

# **Incentives for Land Stewardship: Managing the Florida Panther and Wildlife Habitat on Ranchlands**

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A Summary of Research Findings Presented to the Florida Panther Recovery Implementation Team  
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## **Project Overview and Objectives**

According to the Florida Panther Recovery Plan, delisting of the Florida panther necessitates that habitat be conserved on private range lands<sup>1</sup>. To meet this objective, the U.S. Fish and Wildlife Service (USFWS) recently recommended that incentives be used as a way to encourage cattlemen to engage in panther habitat conservation, and to offset the costs of living with the panther. To determine the type and size of incentives needed to engage cattlemen, researchers at the University of Florida conducted a mail-based survey to identify cattlemen preferences for panther/habitat conservation programs. This document is a summary of their preliminary research findings which were presented to the Florida Panther Recovery Implementation Team on February 25, 2015 in Gainesville, FL.

## **Survey Design and Implementation**

The survey was designed and implemented using a multi-stage process. Survey development consisted of a comprehensive literature review, two focus groups with 32 participants, semi-structured interviews with 42 participants, and pre-testing with 13 participants. Participants included research professionals, extension agents, and cattlemen.

The final survey contained 42 questions about land management practices, ranch operations, attitudes towards the panther and demographic characteristics. A choice experiment was used to identify cattlemen's preferences for four different types of incentives. The incentives include: per acre payments, a one-time reduction in the estate tax, depredation payments and a Safe harbor agreement. The choice experiment was also used to identify preferences for different types of technical assistance, percent acres enrolled, contract commitment (years) and monitoring agency. A copy of the language used to describe incentives can be found in Appendix A.

A total of 3,604 survey packets were posted to addresses on the Florida Cattlemen's Association mailing list. The survey was initially distributed in September, 2014 and a second round was implemented the following December. Because the survey was distributed using a third party, researchers did not have access to the mailing list and respondents to the survey were able to remain anonymous.

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<sup>1</sup> Florida Panther Recovery Plan (*Puma concolor coryi*), Third Revision. U.S. Fish and Wildlife Service. Atlanta, Georgia. 217 pp.

## **Survey Response and Respondent Characteristics**

A total of 267 surveys were returned and 219 surveys were completed correctly (82.0%). Since researchers did not have access to the mailing list, they were not able to determine the actual number of cattlemen who received the survey and therefore were unable to calculate a formal response rate.

Most survey respondents were from central and north Florida (71.4%) (Figure 1.). Since there are fewer ranch operations in the south, compared to other regions, the low response from the south region was not unexpected. In addition, 13.5% of respondents did not report their location.

Most survey respondents were male (85.7%), white (96.2%), over 50 years in age (83.4%), and had some college education (84.0%). Forty-five percent reported an annual income of less than \$100,000 and 50.4% made less than 25% of their income from beef. Most of the respondents were landowners (80%). Fifty-three percent reported that they owned less than 500 acres and 10% owned over 5000 acres. Forty percent of respondents reported that they leased land, however, 30% leased less than 500 acres. Most respondents (65%) reported that their ranch operations had less than 250 head of cattle and 6% reported that they experienced livestock depredation due to panther.

## **Attitudes towards the Panther**

The survey contained a scalar tool used to measure positive and negative attitudes towards the panther. The scale contained 4 positive and 3 negative statements about the panther. Respondents were asked to indicate along a 5 point scale how strongly they agreed or disagreed with each statement. Responses were adjusted and aggregated to calculate an individual score for each respondent. A score of 7-16 indicates strongly anti-panther attitudes, 17-25 indicates moderate attitudes and 26-35 indicates strongly pro-panther attitudes.

Almost half of respondents had moderate attitudes towards the panther (44%) and the remaining were either strongly anti-panther (27%) or strongly pro-panther (29%). Many respondents (over 40%) indicated “strongly agree” with two statements in the scale. Over half of respondents agreed or strongly agreed with two statements: the statement regarding the panther’s right to exist, and the statement that posed that cattlemen should have the right to shoot a problem panther.

There were regional differences in reported panther presence, panther depredation and attitudes towards the panther. Incidents of panther presence and panther depredation was higher among respondents in the south (Figures 2 and 3). In addition, anti-panther attitudes were stronger among respondents in the south and among respondents who reported experiencing calf depredation due to the panther (Table 1.)

## **Preferences for Program Attributes**

The choice experiment strategy used in the survey was a combination of best-worst scaling and dichotomous choice methodologies. This is done by presenting both preference elicitation methods within the same choice task or scenario. Only the results of the best-worst scaling are presented in this report summary. The best-worst scale estimates average latent utilities (e.g., preferences) associated with program attribute categories and attribute levels. This will allow researchers to understand the relative importance of various program attributes and incentives to cattlemen.

A main effects orthogonal array (MEOA) was used to create 16 choice sets using different combinations of 20 program attributes (Table 2). As such, each choice set described a different hypothetical incentive program to protect panther habitat on ranchlands. A blocking procedure was used to create two versions of the survey, each containing 8 choice sets. Within each choice set the respondent was asked to select which program characteristic they preferred most and which they preferred least. Data collected from these responses were fitted to the best-worst scale.

The model found that attributes describing technical assistance and type of incentive were most preferred, followed by percent acres enrolled, monitoring organization and length of contract (years) (Figure 4.). For type of incentive, respondents reported per acre payments for habitat to be most preferred, followed by a reduction in estate tax, depredation payment and Safe harbor agreement (Figure 5.). For attributes describing how the program would be implemented, respondents most preferred a higher percent of enrolled acres (75% or 100%) and a shorter contract (5 or 10 years). Least preferred was a lower percent of acres enrolled (25% or 50%), longer contracts (20 or 30 years), advice about securing water resources and the USFWS serving as the monitoring organization.

Chi-square testing at the  $p < 0.05$  level was used to identify relationships among respondent characteristics and program preferences. Respondents who most preferred attributes describing incentive types were found to have pro-panther attitudes, are from central Florida, have an annual income of less than \$50,000 and make less than 25% of income from beef. Respondents who most preferred monitoring agency and percent acres enrolled were found to have anti-panther attitudes and are from south Florida.

## **Conclusions**

Researchers concluded that when presented with the opportunity to enroll in an incentive program most cattlemen focus on program benefits (e.g., incentives, technical assistance) relative to other program characteristics. However, for some cattlemen, the type of monitoring agency and the percent acres enrolled were of higher concern and could be a barrier to participating in an incentive program. Based on this analysis, researchers recommend that to optimize conservation impact, programs should be designed so that participants are able to maximize benefits. Researchers also recommend that the incentive program be offered through trusted organizations.

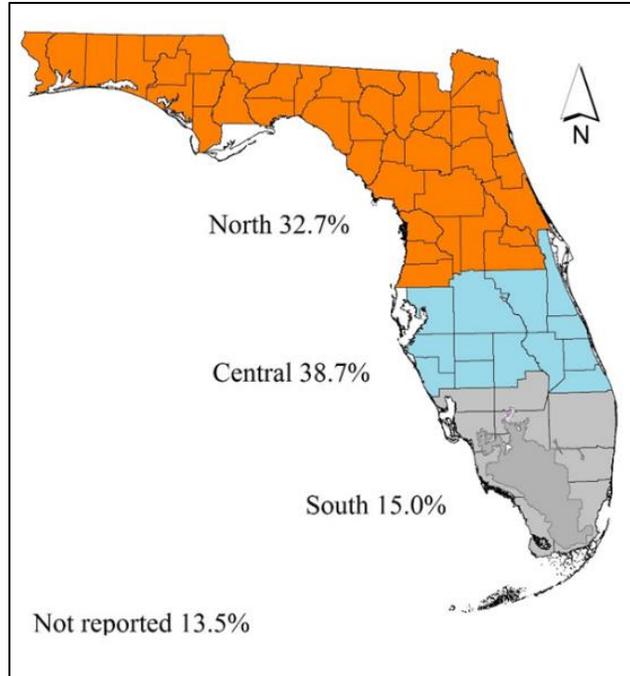
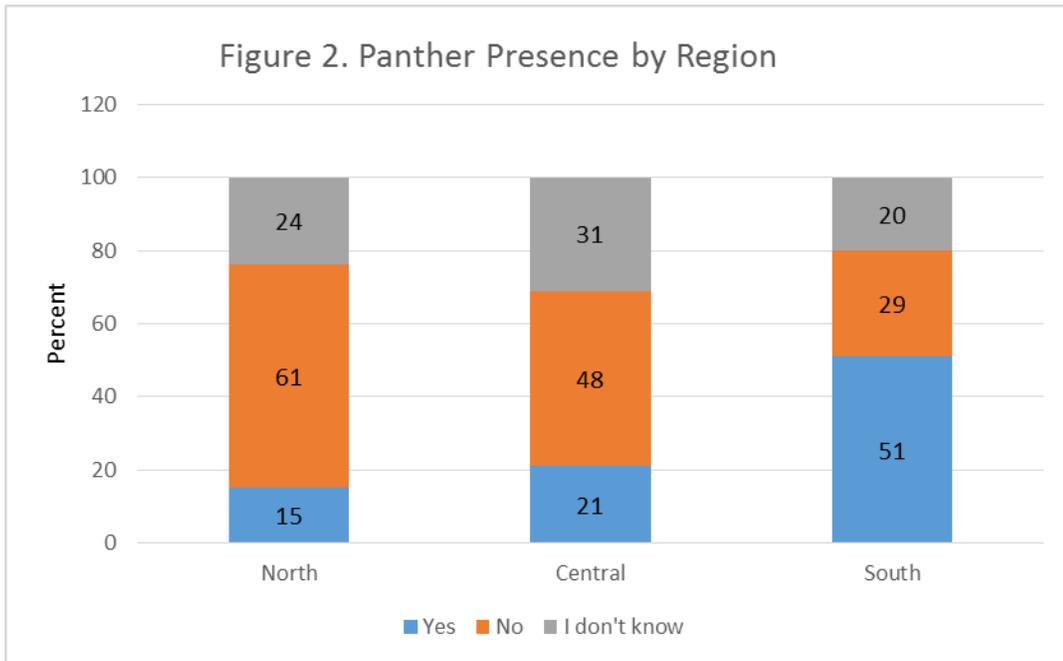
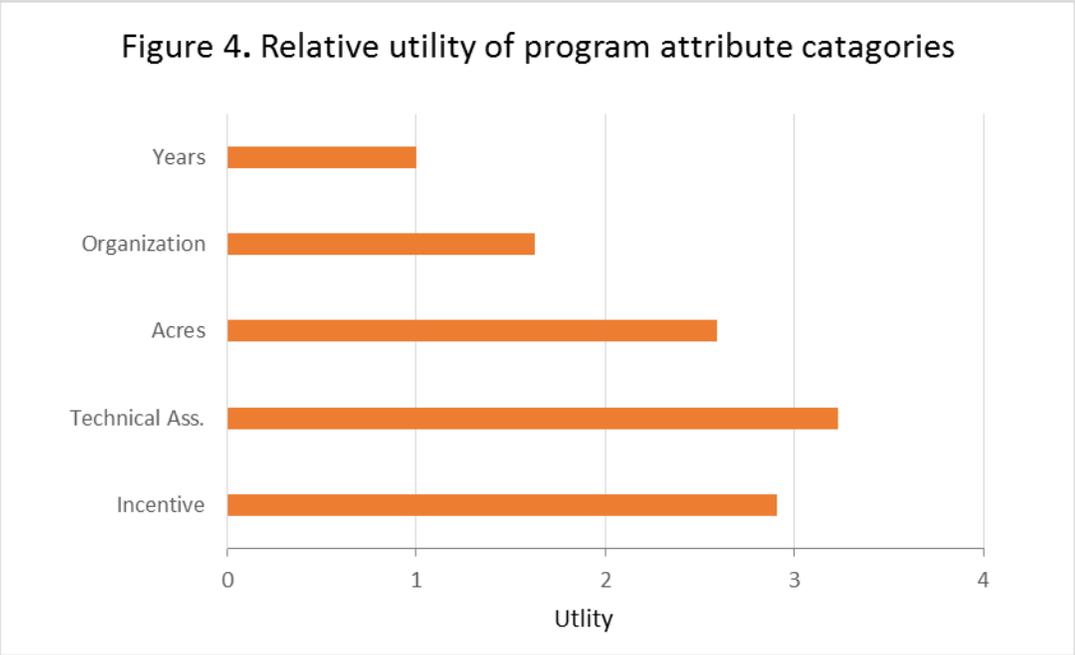
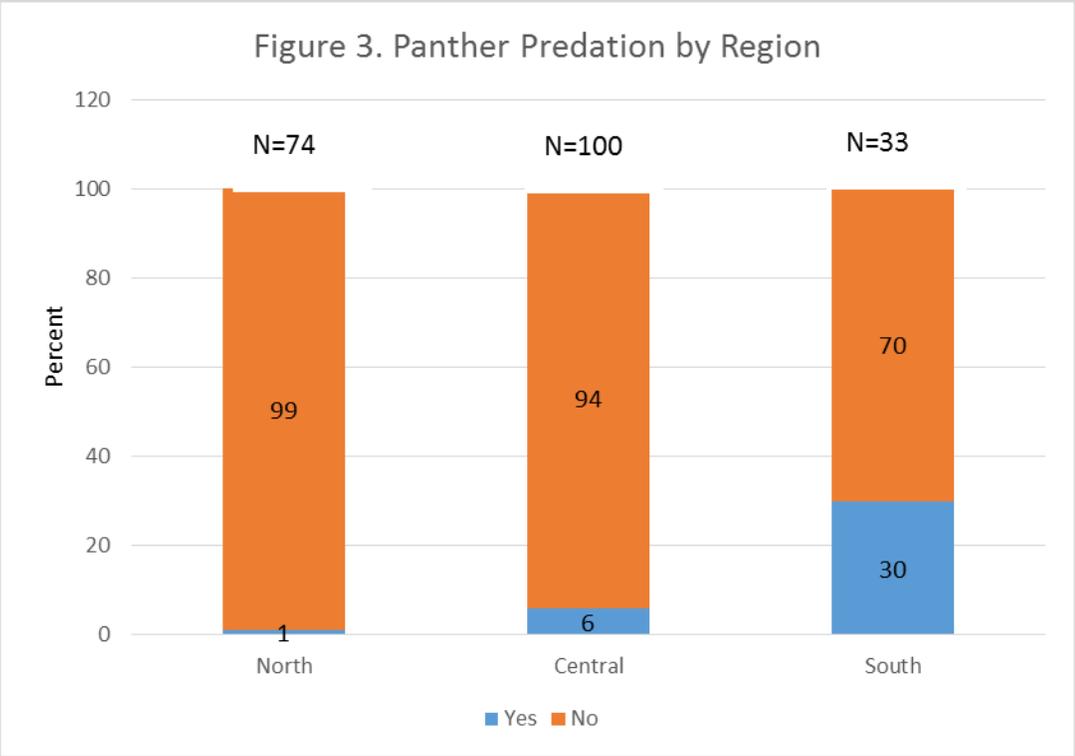


Figure 1.





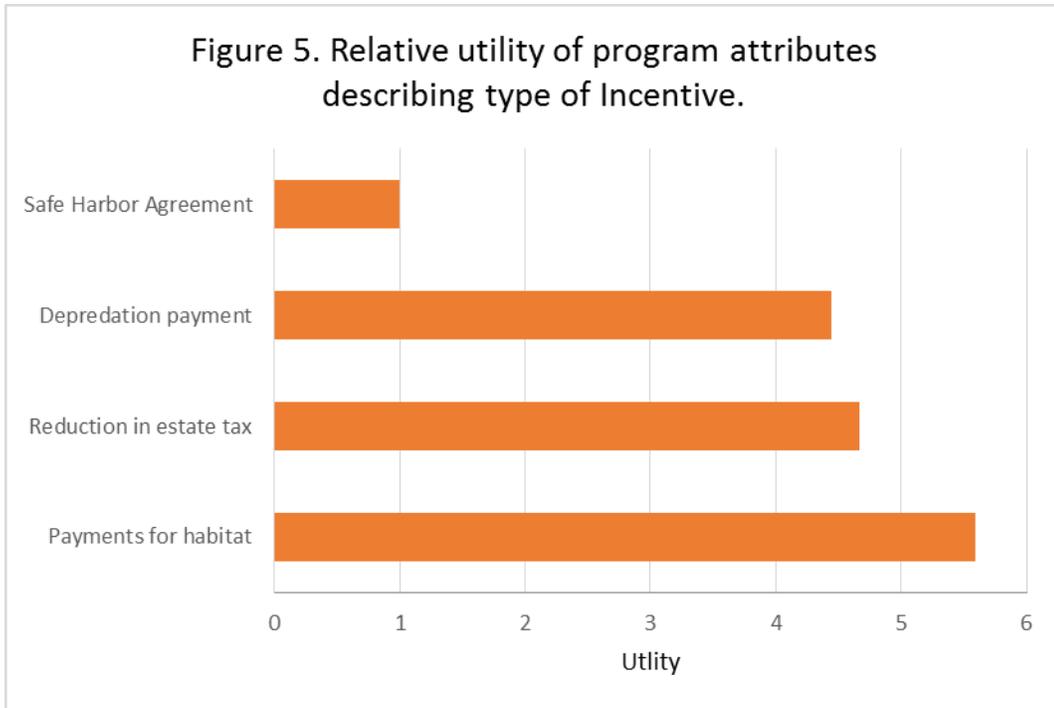


Table 1. Regional differences in attitudes among respondents.

	Attitude Score	Obs.
North	23.2	76
Central	20.9	95
South	18.0	36
Panthers present	20.4	51
Panther not present	21.5	108
Depredation by panthers	15.7	17
No depredation by panthers	21.8	195

Table 2. Attribute categories and levels.

Attribute Category	Attribute levels
Incentive Type	Annual per acre payments Reduction in estate taxes Depredation payment Safe Harbor Agreement
Technical Assistance	Advice about stewardship practices Help find other incentives Advice about improving game populations Advice about securing water resources
Percent acres enrolled	100% 75% 50% 25%
Monitoring organization	USFWS FWC USDA Private non-profit organization
Time commitment	30 years 20 years 10 years 5 years

## Appendix A.

The stewardship incentives described below are intended to:

1. Assist cattlemen in keeping lands as grazing lands
2. Secure habitat that supports the Florida panther and other wildlife now and in the future
3. Offset the costs of good land stewardship practices and living with the Florida panther

**Payments for wildlife habitat** are annual cash payments that are directly linked to acres of land maintained for grazing and wildlife habitat. Payments would range from \$5/acre to \$30/acre depending on the type and quality of the habitat, and the diversity of wildlife species it supports. The land manager would receive these payments provided that enrolled lands are kept as cattle grazing and habitat. Landowners and leaseholders would be eligible to receive these payments.

**Reductions in the estate tax:** Estates that exceed \$5,340,000 are subject to a marginal estate tax that ranges from 18% to 40%. Landowners who enroll in the stewardship contract would receive a one-time reduction in the marginal tax rate by up to 5% on enrolled lands, depending on the quality of habitat maintained and the length of the contract. Landowners would be eligible to receive this incentive provided that they keep enrolled lands as cattle grazing and habitat for the duration of the contract.

**Depredation payments** would be paid to cattlemen who keep enrolled lands as cattle grazing and wildlife habitat. Payment levels would range between 1% and 4% of the calf crop each year depending on the quality of habitat and number of enrolled acres. For example, payments would be higher for lands that provide high quality habitat for predators such as the Florida panther. To be eligible for the depredation payment cattlemen would be expected to keep independently verified records of pregnancy checks and vaccination records for cows and calves. Landowners and leaseholders would be eligible to receive these payments.

**Safe harbor agreements** are legal agreements that protect landowners from future regulation under the Endangered Species Act. Prior to enrolling in the agreement, land is assessed to determine the current amount and quality of habitat. This is the baseline for the agreement. If landowners choose to increase the quantity and quality of habitat on enrolled land then they are free to return their land to its baseline state at the end of the contract without regulatory penalties. Landowners would not be regulated under the Endangered Species Act even if the improved habitat is being used by the Florida panther. Landowners would be eligible for this incentive provided that they keep enrolled lands as cattle grazing and wildlife habitat for the duration of the agreement.