0	0	1	0	4.0	1
owl	0	0	0	1	0	4.0	1
rabbit	0	0	0	0	1	5.0	1
TOTAL	111	23	32	51	15		232

Table 13: Count of responses to "The presence of this species indicates that my land is healthy". Most frequent answer bolded for each species where that value >1.

animal	Completely Disagree (1)	Somewhat Disagree (2)	Indifferent (3)	Somewhat Agree (4)	Completely Agree (5)	Mean Score	Total
deer	10	3	10	**14**	7	3.1	44
coyotes	**11**	3	9	8	4	2.7	35
racoon	**10**	3	**10**	1	1	2.2	25
bear	6	2	5	**7**	2	2.9	22
crows	4	0	**5**	4	0	2.7	13
songbirds	**7**	1	2	1	1	2.0	12
rodents	**6**	0	2	2	2	2.5	12
porcupine	**4**	0	3	2	1	2.6	10
beaver	1	0	3	**5**	1	3.5	10
geese	**3**	1	2	**3**	0	2.6	9
seagull	**4**	0	1	1	1	2.3	7
raptors	1	0	1	**3**	2	3.7	7
ground hog	**2**	0	1	0	1	2.5	4
skunk	**2**	1	0	0	1	2.3	4
fox	1	0	1	**2**	0	3.0	4
cats	**3**	0	0	0	0	1.0	3
pigeon	1	0	1	0	1	3.0	3
tick	**2**	0	0	0	0	1.0	2
aphids	1	0	1	0	0	2.0	2
duck	1	0	0	1	0	2.5	2
pheasant	1	0	0	1	0	2.5	2
squirrels	1	0	1	0	0	2.0	2
humans	1	0	0	0	0	1.0	1
meadow hen	1	0	0	0	0	1.0	1
mite	1	0	0	0	0	1.0	1
wild turkey	1	0	0	0	0	1.0	1
cougar	0	0	1	0	0	3.0	1
muskrat	0	0	0	1	0	4.0	1
otters	0	0	0	1	0	4.0	1
owl	0	0	0	1	0	4.0	1
rabbit	0	0	0	1	0	4.0	1
weasels	0	0	1	0	0	3.0	1
Total	86	14	60	59	25		244

Top Four Species

Respondents were asked to indicate their agreement with a series of statements indicating some of the potential benefits that arise from the nuisance species they identify. Looking at the top four species(Figure 3), there is a general disdain for both coyotes and racoons. The majority of respondents did not at all enjoy the presence of these species, or believe they provide an educational opportunity. Opinions were a bit more divided when considering if either racoon or coyote indicated land health.

The majority of respondents at agreed they at least somewhat enjoyed the presence of deer, and they were seen as an indicator of land health or an educational opportunity to a lesser extent.

The distribution of opinions regarding bear were much more diverse compared to the rest of the top four species.

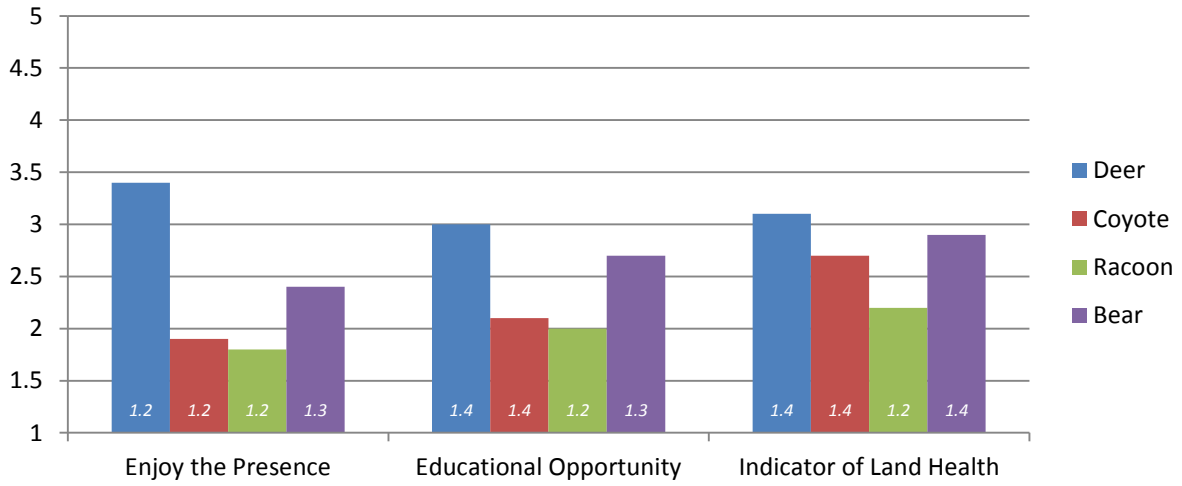

Figure 3: Mean of responses to cultural services provided by the top four species, standard deviation indicated by italicized numbers

Cultural Services and Full-time versus Part-time Farmers

It is anticipated respondents who are full- or a part-time farmers will have different perceptions of the potential cultural services provided by species. Looking at the top four species, both full-time and part-time farmers share a similar distribution in regards to their enjoyment of the presence of deer and coyotes (Figure 4). Opinions are a bit more divided between full- and part-time farmers for racoon and bear, with part-time farmers being slightly more positive. It should be noted, however, that there are fewer part-time farmers, resulting in a slightly skewed distribution.

Compared to full-time, part-time farmers are less likely to consider coyotes or racoon as an educational opportunity (Figure 5). There is less agreement between full- and part-time farmers with regards to any of the top four species as an indicator of land health (Figure 6). Part-time farmers are more negative toward racoons and coyotes than full-time farmers. A summary of the mean scores for each species by full- and part-time farmers can be found in the appendix.

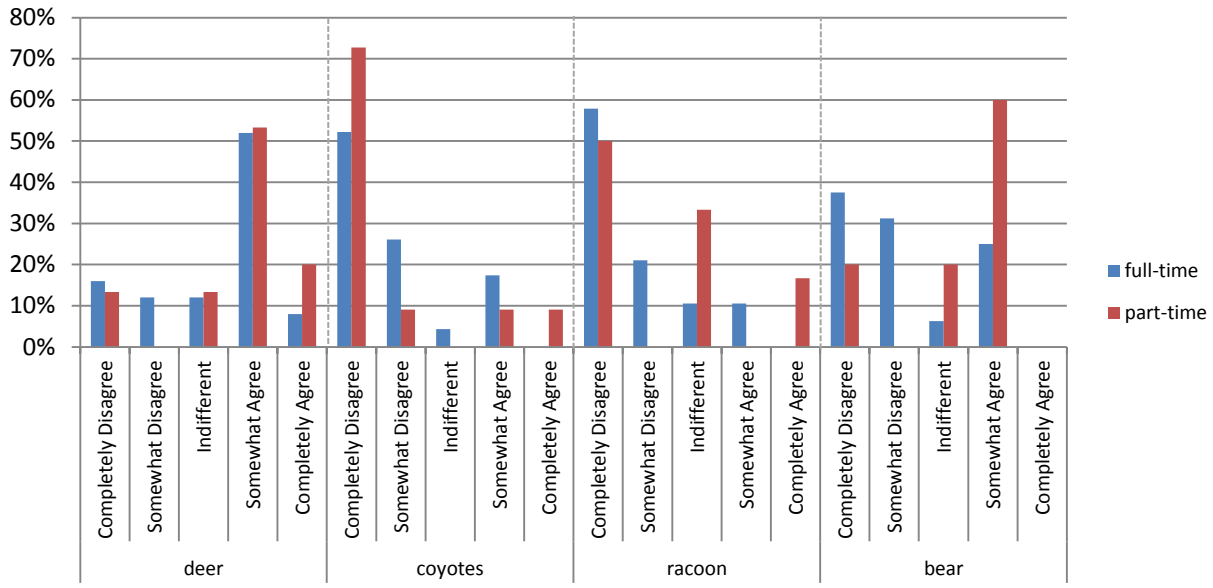

Figure 4: Distribution of "I enjoy the presence of this species" between full and part-time farmers

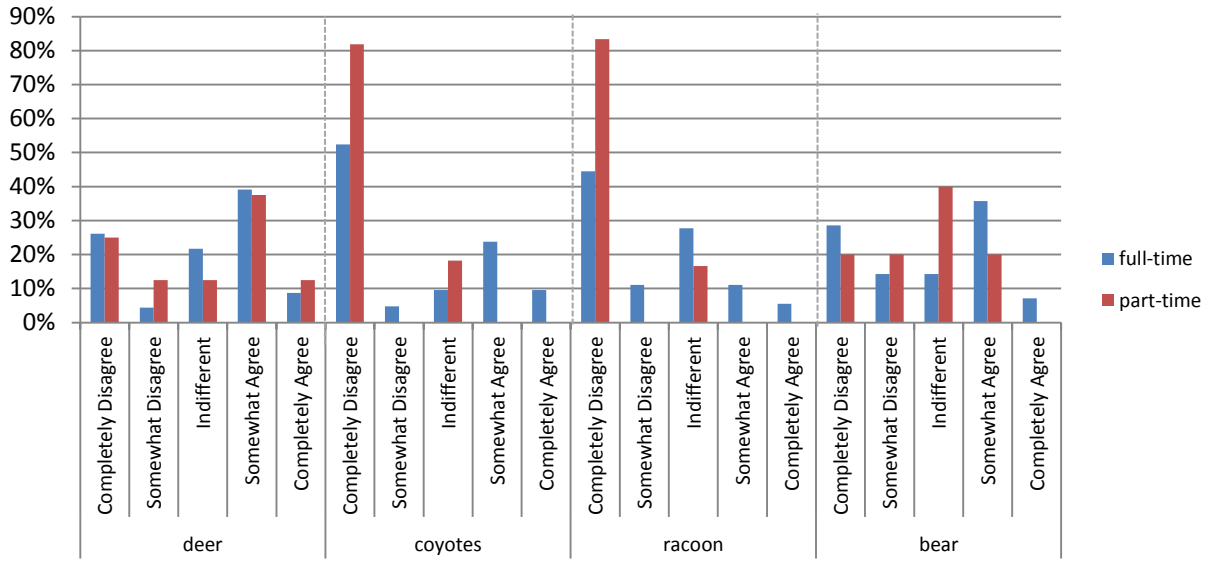

Figure 5: Distribution of responses to "Provides an educational opportunity", by full and part-time farmers

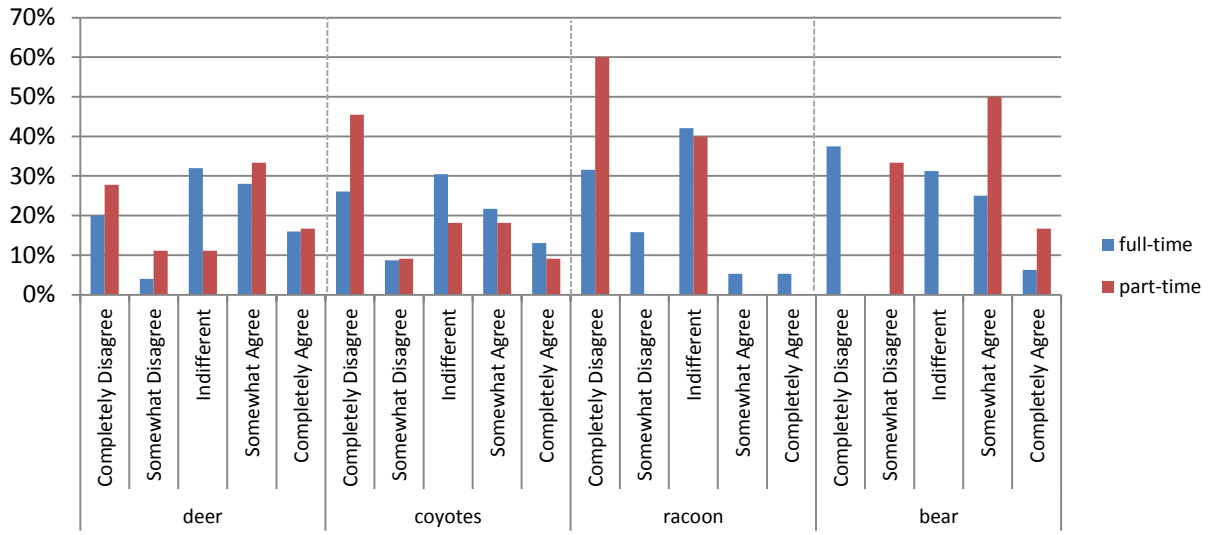

Figure 6: Distribution of responses to "Indicates my land is healthy" by full and part-time farmers

Overall

Respondents were asked: overall would you rather (1) have the species, despite the costs (2) not have the species because of the costs (3) unsure. Out of the responses listed two times or more: deer, raptors, fox and pheasant were the only species where the majority of those who indicated the species would rather, on balance, have the species (Table 14). The rest of the species the respondents would rather not have.

A summary table of the overall desire to have species divided by full- and part-time farmers, as well as by commodity, can be found in the appendix.

Table 14: Summary of overall desire to have the species. Mean scores for each species were calculated by taking the average of the numeric responses: -1-not have the species, 0-unsure, 1-have the species. A positive score indicates more overall desire to have the species, while a negative score indicates overall desire to not have the species.

	NOT have the species (-1)	Unsure (0)	Have the species (1)	Mean response	total
deer	17	9	**19**	0.04	45
coyotes	**26**	6	5	-0.57	37
racoon	**19**	5	1	-0.72	25
bear	**12**	6	5	-0.30	23
crows	**8**	4	2	-0.43	14
rodents	**13**	1	0	-0.93	14
songbirds	**8**	2	1	-0.64	11
beaver	**5**	0	**5**	0.00	10
porcupine	**9**	1	0	-0.90	10
geese	**5**	2	2	-0.33	9
seagull	**7**	0	0	-1.00	7
raptors	1	1	**4**	0.50	6
fox	1	1	**3**	0.40	5
ground hog	**3**	0	1	-0.50	4
skunk	**3**	1	0	-0.75	4
cats	**3**	0	0	-1.00	3
pigeon	**3**	0	0	-1.00	3
pheasant	0	0	2	1.00	2
humans	1	0	1	0.00	2
duck	2	0	0	-1.00	2
weasels	2	0	0	-1.00	2
squirrels	1	1	0	-0.50	2
tick	1	1	0	-0.50	2
moose	0	0	1	1.00	1
muskrat	0	0	1	1.00	1
otters	0	0	1	1.00	1
owl	0	0	1	1.00	1
rabbit	0	0	1	1.00	1
aphids	1	0	0	-1.00	1
cougar	1	0	0	-1.00	1
meadow hen	1	0	0	-1.00	1
mite	1	0	0	-1.00	1
wild turkey	1	0	0	-1.00	1
Total	155	41	56		252

Plants

Respondents were asked to identify what plants species they considered a nuisance. It is challenging to assemble a list of the species as common names were generally used by respondents there is no way to know what specific species was intended. A complete list of all of the plants referenced by their genus and species (where possible), can be found in the appendix.

Out of all Nova Scotian respondents, 32 did not identify any plant species at all.

Respondents were asked to indicate "How acceptable was this loss? [as a result of the plants identified]". Nuisance plants are generally unacceptable to the respondents, but the majority of respondents only considered them to be "somewhat unacceptable" (Table 15).

Table 15: Acceptability of loss from plants

	Freq.	Percent
Completely Unacceptable	32	35.96
Somewhat Unacceptable	40	44.94
Indifferent	6	6.74
Somewhat Acceptable	9	10.11
Completely Acceptable	2	2.25
Total	89	100

Conclusions

There is a good distribution of farmers from different commodity types, and agricultural regions of Nova Scotia. The majority of respondents are male, full-time farmers, and were educated at a college or technical school. The most common animals considered a nuisance were: deer, coyotes, racoon, and bear. After the top four species there was a dramatic drop in the number of reported nuisance species.

Some conclusions can be drawn from the observations in the data:

- There are some differences in the species identified by commodity produced
    - As anticipated, the vast majority of both poultry and sheep farmers listed coyotes as a nuisance.
    - Over half of blueberry growers listed deer and bear as nuisance species.
- A lack of compensation is an important issue for many farmers.
    - Many farmers wrote on the survey that compensation was not paid, even though they were only asked to indicate if it had been paid.
- There is a general disdain for both coyotes and racoons.
    - Losses as a result of coyotes are the most unacceptable.
    - The majority of respondents who indicated either species did not at all enjoy the presence of these species.
    - Opinions were a bit more divided when considering if either racoon or coyote indicated land health.
- Opinions regarding deer are mixed.
    - Losses as a result of deer are largely unacceptable, but they more acceptable than other species.
    - The majority of respondents who indicated deer agreed they at least somewhat enjoyed the presence of deer, and they were seen as an indicator of land health or an educational opportunity to a lesser extent.
- Opinions regarding bear are also mixed, with regards to their acceptability as well as the kind of nuisance they create.
    - Nearly 30% of respondents indicating bear or deer did not indicate any method of coping with the species. This may suggest a lack of knowledge of methods of coping, or perhaps tolerance toward the species.
- Of the species with at least five mentions, only raptors and foxes were strongly considered desirable to have, despite the nuisances they represent. Attitudes towards deer were also slightly positive, whereas farmers' attitude about beavers was divided.
- There are some differences in perception between full- and part-time farmers.
    - Both full-time and part-time farmers share a similar distribution in regards to their enjoyment of the presence of deer and coyotes.
    - There is less agreement between full- and part-time farmers with regards to any of the top four species as an indicator of land health.
- More part-time farmers do not view racoons and coyotes as an indicator of land health compared to full-time farmers.

Appendix

Table 1: Animals listed by each commodity type (table is split over two pages)

Field crops n=48			**Woodlot n=38**			**Beef n=24**			**Blueberries n=18**			**Orchard n=14**		
Species	**N**	% of responses	Species	N	% of responses	Species	N	% of responses	Species	N	% of responses	Species	N	% of responses
deer	**33**	69%	deer	28	74%	deer	17	71%	deer	16	89%	deer	11	79%
coyotes	**31**	65%	coyotes	27	71%	coyotes	16	67%	bear	11	61%	racoon	6	43%
racoon	**21**	44%	racoon	15	39%	bear	7	29%	coyotes	10	56%	coyotes	5	36%
bear	**16**	33%	bear	12	32%	racoon	7	29%	seagull	5	28%	songbirds	5	36%
rodents	**12**	25%	rodents	10	26%	rodents	7	29%	racoon	4	22%	porcupine	3	21%
crows	**11**	23%	beaver	8	21%	geese	5	21%	geese	3	17%	crows	2	14%
geese	**9**	19%	geese	7	18%	porcupine	5	21%	beaver	2	11%	rodents	2	14%
songbirds	**9**	19%	porcupine	7	18%	beaver	4	17%	crows	2	11%	bear	1	7%
beaver	**8**	17%	raptors	5	13%	crows	3	13%	raptors	2	11%	geese	1	7%
porcupine	**8**	17%	songbirds	5	13%	humans	3	13%	songbirds	2	11%	humans	1	7%
raptors	**8**	17%	ground hog	4	11%	raptors	3	13%	duck	1	6%	pigeon	1	7%
ground hog	**5**	10%	crows	3	8%	fox	2	8%	meadow hen	1	6%	raptors	1	7%
pigeon	**3**	6%	squirrels	3	8%	ground hog	2	8%	rabbit	1	6%	weasels	1	7%
seagull	**3**	6%	aphids	2	5%	pigeon	2	8%	weasels	1	6%			
skunk	**3**	6%	fox	2	5%	seagull	2	8%	wild turkey	1	6%			
squirrels	**3**	6%	humans	2	5%	songbirds	2	8%						
fox	**2**	4%	pheasant	2	5%	aphids	1	4%						
humans	**2**	4%	pigeon	2	5%	moose	1	4%						
pheasant	**2**	4%	seagull	2	5%	skunk	1	4%						
weasels	**2**	4%	skunk	2	5%	tick	1	4%						
aphids	**1**	2%	weasels	2	5%	weasels	1	4%						
cats	**1**	2%	cats	1	3%									
cougar	**1**	2%	cougar	1	3%									
duck	**1**	2%	duck	1	3%									
moose	**1**	2%	moose	1	3%									
muskrat	**1**	2%	muskrat	1	3%									
otters	**1**	2%	otters	1	3%									
owl	**1**	2%	tick	1	3%									
tick	**1**	2%												
wild turkey	**1**	2%												

Sheep n=11			**Dairy n=8**			**Poultry n=8**			**Christmas trees n=6**			**Vineyard n=5**			**Fur n=4**		
Species	N	% of responses	Species	N	% of responses	Species	N	% of responses	Species	N	% of responses	Species	N	% of responses	Species	N	% of responses
coyotes	11	100%	coyotes	5	63%	coyotes	7	88%	coyotes	5	83%	songbirds	6	120%*	cats	2	50%
deer	6	55%	racoon	5	63%	raptors	6	75%	deer	4	67%	deer	4	80%	seagull	2	50%
raptors	6	55%	bear	4	50%	racoon	5	63%	racoon	3	50%	racoon	3	60%	racoon	1	25%
bear	5	45%	deer	3	38%	deer	4	50%	beaver	2	33%	beaver	1	20%	rodents	1	25%
racoon	5	45%	songbirds	3	38%	crows	3	38%	ground hog	2	33%	coyotes	1	20%	skunk	1	25%
crows	3	27%	beaver	2	25%	bear	2	25%	porcupine	2	33%	skunk	1	20%			
geese	3	27%	crows	2	25%	rodents	2	25%	rodents	2	33%						
rodents	3	27%	geese	2	25%	skunk	2	25%	squirrels	2	33%						
songbirds	3	27%	humans	1	13%	aphids	1	13%	aphids	1	17%						
beaver	2	18%	pigeon	1	13%	cats	1	13%	bear	1	17%						
ground hog	2	18%	rodents	1	13%	fox	1	13%	geese	1	17%						
porcupine	2	18%				ground hog	1	13%	pheasant	1	17%						
skunk	2	18%				owl	1	13%	pigeon	1	17%						
aphids	1	9%				pheasant	1	13%	raptors	1	17%						
cougar	1	9%				pigeon	1	13%	songbirds	1	17%						
fox	1	9%				porcupine	1	13%									
owl	1	9%				songbirds	1	13%									
tick	1	9%				squirrels	1	13%									
weasels	1	9%				weasels	1	13%									

*respondent identified different species, which were all coded as “songbird”, thus there are more mentions of songbirds than there are respondents in that commodity group

Table 2a: Acceptability of loss as a result of all animals by part-time farmers

Part-time Farmers							
animal	**Completely Unacceptable (-2)**	**Somewhat Unacceptable (-1)**	**Indifferent (0)**	**Somewhat Acceptable (+1)**	**Completely Acceptable (+2)**	**Mean**	**Total**
deer	3	5	3	1	3	-0.7	15
coyotes	4	2	2	1	0	-1.0	9
bear	2	2	2	0	0	-1.0	6
racoon	2	2	0	0	0	-1.5	4
geese	1	1	1	0	0	-1.0	3
porcupine	0	1	0	2	0	0.3	3
rodents	0	3	0	0	0	-1.0	3
beaver	1	1	0	0	0	-1.5	2
seagull	2	0	0	0	0	-2.0	2
songbirds	2	0	0	0	0	-2.0	2
cats	1	0	0	0	0	-2.0	1
crows	1	0	0	0	0	-2.0	1
ground hog	0	1	0	0	0	-1.0	1
mite	1	0	0	0	0	-2.0	1
pheasant	0	1	0	0	0	-1.0	1
rabbit	0	0	0	0	1	0.0	1
squirrels	0	1	0	0	0	-1.0	1
tick	0	0	0	1	0	1.0	1
Total	20	20	8	5	4		57

Table 2b: Acceptability of loss as a result of all animals by full -time farmers

Full-time Farmers							
animal	**Completely Unacceptable (-2)**	**Somewhat Unacceptable (-1)**	**Indifferent (0)**	**Somewhat Acceptable (+1)**	**Completely Acceptable (+2)**	**Mean**	**Total**
deer	8	11	0	1	1	-1.2	21
racoon	6	9	1	1	0	-1.2	17
coyotes	9	5	0	0	0	-1.6	14
bear	4	9	0	0	0	-1.3	13
rodents	6	1	1	0	0	-1.6	8
beaver	4	3	0	0	0	-1.6	7
crows	3	4	0	0	0	-1.4	7
songbirds	4	2	0	0	0	-1.7	6
porcupine	3	1	0	1	0	-1.2	5
seagull	3	2	0	0	0	-1.6	5
raptors	1	3	0	0	0	-1.3	4
geese	2	1	0	0	0	-1.7	3
ground hog	1	2	0	0	0	-1.3	3
aphids	1	1	0	0	0	-1.5	2
cats	2	0	0	0	0	-2.0	2
pigeon	1	1	0	0	0	-1.5	2
skunk	1	1	0	0	0	-1.5	2
cougar	1	0	0	0	0	-2.0	1
duck	0	1	0	0	0	-1.0	1
humans	1	0	0	0	0	-2.0	1
meadow hen	0	1	0	0	0	-1.0	1
moose	0	1	0	0	0	-1.0	1
squirrels	0	0	1	0	0	0.0	1
wild turkey	1	0	0	0	0	-2.0	1
Total	62	59	3	3	1		128

Table 3: Methods of coping with nuisance species

	Hunted for Sport or Food	Shot to eliminate nuisance	Trapped for fur harvest	Trapped for relocation	Physical barrier	Repellant	Deterrent	Poisoned	Total Responses
deer	20	2			18	7	5		52
coyotes	4	23	13	1	7		1		49
racoon	1	18	7	1	7				34
bear	6	4	2		11	1	1		25
rodents		7						12	19
songbirds		2			7		6		15
beaver		4	6		1				11
geese	4	2			1	1	3		11
crows	1	3			2		4		10
seagull	1	1			2	1	4	1	10
porcupine		7		1	1				9
raptor		1			3		2		6
pigeon	1	3			1				5
cats		2			2				4
ground hog		4							4
aphids						1		1	2
fox			1		1				2
squirrel		2							2
duck							1		1
mites								1	1
owl					1				1
pheasant							1		1
rabbit	1								1
skunk		1							1
weasel					1				1
wild turkey	1								1
TOTAL	40	86	29	3	66	11	28	15	278

Table 4: Mean scores of responses to ecosystem service statements by full- and part-time farmers. Blanks indicate a lack of response.

	Enjoy the Presence				Educational Opportunity				Indicator of Land Health			
Animal	Part-time		Full-time		Part-time		Full-time		Part-time		Full-time	
	Score	N	Score	N	Score	N	Score	N	Score	N	Score	N
aphids			2.0	2			2.5	2			2.0	2
bear	3.2	5	2.2	16	2.6	5	2.8	14	3.5	6	2.6	16
beaver	3.7	3	2.0	7	2.5	2	2.5	6	4.0	3	3.3	7
cats	1.0	1	1.0	2	1.0	1	1.0	2	1.0	1	1.0	2
cougar			4.0	1			3.0	1			3.0	1
coyotes	1.7	11	1.9	23	1.4	11	2.3	21	2.4	11	2.9	23
crows	2.7	3	1.6	10	2.7	3	2.1	9	2.3	3	2.7	9
deer	3.7	15	3.2	25	3.0	16	3.0	23	3.0	18	3.2	25
duck			1.5	2			2.5	2			2.5	2
fox	4.0	1	2.8	4	3.0	1	3.0	3	4.0	1	2.7	3
geese	3.0	4	2.3	6	1.5	4	2.3	4	2.0	4	3.0	5
ground hog	2.5	2	1.3	3	3.0	2	1.5	2	3.0	2	2.0	2
humans			1.0	2			1.0	1			1.0	1
meadow hen			1.0	1			1.0	1			1.0	1
moose			5.0	1								
mite	1.0	1			1.0	1	4.0	1	1.0	1	4.0	1
muskrat			3.0	1								
otters			3.0	1			4.0	1			4.0	1
owl			4.0	1			4.0	1			4.0	1
pheasant	3.0	1	4.0	1	5.0	1	4.0	1	1.0	1	4.0	1
pigeon	5.0	1	2.0	2			1.5	2	5.0	1	2.0	2
porcupine	2.8	4	2.6	5	2.3	4	3.0	5	3.3	4	2.4	5
rabbit	5.0	1			5.0	1			4.0	1		
racoon	2.3	6	1.7	19	1.3	6	2.2	18	1.8	5	2.4	19
raptors			3.3	7			2.7	7			3.7	7
rodents	1.7	6	1.0	8	1.0	6	1.0	7	3.0	4	2.4	7
seagull	1.0	2	1.2	5	1.0	2	1.0	5	2.5	2	2.2	5
skunk	1.0	1	1.3	3	1.0	1	2.0	3	1.0	1	2.7	3
songbirds	2.8	4	1.7	7	2.3	4	1.7	7	2.8	4	1.7	7
squirrels	3.0	1	2.5	2	5.0	1	2.0	1	1.0	1	3.0	1
tick	2.0	2			1.0	2			1.0	2		
weasels											3.0	1
wild turkey			1.0	1			1.0	1			1.0	1
Total		75		168		74		151		76		161

Table 5a: Distribution of overall desire to have species by part-time farmers

Part-time farmers					
Animals	**Not have the species(-1)**	**Unsure (0)**	**Have the species (+1)**	**Mean**	**Total**
deer	7	1	11	0.2	19
coyotes	9	1	3	-0.5	13
bear	2	3	2	0.0	7
racoon	5	1	0	-0.8	6
rodents	6	0	0	-1.0	6
geese	2	1	1	-0.3	4
porcupine	4	0	0	-1.0	4
beaver	1	0	2	0.3	3
crows	3	0	0	-1.0	3
songbirds	2	1	0	-0.7	3
ground hog	1	0	1	0.0	2
seagull	2	0	0	-1.0	2
tick	1	1	0	-0.5	2
cats	1	0	0	-1.0	1
fox	0	0	1	1.0	1
mite	1	0	0	-1.0	1
pheasant	0	0	1	1.0	1
pigeon	1	0	0	-1.0	1
rabbit	0	0	1	1.0	1
raptors	0	0	1	1.0	1
skunk	1	0	0	-1.0	1
squirrels	1	0	0	-1.0	1
weasels	1	0	0	-1.0	1
Total	51	9	24		84

Table 5b: Distribution of overall desire to have species by full-time farmers

Full-time Farmers					
Animals	Not have the species (-1)	Unsure (0)	Have the species (+1)	Mean	Total
deer	10	8	7	-0.1	25
coyotes	17	4	2	-0.7	23
racoon	13	4	1	-0.7	18
bear	10	3	3	-0.4	16
crows	5	4	1	-0.4	10
beaver	4	0	3	-0.1	7
rodents	6	1	0	-0.9	7
songbirds	5	1	1	-0.6	7
geese	3	1	1	-0.4	5
porcupine	4	1	0	-0.8	5
raptors	1	1	3	0.4	5
seagull	5	0	0	-1.0	5
fox	1	1	2	0.3	4
skunk	2	1	0	-0.7	3
cats	2	0	0	-1.0	2
duck	2	0	0	-1.0	2
ground hog	2	0	0	-1.0	2
humans	1	0	1	0.0	2
pigeon	2	0	0	-1.0	2
aphids	1	0	0	-1.0	1
cougar	1	0	0	-1.0	1
meadow hen	1	0	0	-1.0	1
moose	0	0	1	1.0	1
muskrat	0	0	1	1.0	1
otters	0	0	1	1.0	1
owl	0	0	1	1.0	1
pheasant	0	0	1	1.0	1
squirrels	0	1	0	0.0	1
weasels	1	0	0	-1.0	1
wild turkey	1	0	0	-1.0	1
Total	100	31	30		161

Table 6: Overall desire to have species by commodity type. Note: NH=Not Have the Species, U=Unsure, H=Have the Species, M=Mean Score, T=Total

Field Crops n=48						Woodlot n=38						Beef n=24					
Animal	NH	U	H	M	T	Animal	NH	U	H	M	T	Animal	NH	U	H	M	T
deer	8	7	15	0.2	30	deer	6	4	15	0.4	25	deer	5	2	7	0.1	14
coyotes	20	4	3	-0.6	27	coyotes	15	3	5	-0.4	23	coyotes	10	2	1	-0.7	13
racoon	14	4	1	-0.7	19	racoon	8	3	1	-0.6	12	rodents	5	1	0	-0.8	6
bear	7	3	3	-0.3	13	bear	5	4	1	-0.4	10	bear	2	1	2	0.0	5
crows	6	3	2	-0.4	11	rodents	7	1	0	-0.9	8	porcupine	4	1	0	-0.8	5
rodents	10	1	0	-0.9	11	beaver	4	0	3	-0.1	7	racoon	3	2	0	-0.6	5
geese	5	2	1	-0.5	8	porcupine	6	1	0	-0.9	7	beaver	2	0	2	0.0	4
porcupine	7	1	0	-0.9	8	geese	3	2	1	-0.3	6	geese	1	1	2	0.3	4
songbirds	6	1	1	-0.6	8	songbirds	2	1	1	-0.3	4	crows	2	1	0	-0.7	3
beaver	4	0	3	-0.1	7	crows	1	0	2	0.3	3	fox	0	1	1	0.5	2
raptors	1	1	4	0.5	6	ground hog	2	0	1	-0.3	3	seagull	2	0	0	-1.0	2
ground hog	3	0	1	-0.5	4	raptors	0	1	2	0.7	3	songbirds	1	1	0	-0.5	2
pigeon	3	0	0	-1.0	3	fox	0	0	2	1.0	2	ground hog	1	0	0	-1.0	1
seagull	3	0	0	-1.0	3	pheasant	0	0	2	1.0	2	humans	1	0	0	-1.0	1
skunk	3	0	0	-1.0	3	pigeon	2	0	0	-1.0	2	moose	0	0	1	1.0	1
fox	0	0	2	1.0	2	seagull	2	0	0	-1.0	2	pigeon	1	0	0	-1.0	1
pheasant	0	0	2	1.0	2	skunk	2	0	0	-1.0	2	raptors	0	0	1	1.0	1
squirrels	1	1	0	-0.5	2	squirrels	1	1	0	-0.5	2	skunk	1	0	0	-1.0	1
weasels	2	0	0	-1.0	2	weasels	2	0	0	-1.0	2	tick	1	0	0	-1.0	1
cats	1	0	0	-1.0	1	aphids	1	0	0	-1.0	1	weasels	1	0	0	-1.0	1
cougar	1	0	0	-1.0	1	cats	1	0	0	-1.0	1						
duck	1	0	0	-1.0	1	cougar	1	0	0	-1.0	1						
humans	0	0	1	1.0	1	duck	1	0	0	-1.0	1						
moose	0	0	1	1.0	1	moose	0	0	1	1.0	1						
muskrat	0	0	1	1.0	1	muskrat	0	0	1	1.0	1						
otters	0	0	1	1.0	1	otters	0	0	1	1.0	1						
owl	0	0	1	1.0	1	tick	1	0	0	-1.0	1						
tick	1	0	0	-1.0	1												
wild turkey	1	0	0	-1.0	1												
Total	108	28	43		179	Total	73	21	39		133	Total	43	13	17		73

Blueberries n=18						Orchard n=14						Sheep n=11					
Animal	NH	U	H	M	T	Animal	NH	U	H	M	T	Animal	NH	U	H	M	T
deer	9	2	2	-0.5	13	deer	3	4	2	-0.1		coyotes	8	1	0	-0.9	9
bear	7	3	0	-0.7	10	racoon	1	4	0	-0.2	9	bear	1	1	2	0.3	4
coyotes	6	2	0	-0.8	8	coyotes	3	0	1	-0.5	5	deer	0	2	2	0.5	4
seagull	5	0	0	-1.0	5	songbirds	3	1	0	-0.8	4	racoon	3	1	0	-0.8	4
racoon	3	0	0	-1.0	3	porcupine	2	1	0	-0.7	4	raptors	1	1	2	0.3	4
beaver	2	0	0	-1.0	2	crows	1	1	0	-0.5	3	crows	2	1	0	-0.7	3
crows	2	0	0	-1.0	2	rodents	1	1	0	-0.5	2	rodents	3	0	0	-1.0	3
geese	2	0	0	-1.0	2	humans	0	0	1	1.0	2	songbirds	3	0	0	-1.0	3
songbirds	2	0	0	-1.0	2	pigeon	1	0	0	-1.0	1	beaver	0	0	2	1.0	2
duck	1	0	0	-1.0	1	weasels	1	0	0	-1.0	1	geese	1	1	0	-0.5	2
meadow hen	1	0	0	-1.0	1						1	ground hog	2	0	0	-1.0	2
rabbit	0	0	1	1.0	1							porcupine	2	0	0	-1.0	2
raptors	0	0	1	1.0	1							skunk	2	0	0	-1.0	2
weasels	1	0	0	-1.0	1							cougar	1	0	0	-1.0	1
wild turkey	1	0	0	-1.0	1							fox	0	0	1	1.0	1
												owl	0	0	1	1.0	1
												tick	1	0	0	-1.0	1
												weasels	1	0	0	-1.0	1
Total	42	7	4		53	Total	16	12	4		32	Total	31	8	10		49
	Poultry n=8						Dairy n=8						Christmas Trees n=6				
Animal	NH	U	H	M	T	Animal	NH	U	H	M	T	Animal	NH	U	H	M	T
coyotes	4	1	1	-0.5	6	racoon	4	0	1	-0.6	5	coyotes	2	0	2	0.0	4
racoon	4	1	0	-0.8	5	bear	2	1	1	-0.3	4	deer	0	1	3	0.8	4
raptors	1	1	3	0.4	5	coyotes	3	1	0	-0.8	4	racoon	3	0	0	-1.0	3
deer	0	0	4	1.0	4	deer	1	0	2	0.3	3	beaver	1	0	1	0.0	2
crows	1	1	1	0.0	3	songbirds	2	0	1	-0.3	3	ground hog	1	0	1	0.0	2
bear	1	1	0	-0.5	2	beaver	1	0	1	0.0	2	porcupine	2	0	0	-1.0	2
rodents	2	0	0	-1.0	2	crows	1	1	0	-0.5	2	rodents	2	0	0	-1.0	2
skunk	2	0	0	-1.0	2	geese	1	1	0	-0.5	2	squirrels	1	1	0	-0.5	2
cats	1	0	0	-1.0	1	pigeon	1	0	0	-1.0	1	bear	0	0	1	1.0	1
fox	0	0	1	1.0	1	rodents	1	0	0	-1.0	1	geese	0	0	1	1.0	1
ground hog	0	0	1	1.0	1							pheasant	0	0	1	1.0	1
owl	0	0	1	1.0	1							pigeon	1	0	0	-1.0	1
pheasant	0	0	1	1.0	1							songbirds	1	0	0	-1.0	1
pigeon	1	0	0	-1.0	1												
porcupine	1	0	0	-1.0	1												
squirrels	1	0	0	-1.0	1												
weasels	1	0	0	-1.0	1												
Total	20	5	13		38	Total	17	4	6		27	Total	14	2	10		26

Vineyard n=5						Fur n=4					
Animal	NH	U	H	M	T	Animal	NH	U	H	M	T
deer	1	1	1	0.0	3	cats	2	0	0	-1.0	2
songbirds	2	1	0	-0.7	3	seagull	2	0	0	-1.0	2
racoon	2	0	0	-1.0	2	racoon	0	1	0	0.0	1
						rodents	1	0	0	-1.0	1
						skunk	0	1	0	0.0	1
Total	5	2	1		8	Total	5	2	0		7

Table 7: Latin Names of Plants

Latin		Freq.	Percent of plants mentioned	Percent of responses
Either unrecognizable, or respondent simply wrote "weeds"	–	17	15%	22%
Cirsium	Thistle	10	9%	13%
Solidago	Golden Rod	9	8%	11%
Alnus	Alder	6	5%	8%
Gnaphalium uliginosum	Dandelion	6	5%	8%
Festuca	Fescue	5	4%	6%
Rumex acetocella L.	Sheep sorrel	5	4%	6%
Arctium	Burdock	4	3%	5%
Agropyron repens	Quack grass	3	3%	4%
Ambrosia artemisiifolia L.	Ragweed	3	3%	4%
Frangula alnus	Glossy Buckthorn	3	3%	4%
Galium	Bedstraw	3	3%	4%
Juncus effusus	Soft rush	3	3%	4%
Senecio jacobaea L.	Tansy	3	3%	4%
Daucus carota L.	Wild carrot	2	2%	3%
Galium aparine L.	Cleavers	2	2%	3%
Scirpus atrovirens	Black bulrush	2	2%	3%
Tragopogon	Goat's beard	2	2%	3%
Vicia	Vetch	2	2%	3%
Agrostis	Bent grass	1	1%	1%
Amaranthus retroflexus L.	Pigweed	1	1%	1%
Apocynum	Dogbane	1	1%	1%
Apocynum androsaemifolium	Spreading Dogbane	1	1%	1%
Ascelepias syriaca L.	Milkweed	1	1%	1%
Aster	Aster	1	1%	1%
Atropa belladonna	Deadly nightshade	1	1%	1%
Avena fatua L.	Wild oats	1	1%	1%
Chenopodium album L.	Lambsquarters	1	1%	1%
Cirsium vulgare	Bull thistle	1	1%	1%
Convolvulus	Bindweed	1	1%	1%
Cornus canadensis	Bunchberry	1	1%	1%
Crataegus	Hawthorn	1	1%	1%
Erigeron annus (L.) Pers.	Fleabane	1	1%	1%
Euphorbia	Leafy spurge	1	1%	1%
Galeopsis tetrahit L.	Nettles	1	1%	1%
Glechoma hederacea	Ground Ivy	1	1%	1%
Medicago lupulina (L.)	Black medic	1	1%	1%

Miscanthus	Elephant grass	1	1%	1%
Prunus virginiana	Chokecherry	1	1%	1%
Pteridium aquilinum	Bracken fern	1	1%	1%
Raphanus raphanistrum L.	Wild radish	1	1%	1%
Rosa	Wild rose	1	1%	1%
Rumex crispus	Curly dock	1	1%	1%
Stellaria media L. Vill. L.	Chickweed	1	1%	1%
Tussilago farfara L.	Coltsfoot	1	1%	1%
Viola	Violet	1	1%	1%
Total		117		