THE CONTINUING CHALLENGES OF ONLINE SURVEYS

Pathways 2014 Conference
Integrating Human Dimensions Into Fisheries and Wildlife Management

Presented by Mark Damian Duda, Responsive Management
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 (lapping)</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>4%</td>
</tr>
<tr>
<td>In-person at a state agency office</td>
<td>3%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>N=403</td>
<td>N=403</td>
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</tr>
</tbody>
</table>
All License Buyers

75-80% purchase license over the counter

20-25% purchase license online
All License Buyers

- Without Email Addresses 80%
- With Email Addresses 20%

1.4% coverage rate

Response Rate Among Those With Email Addresses 7%
METHODOLOGY

- Conducted May-July 2013
- Sample consisted of license buyers from 2005 to 2012 from three avidity groups
  - Avid license buyers (those who bought a license in every year from 2005 to 2012)
  - Inconsistent license buyers (those who bought a license only 3 to 6 of the 8 years from 2005 to 2012)
  - One-time license buyers (those who bought a license only once from 2008 to 2012).
- Landline and cellular telephone survey of 1,858 hunters and anglers

<table>
<thead>
<tr>
<th>Hunter Avidity Groups</th>
<th>Number of Completed Interviews</th>
<th>Angler Avidity Groups</th>
<th>Number of Completed Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avid license buyers</td>
<td>318</td>
<td>Avid license buyers</td>
<td>309</td>
</tr>
<tr>
<td>Inconsistent license buyers</td>
<td>315</td>
<td>Inconsistent license buyers</td>
<td>305</td>
</tr>
<tr>
<td>One-time license buyers</td>
<td>307</td>
<td>One-time license buyers</td>
<td>304</td>
</tr>
<tr>
<td>Total Hunters</td>
<td>940</td>
<td>Total Anglers</td>
<td>918</td>
</tr>
</tbody>
</table>

Total Completed Interviews: 1,858
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)
Percent of one-time / first-time anglers who purchased a fishing license online:

- 62% from Internet survey
- 4% from Iowa DNR survey

Purchased online
62% of first-time anglers bought their licenses online.

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</table>

N=403  N=120  N=283

*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.
## Measuring Participation: Comparison of Telephone and Online Panel Surveys

### Activity | Telephone | Online Panel
---|---|---
Mountain biking | 42.7 | 7.4
Day hiking | 79.7 | 32.5
Canoeing | 22.8 | 10.0
Kayaking | 14.2 | 6.2
Waterskiing | 21.3 | 5.2
Mountain climbing | 12.4 | 2.1
Saltwater fishing | 25.1 | 13.1

Sources: U.S. Forest Service’s National Survey on Recreation and the Environment (telephone survey); Sports and Fitness Industry Association’s 2013 Sports, Fitness and Leisure Activities Topline Participation Report (panel survey)
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
Reach of Responsive Management

- 700 human dimensions projects
- Almost $60 million in research
- 50 states – 15 countries
- Every state fish and wildlife agency and most federal resource agencies; most DNRs and NGOs
- Initiated by WAFWA in 1985
- 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
METHODOLOGIES

Qualitative Methodology
✓ Public Meetings
✓ Focus Groups

Quantitative Methodology
✓ Personal Interviews / Direct Observation
✓ Telephone Surveys
✓ Mail Surveys
✓ Web-Based Surveys (where appropriate)
✓ Mixed-Mode Surveys
QUALITATIVE METHODS
Examples:

• 2012 Washington State Comprehensive Outdoor Recreation Plan
• Virginia Department of Game and Inland Fisheries’ 2011-2020 Bear Management Plan
• Attitudes Toward the Strategic Direction of the Arkansas Game and Fish Commission
• Saltwater Recreational Fisheries Management Plan
• Public Opinion on Management Options for Recreational Fishing of Early Run King Salmon on the Kenai and Kasilof Rivers
Focus Groups

Examples:

- **Focus Groups of Pennsylvania’s Lapsed Hunters**
- **Understanding the Impact of Peer Influence on Youth Participation in Hunting and Target Shooting**
- **Enhancing Fishing Access Through a National Assessment of Recreational Boating Access**
- **Anchorage Residents’ Opinions on Bear and Moose Population Levels and Management Strategies**
QUANTITATIVE METHODS
Examples:

- A Study of Ohio River Contact Recreational Use, Characteristics Of Contact Recreational Use, and Site-Specific Fish Consumption Rates
- Public Attitudes Toward Illegal Feeding and the Harassment of Wild Dolphin in Florida
- Lake Tahoe Boater Survey
- Dockside Intercept Surveys for the National Oceanic and Atmospheric Administration / Catch Rates
Mail Surveys

Examples:

• Public Opinion on Fishing and Hunting License Structures and Pricing in Minnesota

• From Media to Motion: Improving the Return on Investment in State Fish and Wildlife Marketing Efforts

• Indiana Hunter Survey
Telephone Surveys
(Landline and Cellular Telephones)

Examples:

- *Idaho Residents’ and Sportsmen’s Opinions on Wildlife Management and the Idaho Department of Fish and Game*
- *Understanding Public Attitudes Toward Human-Wildlife Conflict and Nuisance Wildlife Management in the Northeast United States*
- *Hunters’ Attitudes Toward CWD and the Impact of Management Efforts in Maryland*
- *Virginia Hunters’, Anglers’, and Boaters’ Opinions on and Satisfaction With the Department of Game and Inland Fisheries’ Law Enforcement Activities*
- *Survey of New Jersey Freshwater Trout Anglers*
- *Exploring Data Collection and Cost Options for the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*
- *Kansas Residents’ Awareness of and Attitudes Toward Threatened and Endangered Species*
- *Kentucky Residents’ Awareness of and Opinions on Elk Restoration and Management Efforts*
- *Virginia Residents’ Opinions on Black Bear and Black Bear Management*
- *Pennsylvania Residents’ Opinions on Deer and Deer Management*
- *Florida Annual Statewide Deer Harvest Surveys*
Web-Based Surveys

Examples:

• American Fisheries Society Salary Survey
• U.S. Fish and Wildlife Service Employee Morale Survey
• Great Florida Birding and Wildlife Trail Satisfaction Survey
• Washington SCORP Recreational Providers Surveys
• Arkansas Game and Fish Commission Employee Morale Survey
• Stakeholders’ Opinions on and Attitudes Toward the Longleaf Alliance and its Strategic Plan
Mixed-Mode Surveys

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
• 2012 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
The Fallacy of Online Surveys: No Data Are Better Than Bad Data

MARK DAMIAN DUDA AND JOANNE L. NOBILE

Responsive Management, Harrisonburg, Virginia, USA

Internet or online surveys have become ubiquitous in 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 discuss three research projects conducted in collaboration with state fish and wildlife agencies that illustrate these drawbacks. Each research project was based on an online survey and a corresponding traditional telephone survey or mail-in response data 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 clinical population, which contained a direct comparison of telephone and online results with the real population.

Keywords: Internet surveys, sample validity, BLSP surveys, public opinion, non-response bias

Introduction

Fish and wildlife and outdoor recreation professionals use public opinion and attitude surveys to better understand their environments. When the surveys are scientifically valid and unbiased, the information is useful for organizational planning. Survey research, however, costs money. Given this 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.

Online surveys are becoming increasingly popular as information-gathering tools. Marketing companies offer online surveys as seemingly reasonable tools. Online surveys appear to be easy to set up and administer in-house, can save time and money, and provide immediate results. Unfortunately, online surveys seldom provide scientifically valid, accurate, and legislatively defensible data. Recent collaborative research conducted by Responsive Management and several state fish and wildlife agencies provides clear examples of how online surveys can produce inaccurate, questionable, and biased data. There are four main reasons for this: (a) sample validity, (b) non-response bias, (c) stakeholder bias, and (d) unreported responses.

The challenges that online surveys present to obtaining scientifically valid survey results have been pointed out by others. Dillman, Smyth, and Christian (2009), for example, cite the lack of standardization regarding e-mail address structure and how e-mail addresses are created, the alteration of an online equivalent to the random digit dialing (RDD) algorithm for random selection of telephone numbers, and responses varying.
Four Issues

• Sample Validity
• Non-Response Bias
• Stakeholder Bias
• Unverified Respondents
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)

<table>
<thead>
<tr>
<th>Support</th>
<th>Oppose</th>
<th>No Clear Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online survey</td>
<td>Telephone survey</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>65</td>
<td>25</td>
</tr>
<tr>
<td>43</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Responsive Management
South Carolina Saltwater Fishing and Shellfishing Study

- To assess participation in and opinions on saltwater fishing and shellfishing in South Carolina

- Telephone survey of randomly chosen individuals from the license database (random sample, 1,709 responses)

- Online survey of individuals from the license database who provided an email address when they purchased their licenses (non-random sample)
Percent identified as female.

Database* 18.5
Telephone Survey 19.9
Web Survey 5.7

*Note: The database referred to in the graph is made up of all South Carolina Saltwater Recreational Fisheries License holders, meaning that the figure shown for the database is the actual, complete population being studied.
2012/2013 FLORIDA DEER HARVEST RATES

Estimated Number of Deer Harvested:
Telephone Survey = 142,325
Web Survey = 207,022
45.46% increase
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.
Methodologies are a means to an end. One important issue is coverage.
RDD and Cell phone samples overlap, yielding complete coverage of phone households.

- **Cell phones**
  - CELL ONLY: 39.9%
  - CELL + LANDLINE: 52.6%
  - LANDLINE ONLY: 7.1%

*Slide courtesy of the University of Virginia.*

All percentages are from 2013 NHIS data.
Address-Based Sampling (ABS)

- ~95% coverage of U.S. residential households
- Provides alternative way to sample cell phone-only households
- More geographically precise sample selection

Source: American Association for Public Opinion Research Cell Phone Task Force Report
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
Comments from probability-based random sample online survey panelists:

“I take about 50 online surveys a year.”

“Takes way too long to make $5. The surveys are horridly long and boring and plain. When you do get the $5 check, it takes three weeks to reach you in the mail.”

“I can't believe how many surveys I've taken with this company, and for a couple of months I've had trouble accessing my account. I figured my points must be quite high by now, and I was excited to see I have almost 4000 points. I was hugely disappointed to see that 4000 points = $4. Once I reach $5 I'm quitting, because it's a total waste of my time.”

Sample validity: For a valid sample, every member of the population must have a known chance of participating. Without a valid sample, all data are questionable.

Sample selection bias: The bias exists due to a flaw in the sample selection process, where a subset of the data is systematically excluded due to a particular attribute.

Non-Response bias: People who do not respond have the potential to be different from those who do respond. People who do respond are more likely to be interested in the topic. Without a valid sample frame, the presence or absence of non-response bias cannot be determined.
Issues:

- Response rate (response rate of a response rate?)
- No amount of weighting makes up for a poor sample
- Coverage
- Are your trends really trends?
- Can we really compare results?
- Some attitudes are so prevalent that it doesn’t matter how poor the coverage is
What are the costs of reporting bad data / findings?
A Multi-Modal Approach

Every member of the population must have a known chance of participating.
Exploring Alternative Methods for Data Collection for the *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*

Pathways 2014 Conference
Integrating Human Dimensions Into Fisheries and Wildlife Management

Presented by Mark Damian Duda, Responsive Management

Responsive Management
These projects are being conducted under a grant from the U.S. Fish and Wildlife Service and administered by the Association of Fish and Wildlife Agencies.
TWO PROJECTS FUNDED

- **Project 1 (2013-2015):** Exploring Data Collection and Cost Options for the *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*
  - **Partners:** ASA, ATA, and Responsive Management
  - **Project Goals:** Replicate the current methodology of the *National Survey* and evaluate cost options

- **Project 2 (2014):** Planning and Coordination of the 2016 *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*
  - **Partners:** NSSF, ASA, ATA, and Responsive Management
  - **Project Goals:** Identify cost-effective sampling methodologies and alternative approaches for conducting the 2016 *National Survey*
PROJECT 1: 2013-2015
PROJECT 1: EXPLORING DATA COLLECTION AND COST OPTIONS FOR THE NATIONAL SURVEY OF FISHING, HUNTING, AND WILDLIFE-ASSOCIATED RECREATION

- 2-year pilot study
- 2 test states
- Compare results
- Analyze costs
Study Objectives

- Replicate *National Survey* data collection in two representative test states: North Carolina and South Dakota.

- Determine average costs for *National Survey* data collection in two test states and identify potential opportunities for budget reductions.

- Assess comparability of the results of this pilot study with current results from the *National Survey* conducted by the USFWS and U.S. Census Bureau, to determine the feasibility of alternative data collection options.

- Develop recommendations for AFWA’s National Grants Committee based on the assessment of costs and logistical requirements for implementing the *National Survey*.
Methodology

YEAR 1: 2013-14
- Met with the U.S. Fish and Wildlife Service
  - Guidance regarding methodology
  - Copy of survey instrument
- Code the survey for CATI administration
- Selected test states: North Carolina and South Dakota
- Identify Primary Sampling Units (PSUs) and develop sample

YEAR 2: 2014-15
- Conduct surveys

<table>
<thead>
<tr>
<th>State</th>
<th>No. households in screening sample</th>
<th>Households eligible for interview</th>
<th>No. from which interviews obtained</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>1,029</td>
<td>896</td>
<td>621</td>
</tr>
<tr>
<td>SD</td>
<td>333</td>
<td>295</td>
<td>214</td>
</tr>
</tbody>
</table>

- Screener and categorization (hunters, anglers, wildlife watchers)
- Wave 1 surveys: May / June 2014
- Wave 2 surveys: September 2014
- Wave 3 surveys: January 2015
- Analyze results and costs
- Compare with 2011 National Survey results
- Prepare final report and recommendations
Sample Development

- *National Survey* uses the U.S. Census Bureau’s Master Address File (not accessible).

- Using Random Digit Dialing (RDD) and supplemental cell phone sample.

- Coverage Rate: 97.7% of U.S. households have a phone (landline and/or cell). *(National Center for Health Statistics, December 2013)*

- Response rates – will replicate *National Survey* calculation method for direct comparison *(American Association for Public Opinion Research, RR2 formula)*
Supplemental Cell Sample

- Approximately 38% of all adults live in a household with *only* a cell/wireless phone. *(National Center for Health Statistics, December 2013)*

- Responsive Management routinely supplements RDD with cell sample for general population studies.

- Plan to supplement proportionately to the population living in cell-only households in each state.

<table>
<thead>
<tr>
<th>State</th>
<th>Percent With Any Phone</th>
<th>Percent With Cell Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>96.9%</td>
<td>34.7%</td>
</tr>
<tr>
<td>SD</td>
<td>97.4%</td>
<td>38.6%</td>
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</table>

Survey Administration

Challenges of the *National Survey* instrument and design

- Length (40 minutes) and intricacy
- Only the most skilled interviewers assigned to conduct the long interviews
- Request for personal information at outset can deter participation
- Need to re-contact respondents over each wave
PROJECT 2: 2014
Multistate Conservation Grant Program

The Multistate Conservation Grant Program (MSCGP) funds projects that address the regional or national level priorities of state fish and wildlife agencies.

Planning and Coordination of the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

- National Shooting Sports Foundation
- Archery Trade Association
- American Sportfishing Association
- Responsive Management

2014 Multistate Conservation Grant Program
Letter of Intent

Project Narrative and Budget (Limit - 2 pages)

One paragraph description of project (main objectives and anticipated outcomes)

Although the National Survey is in the process of reviewing and revising the 2016 National Survey, the survey will produce estimates of wildlife-associated recreation and economic impact at the national, regional, and state level. The national sample frame will be designed to obtain national, regional, and state-level data through random digit dialing (RDD) and supplemental cell phone samples, as well as to use of hunting and fishing license data to obtain more detailed information.

In addition to meeting the goals and objectives of the previous approach to the National Survey, the purpose of this proposal is to move beyond the basic provisions of the National Survey to obtain additional value-added data using a more cost-effective and efficient approach. To this end, the approach would include collecting the main participation rates on a national, regional, and state level, using the aforementioned RDD and supplemental cell phone sampling.

The detailed data (i.e., days of participation, species hunted and fished, the economic impacts of hunting and fishing) will be collected by working directly with states independently to obtain hunting and fishing license data and conduct surveys with a representative sample of hunters and anglers. In other words, the top-level participation data will be collected using the same approach used to predict national elections while the more detailed participation data will be provided using the same method that the state agencies and Responsive Management have been using for decades to conduct hunter harvest and attitude surveys, thereby generating accurate data at a substantially lower cost.

Although this new approach will provide data consistent with that previously obtained for fishing, hunting, and wildlife viewing, it is also the hope of the researchers that data can be
Study Objectives

The grant provides funding to achieve the following objectives:

- Identify user needs and expectations for the *National Survey* through focus groups, personal interviews, and other forums with key agency personnel.

- Explore alternative sampling techniques for accurate state data.

- Research and determine the most effective data collection procedures, including reviews of Bayesian approaches, incentives and Spanish-language options, American Community Survey options, survey costs, and other issues.

- Examine new value-added survey content, including sport shooting (firearms, archery, bowhunting) data.
Project 2
Study Methodology: Three Strategies
Strategy 1: Focus Groups

- 14 focus groups, held via conference call between April and July 2014

- Participation breakdown:
  - Agency directors / designees
  - Technical representatives
  - Human Dimensions specialists

- Individual interviews also conducted with agency directors
Strategy 2: Online Forum

A focused discussion on how to improve the National Survey.

Welcome!

Thank you for coming to contribute to this forum, which will help determine what changes should be made to the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. We need to know what's most important to you about the National Survey: what should change, what should stay the same, and anything else you want to tell us. Please use the links below to comment on a specific topic area:

- How you use the National Survey, and which parts you use most and least

Participation in this forum is completely anonymous. The comment box will ask you to sign in, but you can enter any text you like in the Name field (e.g., "Anonymous," "Guest123"). Click here to read our Terms of Engagement.

The comments posted here will be compiled for qualitative analysis, and every comment will be carefully reviewed and all
Strategy 3: Methodology Review

Comprehensive literature review examined:

- Address-based sampling systems, including the Master Address File.
- RDD landline and cell sampling and other telephone-based systems.
- Mail and online survey methodologies.
- The role of response rate in survey quality, and the role of incentives in boosting response rates.
- Bayesian modeling and inference techniques.
Project 2: Findings from Focus Groups, Interviews, and Online Forum
On how *National Survey* data are used:

- Most use broad figures on participation and expenditures
  - Detailed data (species breakdowns, expenditure categories) much less used

- Most common uses:
  - Demonstrate economic impact
  - Provide a check to internal data
“What’s important is the economic data and the overall participation data. The rest is ancillary.”

“Being able to make a statement about economic impact is the only way we get on the balance sheet. It affects appropriations.”

“Details like species-level information can be generated internally. For the big-picture numbers we really need the National Survey.”

“We don’t use any of the detailed questions. Even if we were inclined to use them, the sample sizes are so low that the accuracy makes them pretty unusable.”
On users’ concerns with National Survey data:

- Most users are concerned about the Survey’s accuracy and reliability.
  
  - Accuracy: the closeness of the data to the truth
  - Reliability: the soundness of the methodology

- For the majority of users, these concerns affect how they use the data.
“We don’t use it. We just can’t see ourselves in it.”

“I’ve seen sample sizes of six! With sample sizes like that and such wide margins of error, you just can’t use them. You can’t defend them. They have to pass the red-face test.”

“You don’t expect [National Survey data and license data] to be the same, but you expect to see some kind of alignment that’s generally consistent over time.”

“When I use them, I call them ‘an approximation,’ and I only use them for PR. We do not use them at all for management, planning, or anything like that.”
On users’ priorities for the *National Survey*:

- Trend data are highly valued, but most users would compromise them to improve data quality.

- The *National Survey’s* third-party credibility is highly valued by the majority of users.
“Trend data are important, but I’d be willing to see a tradeoff with improvements in data quality.”

“The desire for continuity has stymied change until now, and now we’ve run out of money.”

“Continuity is important, but if the data aren’t usable, it doesn’t do much good.”

“The Survey’s external credibility – the fact that it’s something no in-state interest can influence – is really important to how we use the numbers.”
On users’ single highest priority for the *National Survey*:

*All* users agree that the *National Survey* must increase state-level sample sizes.
“Increasing the sample size is the most important thing.”

“Even at the state level, the sample sizes are too small.”

“The biggest single issue is sample size.”

“I think there’s a consensus that the National Survey needs to have fewer questions and a bigger sample size.”

“The sample sizes are so small that in our state we just have rows of asterisks…[even though] we did put in extra funds to get extra sampling.”

“The highest priority has to be to get a robust sample. Whatever methodology is chosen, that has to be its goal.”
Project 2: Conclusions
1. The *National Survey* could be effectively shortened to its essentials: participation and expenditures in the three activities.

- These data require external credibility and a consistent methodology across states.

- States collect other data more cost-effectively, and collect only what they need.

- Maximum effective length for a telephone survey is about 20 minutes; the *National Survey* interview instrument is much longer.
2. Methodological changes should focus on sample size, coverage, and bias testing, with modified focus on response rate.

- Sample size: single highest priority of Survey users
- Coverage: even more critical to quality of sample
- Response rate:
  - Important but not sole indicator of survey quality
  - Can consume survey resources without delivering commensurate gains in survey quality
- Rigorous bias testing:
  - Detects error from all sources
  - Ensures a sound, representative sample
3. Some presentation changes could help restore confidence in the *National Survey*.

- Technical documentation:
  - Many users find it opaque
  - Further shakes their confidence in *Survey* methodology

Greater transparency in reporting can boost confidence in the *Survey*’s methodology.

- *Survey* reports:
  - Users must go through many tables to find the data they need
  - Want to manipulate data

Providing the data interactively would make the *Survey* a more valuable and useful tool.
4. A sense of goal and purpose would be useful in making decisions about the future of the *National Survey*.

- Users refer to the *Survey*'s “original purpose,” but little consensus on what this is or should be.
- Many users say that the *Survey* suffers from “mission creep.”
- Some users say that the *Survey*'s funding sources should determine its goals.

An open discussion about the *Survey*'s mission would provide a more solid foundation for strategic planning.
The future of the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation 2016

- Part A: National-level survey (maintain comparability with previous National Surveys)
- Part B: State-level survey (obtain more accurate results for each of the 50 states)