Human-Wildlife Interactions and the Potential for Conflict Index

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Study Objectives
- Determine acceptability of mgmt actions in scenarios varying by:
  - severity of human-wildlife interaction
  - species involved
- using the Potential for Conflict Index
- Analysis of Variance

Methods

<table>
<thead>
<tr>
<th>Scenario Example</th>
<th>Species</th>
<th>Scenario</th>
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<tbody>
<tr>
<td></td>
<td>Raccoon</td>
<td>Presence</td>
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<tr>
<td></td>
<td>Raccoon</td>
<td>Nuisance</td>
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<td></td>
<td>Raccoon</td>
<td>Kills Human</td>
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<td></td>
<td>Bear</td>
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<td>Mtn Lion</td>
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</tbody>
</table>

Rated acceptability 6 mgmt actions for 9 scenarios

Hypotheses
- Acceptability of mgmt action will vary by:
  1. Species (Raccoons, Bears, Mountain lions) (“Pest” vs “Charismatic Mega-fauna”)
  2. Severity of human-wildlife interaction (Presence, Nuisance, Human death)
- Species involved & severity will interact to influence acceptable mgmt action

Introduction
- Effective wildlife management necessitates understanding public acceptability of management actions
- Acceptability can vary by:
  - species
  - severity of interaction
- Generalizing the public’s opinion about certain species facilitates acceptable, efficient management
- One such generalization is “Charismatic Mega-fauna”
  - large-bodied, charismatic species
  - attract public sympathy, support, respect

Analytical Methods

Potential for Conflict Index
- Simultaneously presents:
  - Average tendency (mean)
  - Shape of a distribution (intensities)
  - Agreement or consensus
- Displayed graphically for maximum understanding
- Enables managers to determine acceptability of action and the degree that the public is divided over its acceptability

PCI Measurement Requirements
- Index range: 0 (no conflict) to 1 (greatest conflict)
- Greatest potential conflict (PCI = 1) occurs with binominal distributions:
  - 50% rate neg. action as “Highly Acceptable”
  - 50% rate neg. action as “Highly Unacceptable”
- 0% are “Neutral”
- No conflict (PCI = 0) occurs when:
  - 100% rate neg. action as “Highly Unacceptable” OR
  - 100% rate neg. action as “Highly Acceptable” OR
  - 100% are “Neutral”

Conclusions: Take No Action
- For “presence” situations
  - Acceptable for Raccoons
  - Less agreement (small bubbles)
  - For “nuisance” situations
  - No option for Raccoons
  - Acceptable for Bears & Mountain Lions
  - Large agreement (small bubbles)
  - For “human death” situations
  - Acceptable for all 3 species
  - Large agreement (small bubbles)

Conclusions: Destroy Animal
- For “presence” / “nuisance” situations
  - Acceptable to kill all 3 species
  - Large agreement (small bubbles)
  - For “human death” situations
  - Acceptable to kill Raccoon
  - Moderate agreement (medium bubbles)
  - Mixed reactions for killing Bears & Mountain Lions
  - Less agreement (large bubbles)

Discussion
- “Species” & “Severity of Interaction” influences public acceptability of management actions
- Bears and Mountain Lions (“Charismatic Mega-fauna”) viewed differently

Summary
- PCI illustrates variability graphically
- ANOVA empirically contrasts variability
- For both dependent variables interaction effect evident
- Managers need to consider both
  - Species involved in human-wildlife situations
  - Severity of the interaction

Acknowledgements: Dr. Vaske, Eli Knapp