Beliefs and Support for Use of Nontoxic Shot Among Mourning Dove (*Zenaida macroura*) Hunters in Illinois, U.S.A.

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Background

• Log-term trend shows Illinois mourning dove (*Zenaida macroura*) harvest decline beginning in 1989 (harvest = 1,963,509; hunters = 430,386)
  – Total harvest 2004 (1,855,135) 2012 (550,962)
  – Daily bag average 2004 = 5.13; 2012 = 3.85

• Number of dove hunters has also declined
  – 2004 (78,455)
  – 2012 (34,501)
• Illinois in Eastern Management Unit (27 states)
• 2- and 10-year trends in EMU do not suggest decline in mourning dove populations
• 48-year trends do support decreased dove populations in EMU and EMU states that hunt doves (19 states, 80% of total EMU)
• Some evidence suggest dove populations increased in states with no dove hunting

• 20-40 million birds harvested annually (U.S.), 3-4 shots per bird harvested

• Field studies suggest lead shot in fields hunted readily available to doves (Anderson 1986, Castrale 1989)

• Lab studies indicate dove susceptibility to lead shot ingestion (Beurger, Mirarchi, Lisano 1986)

• Lead toxicosis through shot ingestion now suspected factor in dove population declines in some states
Research Questions

• Does support for lead shot differ between dove hunters who hunt waterfowl and those who do not?

• Is there a difference in beliefs about steel shot between dove hunters who hunt waterfowl and those who do not?
Lead shot ban in Waterfowl

- Lead shot banned for waterfowl hunting nationwide in U.S. since 1994
- Many states banned lead shot prior to 1994
- Banned in Illinois since 1994
- Steel shot is most common shot used
Methods

• Mail survey of 9,000 Illinois dove hunters stratified by HIP registration from 2009, 2010 and 2011 seasons (n=3,000/season)

• Used repeat-mailing method

• Sampled participants received 8-page questionnaire

• 5,151 (59%) completed questionnaires received.
Results

• 89% hunted doves in Illinois
  – 41% did not hunt in 2011 or 2012 seasons
  – 6% hunted only 2012 season
  – 13% hunted only 2011 season
  – 40% hunted both

• 26% hunt doves every year
  – 28% hunt most years
  – 28% hunt occasional years
Use of Steel Shot for Dove Hunting

14% Always
5% Often
11% Sometimes
11% Rarely
59% Never
Waterfowl Hunting among Dove Hunters

• 76% of dove hunters hunted waterfowl
  – 40% do so every year
  – 17% most years
  – 18% occasionally
“I Support the Ban on Lead Shot for Dove Hunting” (% Response)  
\((F = 4.216, p = 0.04, \eta = 0.031)\)

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<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Unsure</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</thead>
<tbody>
<tr>
<td>Waterfowl Hunters (n=3448)</td>
<td>33</td>
<td>24</td>
<td>8</td>
<td>18</td>
<td>6</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Non-Waterfowl Hunters (n=1046)</td>
<td>25</td>
<td>25</td>
<td>9</td>
<td>29</td>
<td>5</td>
<td>6</td>
<td>2</td>
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Steel shot kills doves as effectively as lead

F = 155.35; p < .001; η = .182
I Will Cripple More Doves with Steel Shot

Percent Response

F=55.12; p<.001; η=.110
Steel Shot Kills Doves at Same Distance as Lead

Percent Response

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Unsure
- Somewhat Agree
- Agree
- Strongly Agree

F=173.83; p<.001; η=.193
Support for Steel Shot: Non-waterfowl Hunters vs. Waterfowl Hunters

- Strongly Agree
- Unsure
- Strongly Disagree

Steel Shot as Effective as Lead
Cripple More with Steel than Lead
Steel Shot Kills at same Distance

Non-waterfowl Hunters
Waterfowl Hunters
Conclusions

• Beliefs about steel shot are not positive, even among waterfowl hunters

• Hunters use steel shot due to regulations, but findings suggest they do not believe steel shot is as effective as lead
Acknowledgements

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• Illinois Natural History Survey

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Questions?