

Florida Ranchers and Florida panthers: Risk perceptions, calf loss, and support for recovery



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Objectives:

- Evaluate perceived risk to calves from panthers and other predators
- Evaluate calf loss trends
- Measure support for FP recovery and evaluate how it is influenced by perceived risks associated with panthers



Methods

Online survey through Qualtrics

Survey dissemination

- 1901 members of Florida Farm Bureau
- Livestock extension agents
- Advertised in FCA online and monthly magazine
- Presented at FCA annual convention June 2013

Responses collected June 17, 2013 – Aug 23, 2013



Results

Survey response

77 completed surveys

4% response rate

Demographics

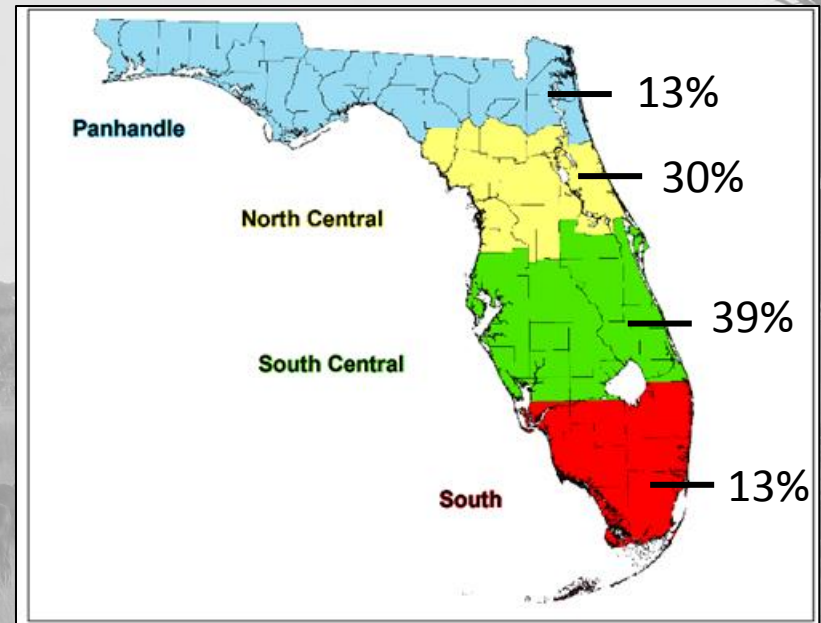
80% = Male

77% = > 50 years old

66% = < \$100,000 / yr.

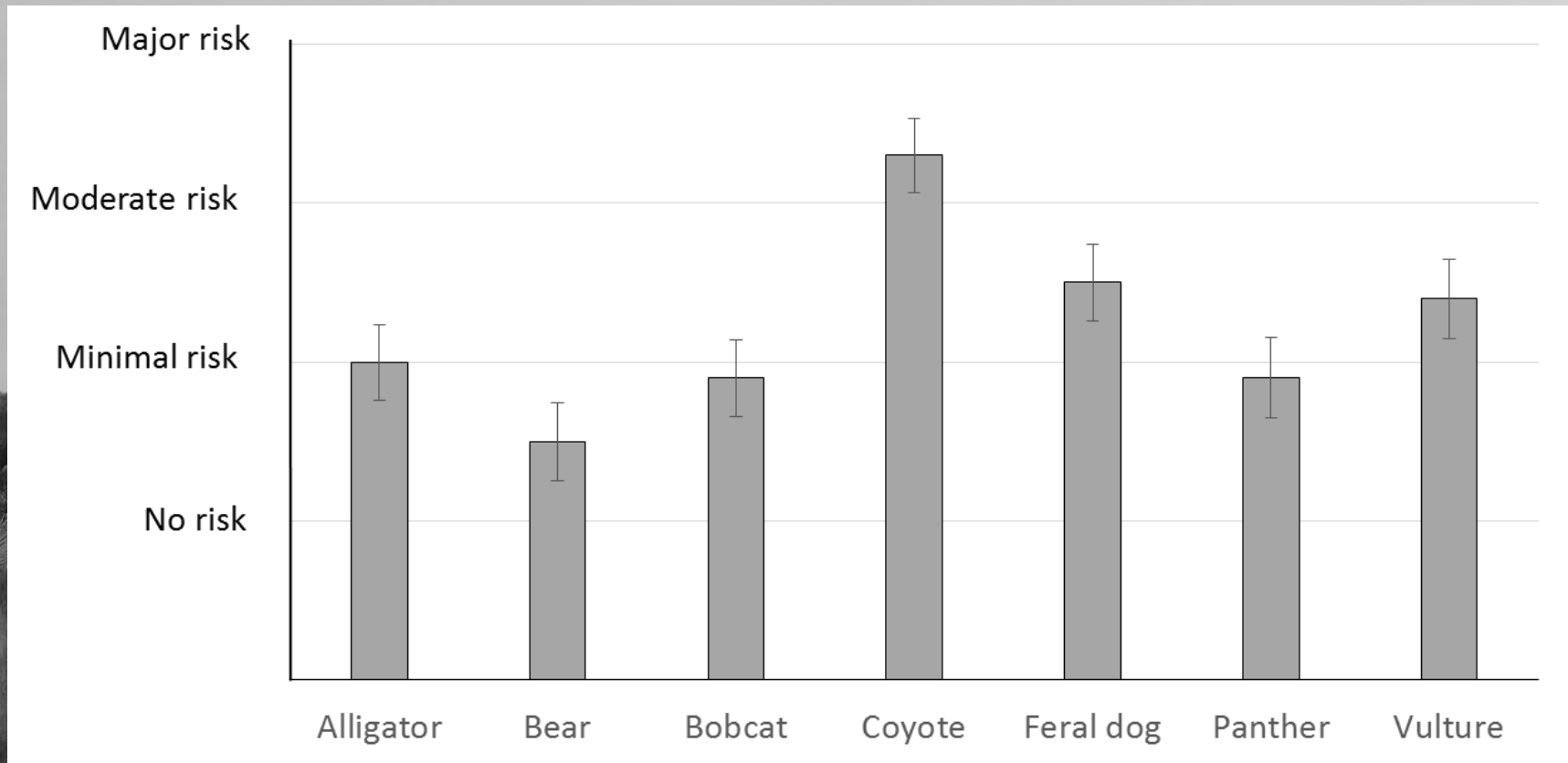
82% = North or Central Florida

13% = South Florida



Results: Risk Perceptions

Rancher perceptions of risk (mean \pm 95% CI) to calves associated with 7 predator species



- Coyotes viewed as a significantly greater risk than all other predators
- Bears viewed as the lowest risk to calves

USDA Cattle Death Loss Survey (2010)

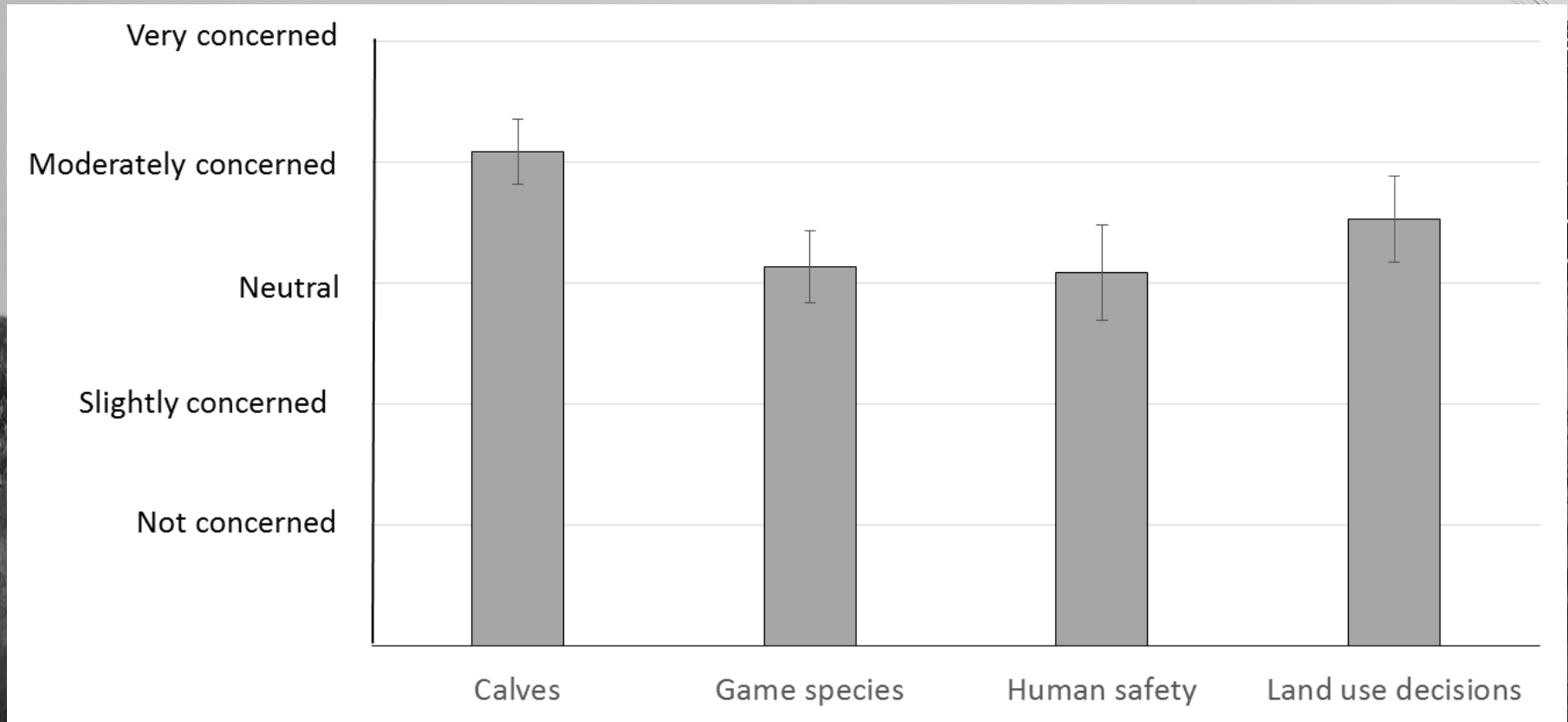
Losses to predators in Florida:

- 77.4% attributed to coyotes
- 0 attributed to bears



Results: Risk Perceptions

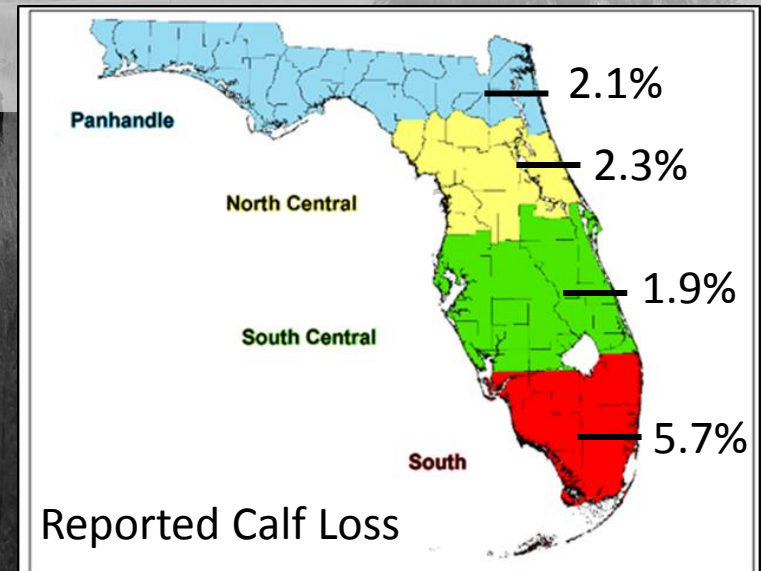
Level of concern (mean \pm 95% CI) reported by ranchers regarding the risk posed to calves, game species, human safety, and land use decisions by Florida panthers



- Greatest concern over the effect of panthers on calves
- No significant difference between calves and land use decisions

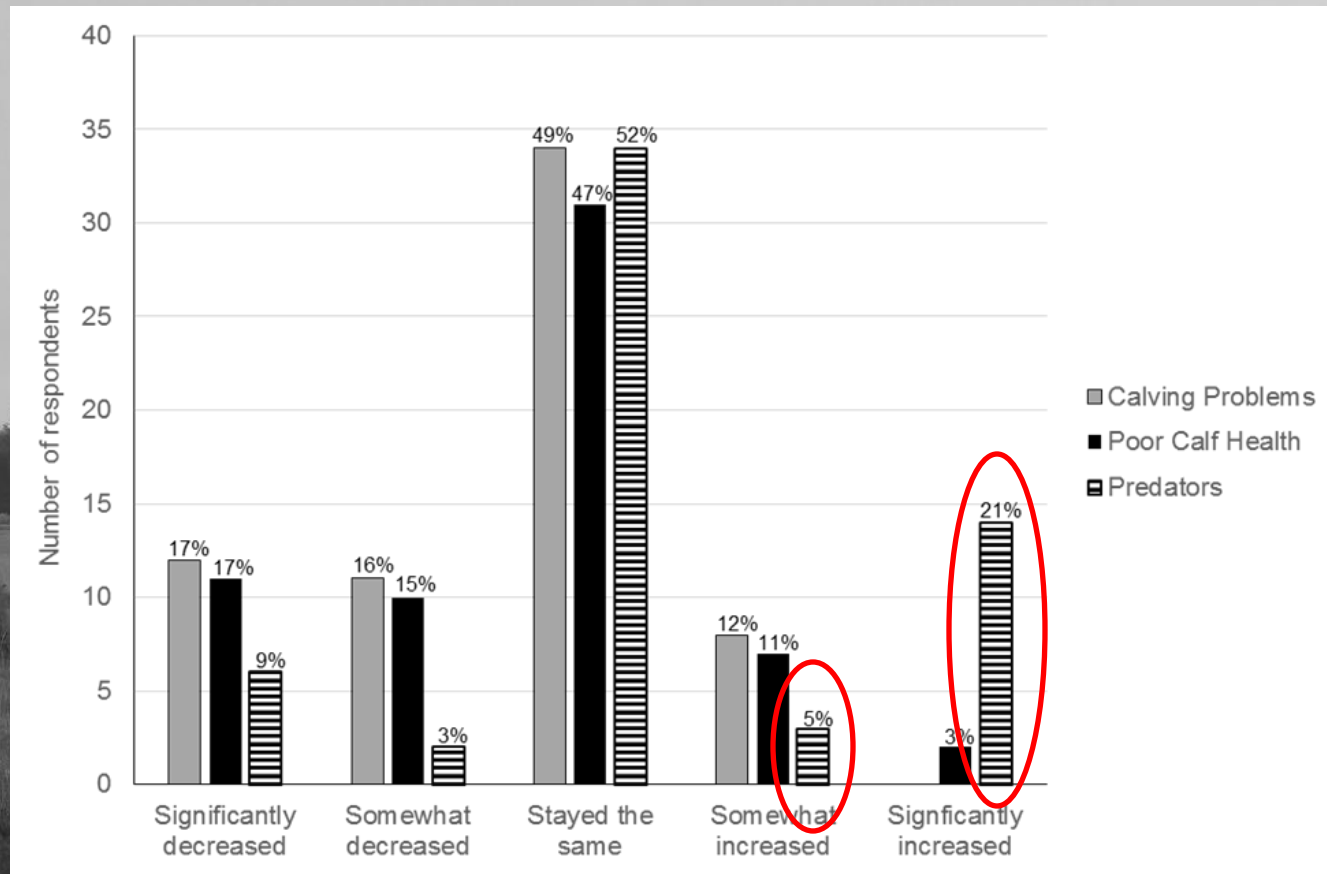
Results: Calf Loss

- Yearly average calf loss from 2008-2013 was $\leq 5\%$
 - UF beef herds = 5.7% from 1973-1990
 - Buck Island Ranch = 8% past 20 years
 - Florida calf loss survey (2008) = 3-5%
 - USDA survey (2010) = 3.4%
- 64% did not pregnancy test their cows
- Calf loss in south Florida



Results: Calf Loss

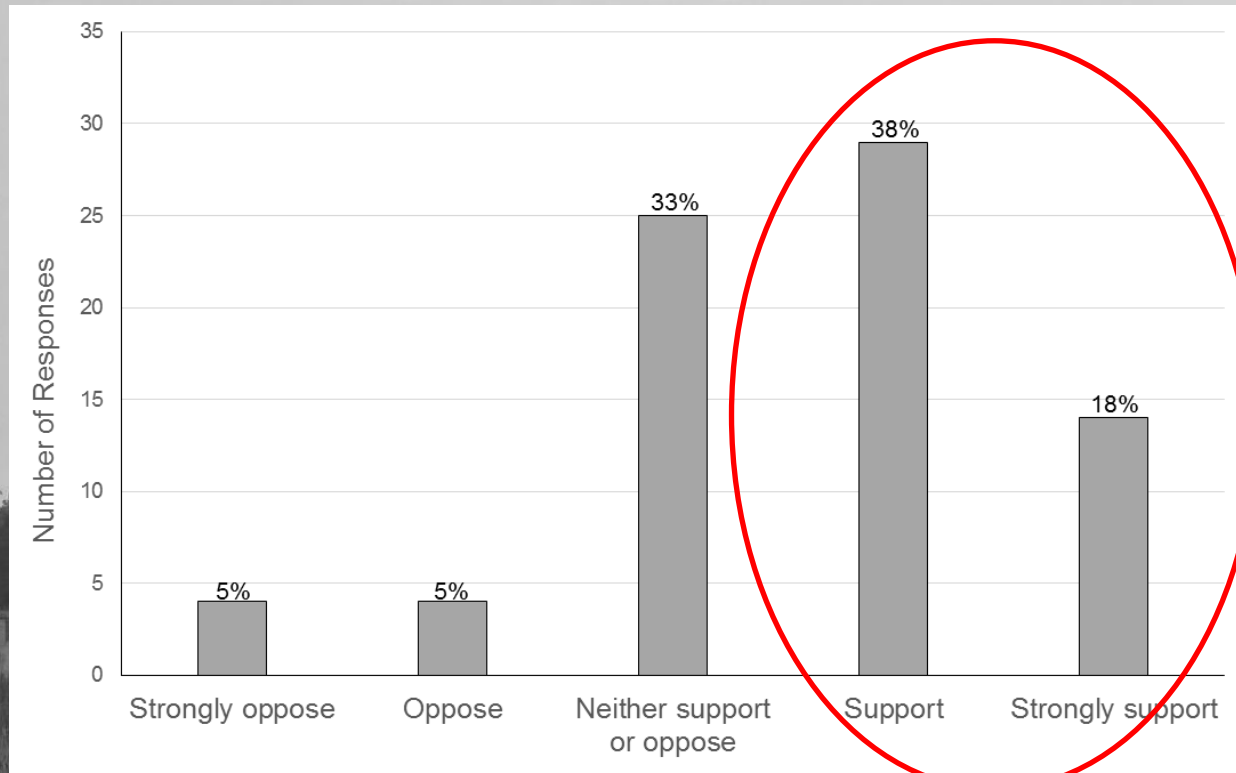
Change in calf loss from 2003-2013 due to calving problems, poor calf health, and predators



- Sources of calf loss stayed the same
- 26% thought calf loss to predation had increased

Results: Florida panther recovery

Rancher attitudes towards Florida panther recovery



- 56% supported panther recovery
- Surveys of general public
 - Cramer et al. (1995) – 80.7% in North Florida
 - Duda & Young (1995) – 91% across Florida
 - Jacobson & Langin (2008) – 71% in SW and South Central Florida

Survey Conclusions

- Risk perceptions are important
- Coyotes posed the greatest risk to calves
- Most concerned about risk panther posed to calves
- Majority supported panther recovery



Survey Conclusions

- Results interpreted with caution
 - Low response rate, small sample size
 - 13% within breeding range of panther
- Survey provides preliminary information
- Additional research required



Questions ?



	Mean (+/- std.)	Median	Range
Ranch Size (ha)	451 (+/- 973)	78	2-4452
# of breeding females	253 (+/- 610)	50	2-1,900
# of calves	158 (+/- 307)	35	2-1,550

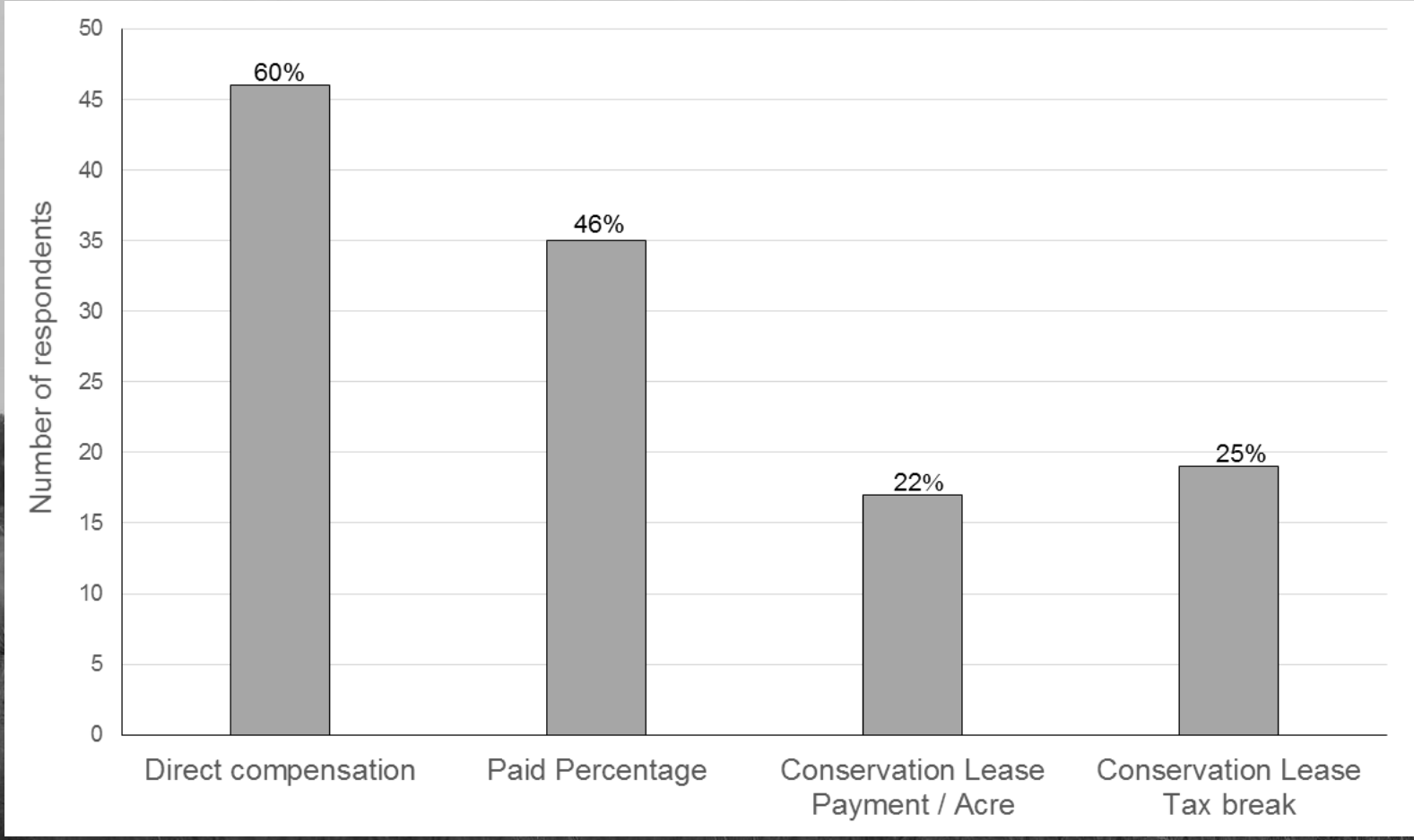
Compensation and Incentive based Programs

Objectives:

- Measure support for different types of compensation and PES incentive-based programs
- Evaluate how support for compensation/PES programs is influenced by the perceived risk associated with panthers, calf loss trends, and support for panther recovery
- Direct payment for verified calf loss
- Payment for percentage of calf crop
- Conservation lease - \$4/ac/yr for FP habitat
- Conservation lease – 15% property tax break for FP habitat

Results: Compensation Programs

Support for compensation programs



Significantly more support for Direct Compensation and Paid Percentage programs

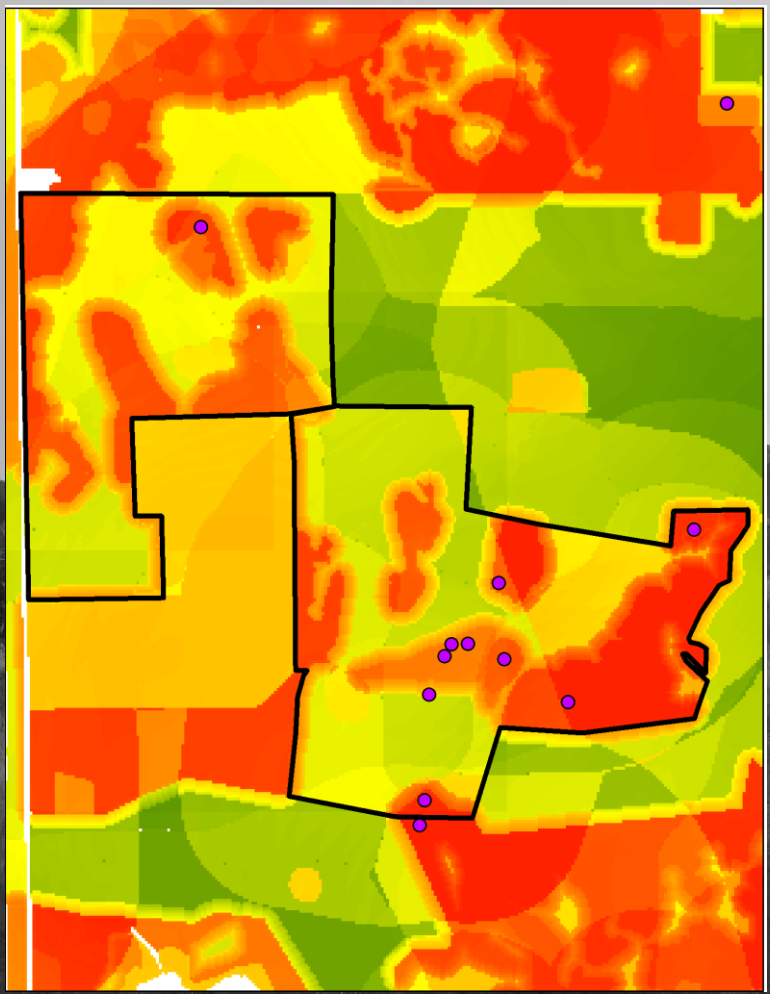
Results: Compensation Programs

- Support for Direct Compensation and Paid Percentage programs increased:
 - As perceived risk to calves increased
 - If ranchers believed calf loss to predators had increased
- Ranchers who supported panther recovery more likely to participate in conservation lease programs

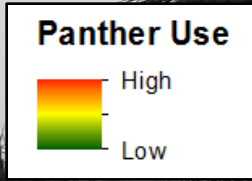
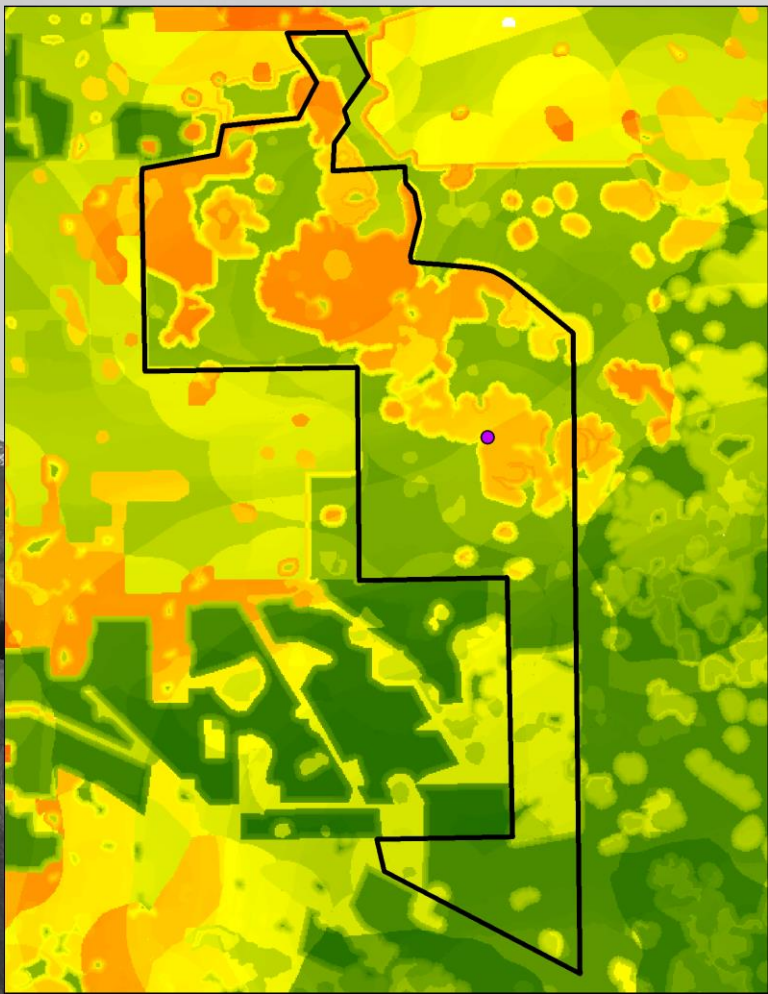


Results: Comparing study areas

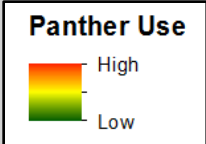
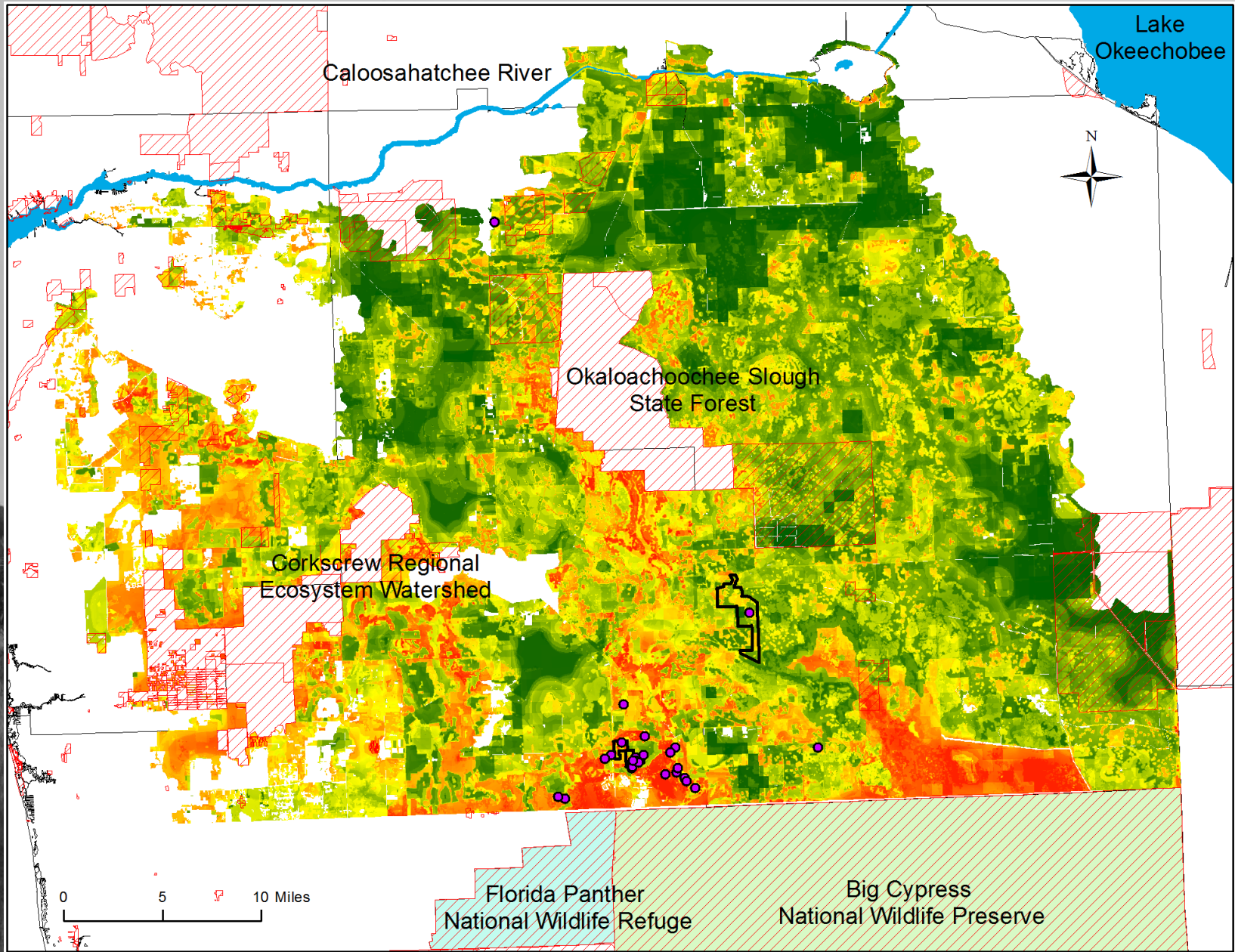
JB Ranch



IM Ranch



Significantly higher probability of panther presence on JB



Compensation and Incentive-Based Programs

- Direct compensation programs
- Payment for Ecosystem Services (PES)



Compensation and Incentive-Based Programs

- Direct compensation programs
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Payments:

- Performance criteria
(e.g., # young, prey density, amount of habitat)
- \geq Cost of having predators on landscape

Ideal Payment = Performance + Cost

FP hunting habitat model:

- Quantifies high quality habitat → Performance
- Provides measure of predation risk → Cost

PES Programs:

- Payments scaled on amount of high quality / risky habitat
- Prioritize ranches for compensation or mitigation funds



Calf Depredation Rates

Predation Risk

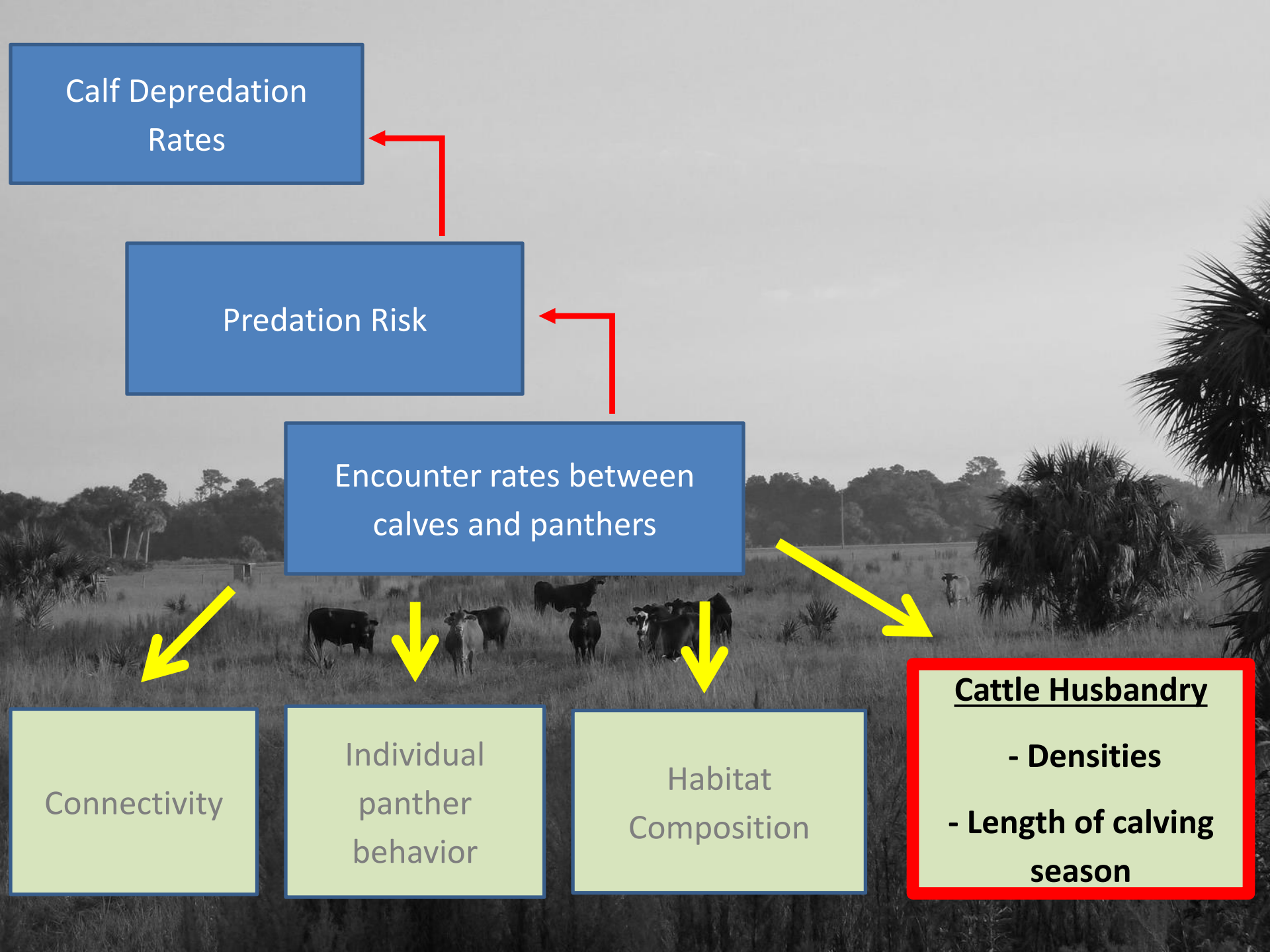
Encounter rates between calves and panthers

Connectivity

Individual panther behavior

Habitat Composition

Cattle Husbandry
- Densities
- Length of calving season



Cattle husbandry and Calf depredation

Calf depredation rates ➡ Availability & Vulnerability

Management techniques:

- Shorten calving season
- High stocking rates
- Move livestock around landscape



Calving Seasons

Short calving season → Decreases availability of small calves



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- Panthers selected for smaller calves



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- Results from ranches

IM = 1 month calving season, 0.5% loss

JB = 5 month calving season, 5.3% loss



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Can Florida ranchers reduce their calving season?

Intensive Management

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- High stocking rates
- Moved around landscape



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- Decreases encounter rates



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Reduces predation

- Decreases encounter rates
- Disrupts predators ability to learn location of prey
- Allows livestock to benefit from anti-predator strategies
 - Improved vigilance
 - Predator confusion
 - Communal defense

Florida Ranch Management

- Extensive management
 - Low quality of forage
 - Economic limitations
 - Feasibility
- Extensive management = ↑ availability ↑ vulnerability
- Intensive management on Florida ranches requires:
 - ↑ Fencing
 - ↑ Labor
 - ↑ Improved pastures

Intensive management may not be beneficial to panther recovery