Maine Residents’, Hunters’, and Landowners’ Opinions on Big Game Management

Mark Damian Duda, Responsive Management
October 22, 2015
Focus of Fish and Wildlife Management

- Fish and Wildlife Populations
- Fish and Wildlife Professionals
- Fish and Wildlife Habitats
- Human Populations
Responsive Management

Research Update

Recent Studies at Responsive Management

Responsive Management has recently completed more than 30 studies on public opinion on and attitudes toward natural resource, fish and wildlife, and outdoor recreation issues. Currently, we are working on numerous additional studies, including a study on Utah Off-Highway Vehicle (OHV) use, knowledge of environmental impacts of use, and awareness of related marketing campaigns; a survey of Northeast U.S. residents' to determine attitudes toward and experiences with wildlife causing problems; and an assessment of hunting license marketing campaigns to calculate economic lift and determine the overall effectiveness of different messages and

RM Conducts:
- Telephone Surveys
- Mail Surveys
- Focus Groups
- Personal Interviews
- Park/Outdoor Recreation Intercepts
- Web-Based Surveys
- Needs Assessments
- Programmatic Evaluations
- Literature Reviews
- Data Collection for Universities and Researchers

RM Develops:
- Marketing Plans
- Communications Plans
- Business Plans
- Policy Analysis
- Public Relations Plans

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Reach of Responsive Management

- 1,000 human dimensions projects
- 50 states – 15 countries
- Every state fish and wildlife agency and most federal resource agencies; most DNRs and NGOs
- Industry leaders such as Yamaha, Winchester, Vista Outdoor (including Bushnell, Primos, Federal Premium, etc.), Trijicon, and many others
- Data collection for the nation’s top universities:
  Auburn University, Colorado State University, 
  Duke University, George Mason University, 
  Michigan State University, Mississippi State University, North Carolina State University, 
  Oregon State University, Penn State University, 
  Rutgers University, Stanford University, Texas Tech, University of California-Davis, 
  University of Florida, University of Montana, 
  University of New Hampshire, University of Southern California, Virginia Tech, and West Virginia University
Responsive Management

- 25 years of continuous survey research
- State-of-the-art mail and telephone survey center / computer-assisted telephone interviewing (CATI) system
- Permanent professional research staff (senior staff with 10 years experience or more)
- Full-time statisticians and analysts
- 75 professional interviewers who only conduct surveys on natural resource issues
Current Projects for the State of Maine
Projects for the State of Maine

- Maine Residents’, Hunters’, and Landowners’ Opinions on Big Game Management
- Communications, Marketing and Public Relations Plan for the Maine Department of Inland Fisheries and Wildlife
- Maine Anglers’ Opinions on Fisheries Management

Image credits: Maine.gov; Mainetoday.com; New York Times

Responsive Management
Current and Recent Big Game Management Projects
Example Big Game Management Projects

- New Hampshire Residents’ and Hunters’ Opinions on the Status and Management of Big Game Populations
- Deer Hunting and Harvest Management in Vermont
- California Hunters’ Opinions on Deer Hunting, Season Structure, Hunting Regulations, and Deer Management
- Arkansas Hunters’ Participation in and Opinions on Deer and Turkey Hunting
- Deer Harvest in Florida: 2014-2015 Hunting Seasons
- Deer Management in Georgia: Survey of Residents, Hunters, and Landowners
- Pennsylvania Residents’ Opinions on and Attitudes Toward Deer and Deer Management
- Anchorage Residents’ Opinions on Bear and Moose Population Levels and Management Strategies
- Resident Hunters’ Opinions on Potential Changes to the Deer and Moose Hunting Seasons in Vermont
- New Hampshire Residents' Opinions and Attitudes Toward Deer, Moose and Bear in New Hampshire

Responsive Management
Generally, which of the following statements best describes your feelings about deer?

- I enjoy seeing and having deer around
- I enjoy seeing a few deer, but worry about problems they cause
- I generally regard deer as a nuisance
- I have no particular feeling about deer
- Don’t know

The chart shows the percentage of responses in Delaware, Florida, Georgia, Maryland, and Pennsylvania.
Q36-Q42. Mean rating of Pennsylvania residents' concern about each of the following on a 10-point scale.

- Q36. Tick-borne diseases, such as Lyme disease, in Pennsylvania: 7.4
- Q40. Deer-vehicle accidents in Pennsylvania: 7.0
- Q42. The health of the deer population, such as adequate food resources for the size of the deer herd, in Pennsylvania: 6.2
- Q41. The quality of deer habitat in Pennsylvania: 5.9
- Q39. Deer impacts on the habitat and other wildlife in Pennsylvania: 3.9
- Q38. Deer damage to plants and landscaping in his/her yard: 2.5
- Q37. Deer droppings in his/her yard: 1.7
Q15. Compared to other issues in your life, how important to you, personally, are deer-related issues on a scale of 0 to 10 where 0 is not at all important and 10 is extremely important?

Mean = 4.09
Median = 4
Q30-Q33. Percent who strongly or moderately support each of the following methods of controlling deer populations in Pennsylvania:

- **Q30. Legal, regulated hunting**: 85%
- **Q33. Fertility or birth control**: 46%
- **Q31. Professionals or sharpshooters**: 39%
- **Q32. Trapping and killing**: 24%
Q146-150. Percent of respondents who think each of the following should be very important in making decisions about deer management.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent (Residents)</th>
<th>Percent (Hunters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific information such as harvest and population data</td>
<td>67</td>
<td>79</td>
</tr>
<tr>
<td>The professional judgment of Georgia DNR biologists</td>
<td>61</td>
<td>73</td>
</tr>
<tr>
<td>The economic impact of hunting in Georgia</td>
<td>41</td>
<td>56</td>
</tr>
<tr>
<td>Social desires</td>
<td>32</td>
<td>36</td>
</tr>
<tr>
<td>Political desires</td>
<td>13</td>
<td>8</td>
</tr>
</tbody>
</table>

The graph shows the percentage of residents and hunters who believe each factor is very important in making decisions about deer management. The factors include scientific information, professional judgment, economic impact, social desires, and political desires.
Q68-71. Percent of New Hampshire residents who would still strongly or moderately support an increase in the moose population in their county in the following situations. (Asked of those who supported an increase in the moose population.)

- If it meant you would have an increased likelihood of having a vehicle collision with a moose: 66%
- If it meant an increased likelihood of losses to timber land owners: 65%
- If it meant less food or poorer quality habitat for other wildlife: 45%
- If it meant poorer overall health for the moose herd: 27%
Q140-143. Percent of New Hampshire residents who would still strongly or moderately support an increase in the wild turkey population in their county in the following situations. (Asked of those who supported an increase in the turkey population.)

- If it meant more turkey flocks in suburban communities: 87%
- If it meant an increase in nuisance turkey complaints: 87%
- If it meant an increase in agricultural conflicts: 57%
- If it meant a greater potential for the spread of disease within the turkey population: 39%
Q50/52/53/54. Do you support or oppose...?
(General Population Survey)

- Strongly support
- Moderately support
- Neither support nor oppose
- Moderately oppose
- Strongly oppose
- Don't know

- Maintaining sustainable populations of predators (70% support)
- Using hunting as management tool to reduce predator pops to increase deer / elk herds that are below population objectives (71% support)
- Reducing predator pops to protect threatened / endangered species (68% support)
- Reducing predator pops to prevent loss of domestic animals (48% support)

Percent (n=904)
Current and Recent Bear Management Projects
Example Bear Management Projects

- Louisiana Residents’ Opinions on Black Bears and Black Bear Management in Louisiana
- Public Attitudes Toward Black Bear Management in Maryland
- Tennessee Residents’ Opinions on Black Bears in General and the Management and Hunting of Black Bears
- West Virginia Residents’ Opinions on Black Bears and Black Bear Hunting
- Virginia Residents’ Opinions on Black Bears and Black Bear Management
- Virginia Bear Management Plan 2011-2020
- Pennsylvania Residents’ Opinions on and Attitudes Toward Black Bears
- Michigan Black Bear Survey
- Floridians’ Opinions on Black Bear Hunting in Florida
- Public Attitudes Toward Grizzly Bear Management in Wyoming
- Washington Residents’ Opinions on Grizzly Bear Recovery in the North Cascades Mountains
- Public Attitudes Toward Wildlife Nuisance Problems in the Northeast U.S.
In general, do you support or oppose having black bears in [STATE]?

- **Strongly support**
  - Louisiana residents: 32%
  - Maryland residents: 38%
  - Tennessee residents: 38%
  - Virginia residents: 38%

- **Moderately support**
  - Louisiana residents: 37%
  - Maryland residents: 44%
  - Tennessee residents: 30%
  - Virginia residents: 38%

- **Neither support nor oppose**
  - Louisiana residents: 13%
  - Maryland residents: 14%
  - Tennessee residents: 8%
  - Virginia residents: 6%

- **Moderately oppose**
  - Louisiana residents: 6%
  - Maryland residents: 5%
  - Tennessee residents: 4%
  - Virginia residents: 3%

- **Strongly oppose**
  - Louisiana residents: 7%
  - Maryland residents: 4%
  - Tennessee residents: 3%
  - Virginia residents: 3%

- **Don't know**
  - Louisiana residents: 2%
  - Maryland residents: 4%
  - Tennessee residents: 2%
  - Virginia residents: 2%
Percent who strongly agree with the following statements about black bears. (Maryland Residents)

Q60. Preserving habitat on which black bears depend is important.
Q66. Most problems with black bears in Maryland can be prevented by taking a few simple precautions, such
Q65. Black bears should be preserved in Maryland for future generations.
Q62. Black bears have an inherent right to live in Maryland.
Q67. Although I may never see one, I derive satisfaction just knowing black bears exist in Maryland.
Q58. Black bears are an important and essential part of Maryland’s ecosystem.
Q59. Black bears in Maryland are dangerous to humans.
Q64. Black bears will frequently enter into populated areas in Maryland.
Q61. Black bears will kill many livestock and pets in Maryland.
Q63. There is no need for black bears in Maryland.
How much would you say you know about black bears in [STATE]? Would you say you know a great deal, a moderate amount, a little, or nothing?

<table>
<thead>
<tr>
<th>Category</th>
<th>Maryland</th>
<th>Pennsylvania</th>
<th>Virginia</th>
<th>West Virginia</th>
</tr>
</thead>
<tbody>
<tr>
<td>A great deal</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>A moderate amount</td>
<td>19</td>
<td>24</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>A little</td>
<td>40</td>
<td>47</td>
<td>49</td>
<td>46</td>
</tr>
<tr>
<td>Nothing</td>
<td>39</td>
<td>26</td>
<td>29</td>
<td>21</td>
</tr>
<tr>
<td>Don't know</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Percent
Responsive Management Report

Public Attitudes Toward and Expectations Regarding Management of Nuisance Wildlife Issues in the Northeast United States

Residents’ Experiences With Wildlife
What Are Residents’ Concerns?
Who Is Responsible For Addressing Problems With Wildlife?
Paying for Problems With Wildlife
Managing Problems With Wildlife
Implications
Q34. Have you had any problems with wildlife in the past year?
(Northeast U.S. Residents)

Yes: 27%
No: 72%
Don't know: 1%
Q39/40/41/43/45. Which wildlife have caused you problems in the past year? (Asked of those who experienced wildlife damage in the past year.) (Shows those at 3% or more.)
(Northeast U.S. Residents)

- Deer: 27%
- Raccoon: 18%
- Skunk: 17%
- Squirrel: 17%
- Woodchuck: 10%
- Bear: 8%
- Fox: 6%
- Coyote: 5%
- Rabbit: 5%
- Mice / rats: 4%
- Chipmunk: 4%
- Opossum: 3%
Which of the following statements best describes your feelings about black bears around your primary home and in your area?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Pennsylvania residents</th>
<th>Tennessee residents*</th>
<th>Virginia residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>I want to see and have black bears in my yard</td>
<td>15%</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td>I want to see and have black bears in my neighborhood but not in my yard</td>
<td>7%</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>I want to see and have black bears in my county but not in my neighborhood</td>
<td>40%</td>
<td>50%</td>
<td>49%</td>
</tr>
<tr>
<td>I feel uncomfortable about having black bears even in my county</td>
<td>21%</td>
<td>24%</td>
<td>31%</td>
</tr>
<tr>
<td>None of these</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

* Tennessee residents who live in an area with an established black bear population or an establishing bear population and who do not live in an urban area
Responsive Management’s Research Methodologies
METHODOLOGIES

Qualitative Methodology
✓ Public Meetings
✓ Focus Groups

Quantitative Methodology
✓ Personal Interviews / Direct Observation
✓ Mail Surveys
✓ Telephone Surveys
✓ Web-Based Surveys (where appropriate)
✓ Mixed-Mode Surveys
Triumph of the Nerds: Nate Silver Wins in 50 States

mashable.com/2012/11/07/nate-silver-wins/
Qualitative Methods
Public Meetings
Disadvantage:

Comparing a Convenience Sample Against a Random Sample of Duck Hunters

MARK G. ALESSI AND CRAIG A. MILLER

Human Dimensions of Wildlife: An International Journal

Volume 17, Issue 2, 2012

Abstract

State wildlife agencies frequently host public meetings to gather feedback from stakeholders. We investigated differences between duck hunters attending public open houses and duck hunters statewide regarding changes in the regulatory framework for duck hunting seasons in Illinois. We administered two separate surveys to investigate potential differences between attendees at the open houses and a random sample of waterfowl hunters in Illinois. Open-house participants hunted significantly more days than mail-back participants and harvested more mallards than mail-back participants. Additionally, open-house participants hunted significantly more counties than mail-survey participants and had been hunting for more years. It is important that state wildlife agency managers understand participants in public meetings may not represent the general population, and interpreting input received from these forums should be used with caution.
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Many agencies are legally obligated to conduct public meetings</td>
<td>• May not be representative</td>
</tr>
<tr>
<td>• Identifies issues most important to attendees</td>
<td>• For low salience issues, attendance is often low</td>
</tr>
<tr>
<td>• Provides a forum for public input and feedback</td>
<td>• For high salience issues, attendance is usually high but concentrated in both extremes</td>
</tr>
<tr>
<td>• Opportunity for a two-way dialogue between managers and their constituents</td>
<td>• Some constituent groups could “stack the deck”</td>
</tr>
<tr>
<td>• Helps agencies maintain transparency and encourage public investment in decision-making</td>
<td>• Costly in terms of agency personnel</td>
</tr>
<tr>
<td></td>
<td>• Sometimes agencies can be locked into audience opinion (i.e., a vote or prevailing sentiment)</td>
</tr>
</tbody>
</table>
Focus Groups
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tried and true method</td>
<td>• Can be costly (we pay participants $100, facility costs, video, etc.)</td>
</tr>
<tr>
<td>• Identify issues not previously considered</td>
<td>• Findings can’t be quantified</td>
</tr>
<tr>
<td>• Group interaction--replicates what happens in the real world</td>
<td>• Results cannot be generalized to a larger population</td>
</tr>
<tr>
<td>• Optimizes validity</td>
<td>• Inability to replicate</td>
</tr>
<tr>
<td>• Explore issues more in-depth (probing and clarification)</td>
<td>• Moderator bias (if inexperienced)</td>
</tr>
<tr>
<td>• Can control who attends through prescreening</td>
<td>• Bias due to dominating individuals and viewpoints</td>
</tr>
<tr>
<td>• Can be used to test issues for use on a survey</td>
<td>• Difficulty recruiting participants depending on the topic and location</td>
</tr>
<tr>
<td>• Can be used to monitor moment to moment changes in perception of the research question</td>
<td></td>
</tr>
</tbody>
</table>
Quantitative Methods
Personal Interviews / Direct Observation: Advantages and Disadvantages
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
| • Best for personal interaction  
• Best for probing and clarifying responses  
• Almost any type of question can be asked  
• Explore issues more in-depth  
• Housing units or location intercepts can be used to obtain sample (no list needs to be purchased)  
• Allows interpretation of nonverbal cues (attitude response observation)  
• Use of graphic or visual aids possible  
• Greater tolerance of survey length  
• High response rate (harder to decline in person) | • Very costly  
• Requires a lot of time  
• Geographical limitations  
• Interviewer bias  
• Interpretation bias  
• Acquiescence bias  
• Respondents lose feeling of anonymity  
• May have no second chance to convert a refusal into a completed survey  
• May not be a representative sample  
• May be more difficult to hire and train interviewers (travel required) |
Mail Surveys
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Does not require large staff</td>
<td>• Usually biased toward males (Peterson &amp; Messmer, greater than 70% males)</td>
</tr>
<tr>
<td>• Costs are moderate</td>
<td>• Lower coverage rates for named respondents</td>
</tr>
<tr>
<td>• Respondent convenience (respondent can choose time and place to answer survey)</td>
<td>• Multiple mailings are required (and costly)</td>
</tr>
<tr>
<td>• Use of graphic or visual aids possible</td>
<td>• Obtaining a good response rate can take 6 weeks or longer</td>
</tr>
<tr>
<td>• Greater flexibility in the types of questions that can be asked (e.g., can rank multiple items, can use tabulations)</td>
<td>• Response rates depend on group</td>
</tr>
<tr>
<td>• U.S. Postal Service DSF (95% coverage)</td>
<td>• Limited control over data quality (missing, incorrect, or illegible responses)</td>
</tr>
<tr>
<td></td>
<td>• Data entry costs</td>
</tr>
<tr>
<td></td>
<td>• Possibility of data entry error</td>
</tr>
<tr>
<td></td>
<td>• No probing or clarifying</td>
</tr>
<tr>
<td></td>
<td>• Non-respondent bias</td>
</tr>
<tr>
<td></td>
<td>• Not environmentally friendly</td>
</tr>
</tbody>
</table>
Telephone Surveys
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High coverage of general population through RDD and cellular telephone</td>
<td>• Sampling procedure requires purchasing list (costly to purchase cellular telephone lists and RDD sample)</td>
</tr>
<tr>
<td>(more than 95% coverage)</td>
<td>• RDD has to be coupled with cellular telephones</td>
</tr>
<tr>
<td>• Fastest method</td>
<td>• Costs are moderate to high</td>
</tr>
<tr>
<td>• Higher response rate because of multiple callbacks</td>
<td>• RDD may have to be coupled with asking for younger respondents</td>
</tr>
<tr>
<td>• Reduces bias (especially on harvest studies)</td>
<td>• Limitations on length of survey</td>
</tr>
<tr>
<td>• Accuracy through CATI and professional interviewing</td>
<td>• Interviewers must be hired and trained</td>
</tr>
<tr>
<td>• Ensures responses are obtained for all questions</td>
<td>• CATI system required (set-up may be costly if not already available)</td>
</tr>
<tr>
<td>• Ensures appropriate respondent is contacted and answering the survey</td>
<td>• Some technical expertise required</td>
</tr>
<tr>
<td>• Anonymity</td>
<td>• Answering machines / screening</td>
</tr>
<tr>
<td>• Minimal environmental impact</td>
<td>• Use of graphic or visual aids not possible</td>
</tr>
<tr>
<td></td>
<td>• Locations for cellular phones only track where they are purchased, not where they currently reside</td>
</tr>
</tbody>
</table>
Web-Based Surveys
Typology of Online Surveys

- **Open-ended** – placed on web, anyone can respond
- **Online panel** – respondents sign up in exchange for cash or other incentives
- **Online panel** – respondents contacted and invited to participate
- **Database with partial email addresses** (e.g., most current databases of hunting and fishing licenses, boater registrations)
- **Database with full coverage** (e.g., agency employee databases)
- **Web used as part of multi-modal survey**
<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Costs are low</td>
<td>• Everybody is an expert</td>
</tr>
<tr>
<td>• Data is collected quickly</td>
<td>For open population surveys:</td>
</tr>
<tr>
<td>• Computerized data collection</td>
<td>• Sample is not representative</td>
</tr>
<tr>
<td></td>
<td>• Demographic limitations</td>
</tr>
<tr>
<td></td>
<td>• Difficult to obtain a good response rate or even calculate the response rate</td>
</tr>
<tr>
<td></td>
<td>• Non-response bias</td>
</tr>
<tr>
<td></td>
<td>• Stakeholder bias</td>
</tr>
<tr>
<td></td>
<td>• Unverified response</td>
</tr>
<tr>
<td></td>
<td>• Limited control over data quality</td>
</tr>
<tr>
<td></td>
<td>• Layout and formatting limitations</td>
</tr>
<tr>
<td></td>
<td>• Technical problems with hardware and software</td>
</tr>
<tr>
<td></td>
<td>• Low response rates</td>
</tr>
</tbody>
</table>
Open-Ended

The Fallacy of Online Surveys: No Data Are Better Than Bad Data

MARK DAMIAN DUDA AND IOANNE L. NOBILE

Responsive Management, Harrisonburg, Virginia, USA

Internet or online surveys have become attractive to fish and wildlife agencies as an economical way to measure constituents’ opinions and attitudes on a variety of issues. Online surveys, however, can have several drawbacks that affect the scientific validity of the data. We describe four basic problems that online surveys currently present to researchers and then discuss three research projects conducted in collaboration with state fish and wildlife agencies that illustrate these drawbacks. Each research project involved an online survey and a corresponding random telephone survey or nonresponse bias analysis. Systematic elimination of portions of the sample population in the online survey is demonstrated in each research project (i.e., the definition of bias). One research project involved a closed population, which enabled a direct comparison of telephone and online results with the total population.

Keywords Internet surveys, sample validity, SLOP surveys, public opinion, nonresponse bias

Introduction

Fish and wildlife and outdoor recreation professionals use public opinion and attitude surveys to facilitate understanding their constituents. When the surveys are scientifically valid and unbiased, this information is useful for organizational planning. Survey research, however, costs money. Given the current budgetary climate and the uncertainty of the future, organizations are looking for ways to save money. Strategic planning and human dimensions information gathering are no exception.
North Carolina Sunday Hunting Study

- To assess North Carolina residents’ opinions on whether Sunday hunting should be allowed in the state
- Online opinion poll (non-random sample, 10,000 responses)
- Telephone survey (random sample, 1,212 responses, sampling error ±2.815 percentage points)
Question: In general, do you support or oppose the legalization of Sunday hunting in North Carolina? (Comparison of Online and Telephone Data)

- **Support**: Online survey = 55%, Telephone survey = 25%
- **Oppose**: Online survey = 43%, Telephone survey = 65%
- **No Clear Opinion**: Online survey = 2%, Telephone survey = 10%
FLORIDA DEER HARVEST RATES

Estimated Number of Deer Harvested:
Telephone Survey = 142,325
Web Survey = 207,022
45.46% increase
62% of first-time anglers bought their licenses online.

Table 21. Where first-time license buyers purchased their license

<table>
<thead>
<tr>
<th>Location</th>
<th>Total</th>
<th>Purchased in 2012 only (lapsing)</th>
<th>Purchased in 2012 and 2013 (renewing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online from the fish and wildlife agency website*</td>
<td>62%</td>
<td>64%</td>
<td>61%</td>
</tr>
<tr>
<td>In-person at a retailer/sporting goods store</td>
<td>30%</td>
<td>31%</td>
<td>30%</td>
</tr>
<tr>
<td>In-person at a small bait and tackle shop</td>
<td>4%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>In-person at a state agency office</td>
<td>3%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

*The results are based on a survey of first-time anglers with an email address on file at their state fish and wildlife agency. As a result, the percent of respondents who purchase online may be upwardly biased to an unknown extent.
All License Buyers

Without Email Addresses 80%

With Email Addresses 20%

1.4% coverage rate

Response Rate Among Those With Email Addresses 7%
Q151. Have you ever bought or renewed your fishing license online through the DNR website?

- Yes: 7 (Avid Angler), 12 (Inconsistent Angler), 4 (One-Time Angler)
- No: 93 (Avid Angler), 87 (Inconsistent Angler), 96 (One-Time Angler)
- Don't know: 0 (Avid Angler), 1 (Inconsistent Angler), 1 (One-Time Angler)
Examples:

- Understanding Residents’ Opinions on Algae Levels and its Impact on Public Use of West Virginia Waters
- The Impact of Various Images and Media Portrayals on Public Knowledge of and Attitudes Toward Chimpanzees
- Washington State Comprehensive Outdoor Recreation Plan Outdoor
- Surveying the Social Media Landscape: Identifying the Most Effective Social Media Delivery Methods to Increase Support for and Participation in Hunting and Shooting
A Multi-Modal Approach

Total Population

- Cell phones
- Landlines
- Emails
- Mailing address

Responsive Management
Maine Residents’, Hunters’, and Landowners’ Opinions on Big Game Management
Project Methodology
Quantitative Methodology

- Initial planning session with Department staff
- Multimodal survey of key groups:
  - Stratified by region (north, central, south)
  - Data collected via email, mail (Address-Based Sampling), and telephone (landline and wireless in their exact proportions)
    - Residents (n=900 / 300 per region)
    - Resident / nonresident hunters (n=900 / 300 per region)
    - Landowners (n=225 / 75 per region)
    - Total n=2,025
Qualitative Methodology

- Series of six public meetings:
  - 2 meetings per region
  - Key groups invited (hunters, landowners, sportsmen, non-consumptive users, agricultural groups, etc.)
  - Separate meetings for general big game issues and bear issues

- Online Town Hall to solicit additional feedback from public

- Series of seven focus groups:
  - 2 groups per region
  - Separate groups for general big game issues and bear issues
  - One additional group held with residents who voted “yes” on Maine Question 1 in 2014

- Data analysis, final report, presentation of findings
Consider the following:
July 27, 2015

1. How important is it that firearms safety courses be offered in Connecticut?

2. What should firearms safety courses cover in order to be comprehensive and effective?

3. How important is it that safety courses for hunters, trappers, and bowhunters in Connecticut include aspects focusing on conservation education?
Questions?