

Creating Voluntary Payment Programs

Effective Program Design and Ranchers' Willingness to Conserve Florida Panther Habitat



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Florida Panther

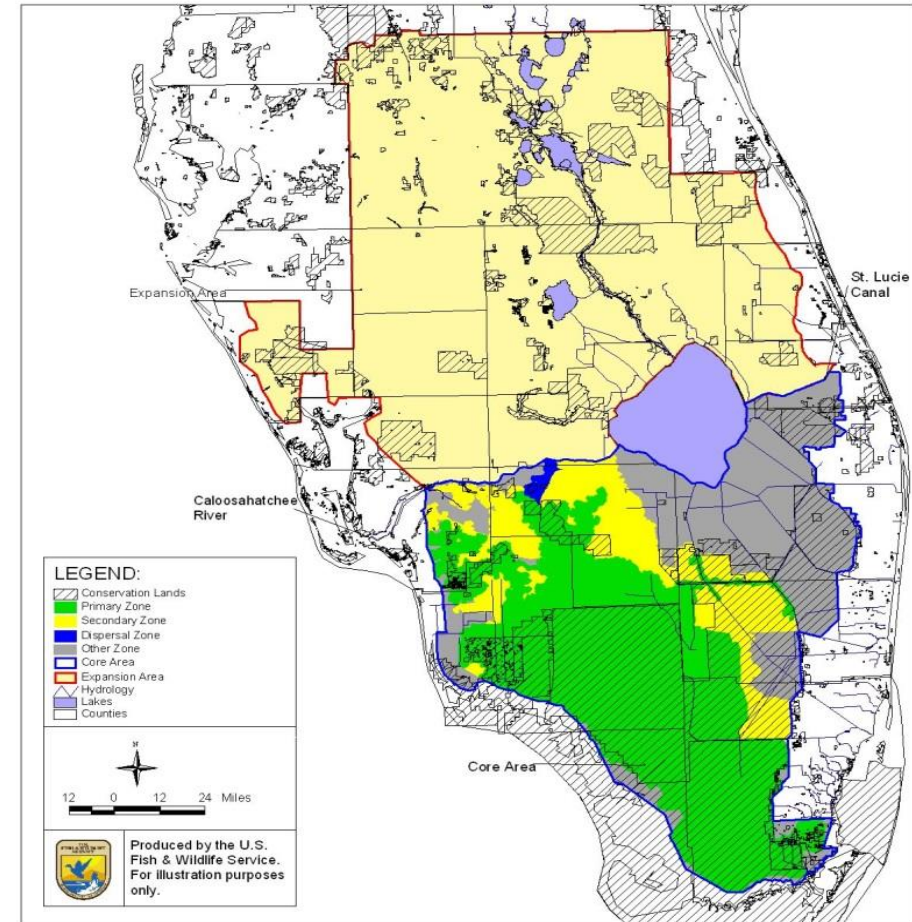
- 1967: listed as endangered
- Population estimate: 100 - 180
- Recovery of the Florida panther:
 - 3 populations (≥ 240 adults & sub-adults)
 - Maintain for ≥ 12 years
 - **Secure and protect habitat of sufficient quality, quantity and spatial configuration to support panther in the long run**
 - Natural dispersal of panthers and gene flow



USFWS Pilot Program

- Eligible lands:
 - Primary and dispersal zones of the Panther Focus Area
 - Parcels ≥ 50 acres
- Payments:
 - Tier 1 lands: \$30.80/acre for burning, mechanical vegetation treatment, invasive control
 - 190,541 eligible acres
 - Tier 2 lands: \$9/acre for prescribed grazing plan
 - 69,194 eligible acres
 - 5 year contract
- Safe harbor agreement in the expansion area

Figure 4. Core Area and Expansion Area within Consultation Area.



Objectives

Delisting of the Florida panther necessitates that habitat be conserved on private range lands¹.

Objectives:

- Identify cattlemen preferences for panther/habitat conservation programs.
- Determine the size of incentives needed to engage cattlemen in habitat conservation.



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

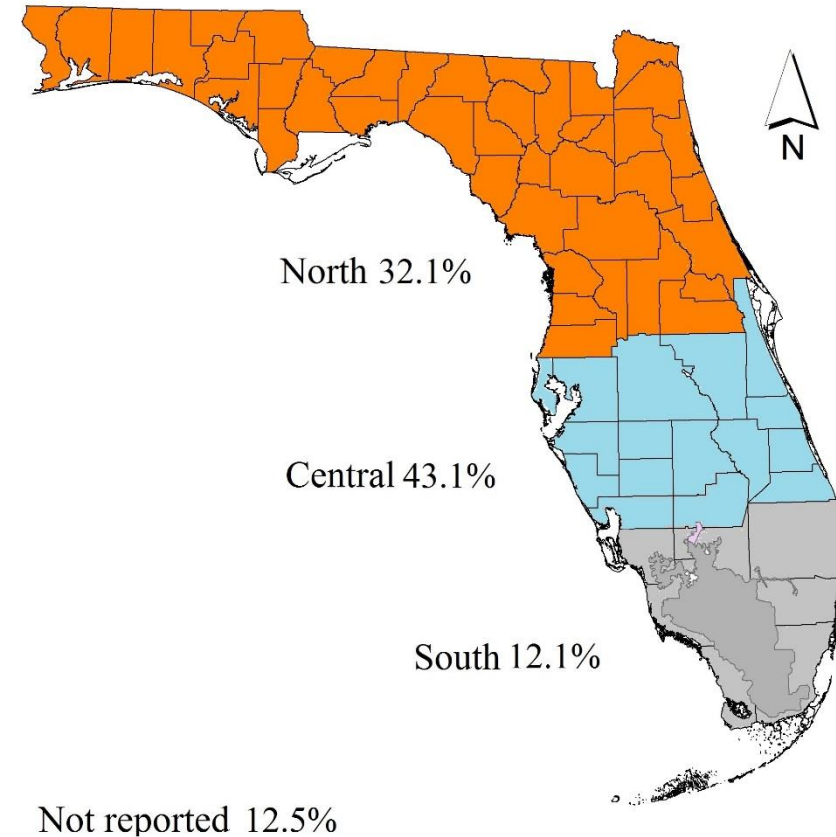
Conserving the Panther on Private Rangelands

- Florida cattle ranches:
 - low-intensity land use operations
 - mosaic of habitat types that benefit the panther and its prey base
 - land stewardship practices
 - control of invasive species; prescribed fire; livestock grazing, managing for game species
- Cattlemen's role in panther conservation:
 - Cultural stressors
 - Economic stressors
 - Cattlemen-panther conflicts
 - Societal conflicts



Survey Response and Respondent Characteristics

- Returned Surveys: 267
- Completed Surveys: 192 (72%)
- 85.7% Male
- 96.2% White
- 83.4% 50+ years in age
- 84.0% Some college
- 45.0% Income less than \$100,000
- 50.4% Less than 25% income from beef



Ranch Operations

Land Ownership:

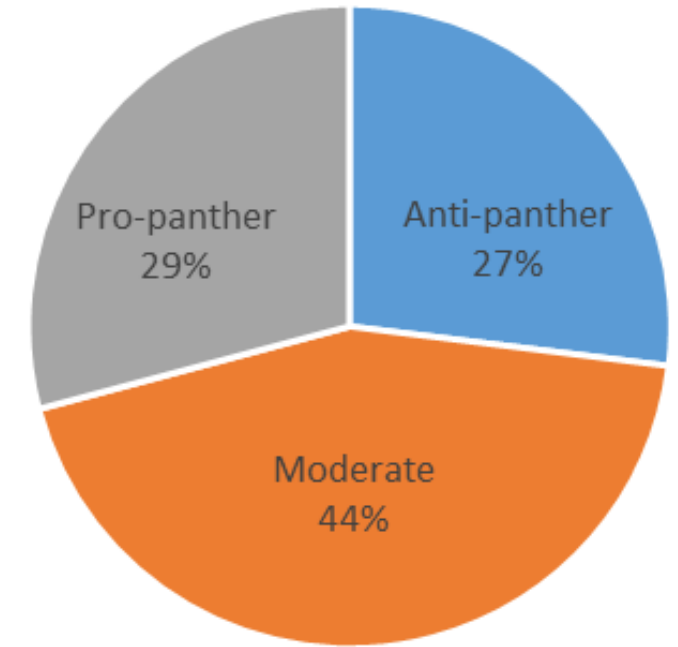
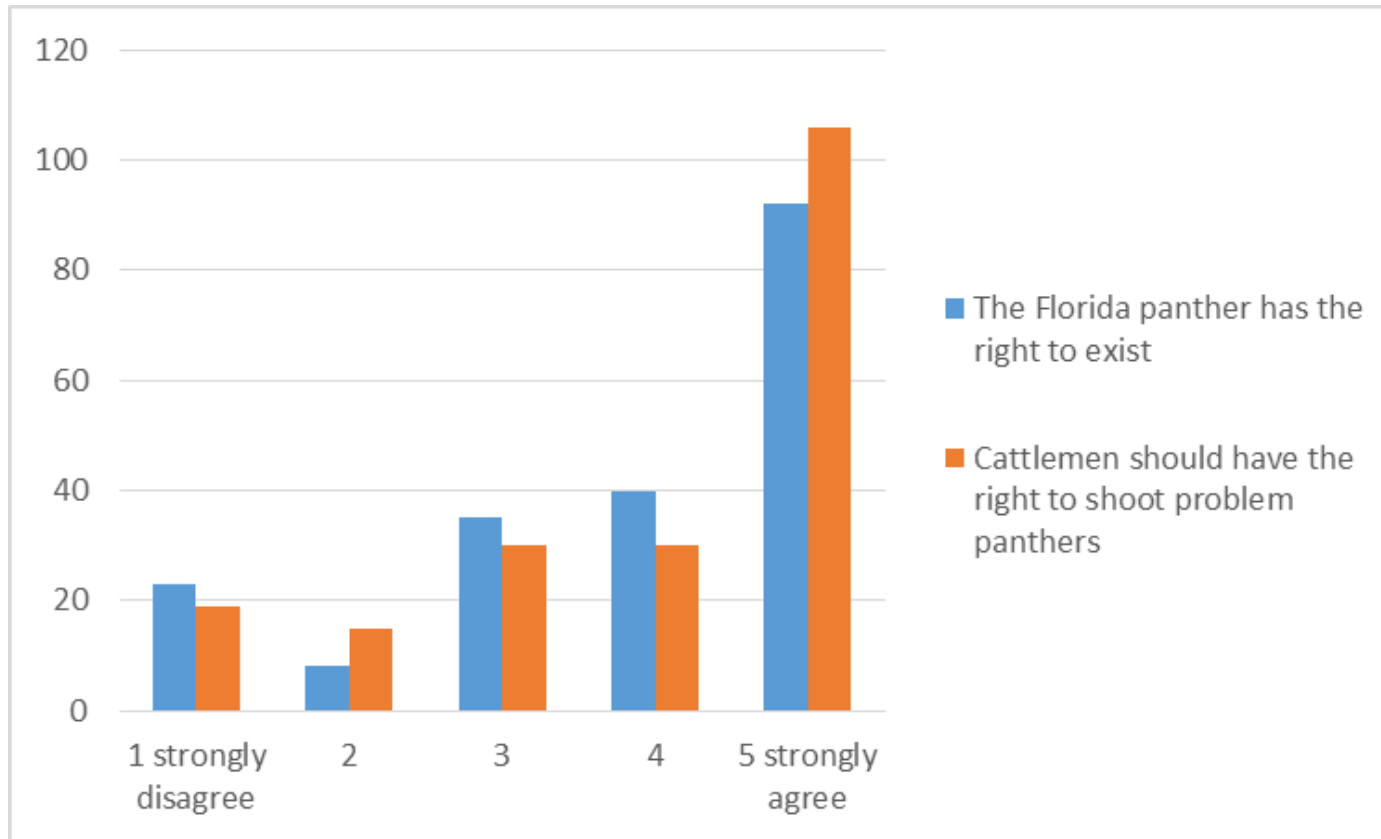
- 80% own land
 - 53% own less than 500 acres
 - 10% own over 5000 acres
- 40% lease land
 - 30% lease less than 500 acres

Livestock:

- 65% have less than 250 head of cattle
- 6% reported livestock depredation due to panther




Attitudes Towards the Panther





| | |
|--------------|-------|
| Anti-panther | 7-16 |
| Moderate | 17-25 |
| Pro-panther | 26-35 |

Best-Worst Choice Experiments

- Technical assistance:
 - Improved game populations
 - Secure water resources
 - Improved land stewardship practices
 - Identify other stewardship incentives
 - Incentive:
 - Habitat payment (\$5 - \$30/acre)
 - Reduced estate tax (2% - 5%)
 - Depredation payment (1% - 4% of annual calf crop)
 - Safe harbor agreement
 - Monitoring organization:
 - USDA - federal
 - USFWS – federal
 - FWC – state
 - Independent environmental organization
 - Acres (pasture & habitat) enrolled:
 - 25%, 50%, 75%, 100%
 - Contract duration:
 - 5, 10, 20, 30 years
- 

Choice Experiment

| C3 Habitat Protection Program A |  | 1. Prefer Most <i>(Check only one)</i> | 2. Prefer Least <i>(Check only one)</i> |
|---|---|--|---|
| Annual payment for wildlife habitat: \$10 acre | | <input type="radio"/> | <input type="radio"/> |
| Advice about securing water resources | | <input type="radio"/> | <input type="radio"/> |
| Acres enrolled: 75% of eligible acres | | <input type="radio"/> | <input type="radio"/> |
| Time commitment: 5 years | | <input type="radio"/> | <input type="radio"/> |
| Monitoring: USDA | | <input type="radio"/> | <input type="radio"/> |
| Would you enroll in Program A exactly as described above if it was the only program offered? | 3. YES <input type="radio"/> | NO <input type="radio"/> |  |

Attribute Impacts

| | Coefficient | Standard Error | Z value | P Value |
|----------------------|-------------|----------------|---------|---------|
| Technical assistance | 2.232 | 0.160 | 13.91 | 0.000 |
| Incentive type | 1.917 | 0.170 | 11.24 | 0.000 |
| Acres enrolled | 1.598 | 0.146 | 10.90 | 0.000 |
| Monitoring agency | 0.639 | 0.153 | 4.16 | 0.000 |
| Contract duration | 0.000 | - | - | - |



Level Scale Values

| | Coefficient | Standard Error | Z value | P Value |
|-------------------------------|---------------|----------------|--------------|--------------|
| <u>Technical assistance:</u> | | | | |
| Improve game populations | 1.225 | - | - | - |
| Identify other incentives | 0.082 | 0.134 | 0.61 | 0.541 |
| Improve stewardship | -0.350 | 0.163 | -2.14 | 0.032 |
| Secure water resources | -0.957 | 0.159 | -5.99 | 0.000 |
| <u>Incentive type:</u> | | | | |
| Habitat payment | 1.669 | 0.197 | 8.45 | 0.000 |
| Reduce estate tax | 0.744 | 0.174 | 4.26 | 0.000 |
| Depredation payment | 0.515 | 0.174 | 3.02 | 0.003 |
| Safe harbor agreement | -2.928 | - | - | - |

Level Scale Values

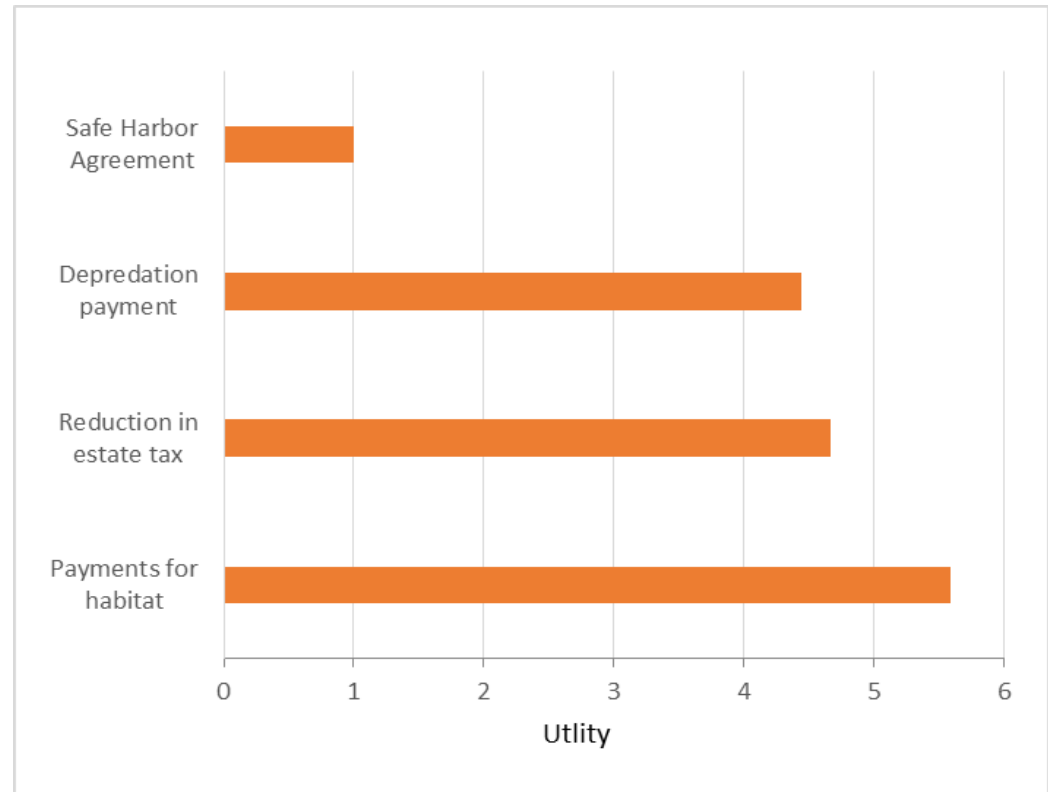
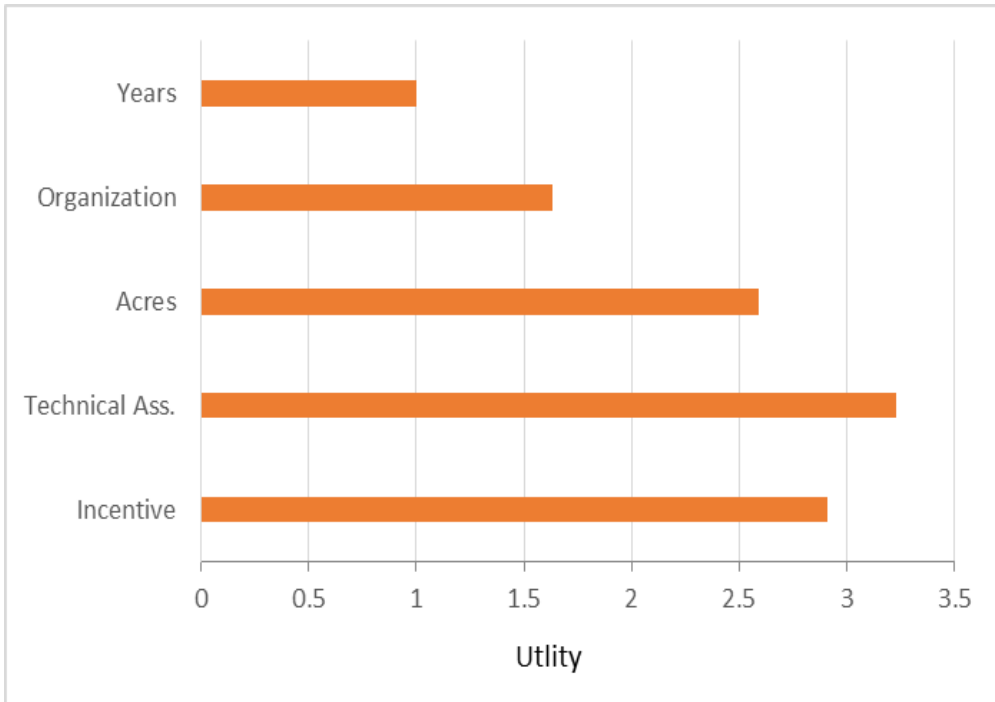
| | Coefficient | Standard Error | Z value | P Value |
|---------------------------|---------------|----------------|--------------|--------------|
| <u>Acres enrolled:</u> | | | | |
| 100% | 1.078 | 0.165 | 6.53 | 0.000 |
| 75% | -0.253 | - | - | - |
| 50% | -0.323 | 0.152 | -2.12 | 0.034 |
| 25% | -0.502 | 0.149 | -3.36 | 0.001 |
| <u>Contract duration:</u> | | | | |
| 5 years | 1.475 | 0.177 | 8.31 | 0.000 |
| 10 years | 0.975 | 0.170 | 5.72 | 0.000 |
| 30 years | -0.315 | 0.152 | -2.07 | 0.038 |
| 20 years | -2.135 | - | - | - |




Level Scale Values

| | Coefficient | Standard Error | Z value | P Value |
|---|---------------|----------------|--------------|--------------|
| <u>Monitoring agency:</u> | | | | |
| Florida Fish and Wildlife Conservation Commission (FWC) | 0.221 | 0.145 | 1.53 | 0.127 |
| United States Department of Agriculture (USDA) | 0.150 | 0.158 | 0.95 | 0.341 |
| Environmental consultant | -0.004 | - | - | - |
| United States Fish and Wildlife Service | -0.367 | 0.142 | -2.58 | 0.010 |

Order of Preferences for Program Attributes



Concluding Comments

- Low response rate:
 - Results may not be representative for Florida cattlemen community
 - Should not use findings to project program enrollment
 - Utility depends on incentives offered and program features that impact cultural values and personal autonomy
 - Most negative impacts with panther → focus on monitoring agency and acres enrolled
 - Trust in government, private property rights, personal autonomy
 - Financial concerns were secondary
- 

Management Implications

- Contract obligation (monitoring) and complexity (demonstrate conservation output) affect landowners' willingness to enroll in conservation programs
 - Incentives for habitat (not species) conservation may provide cognitive separation from species recovery efforts
 - Landowners who are critical of government and species recovery programs
 - Avoid collection of unnecessary sensitive information
 - Concerns about future regulation and misuse of information by agencies
 - Reframe programs in terms of 'fair exchange' in the present
 - Use trusted agency to implement program
- 