Preliminary Results on Survey about Reuse of Species Occurrence Data and Use of Web-based Information Systems by Professionals

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Doctoral Research

Primary Goals

– Increase understanding on use of Web-based species occurrence information systems by academic and non-academic professionals
– Gather baseline data for future evaluations and comparisons

Online survey of professionals

– Reuse of species occurrence data
– Use of Web-based information systems that provide species occurrence data

Research co-advisors: Larry Page & Shari Ellis
Online Survey Methods

Identified organizations’ websites & staff emails

Academic institutions
• Universities
  – Classified as ‘Highest Research Activity’ *
Departments searched:
  – Biological, Ecological Sciences
  – Earth, Ocean, Environmental Sciences

Non-academic organizations
• State & Federal Agencies
  – 50 states
  Agencies/programs searched:
    – Natural resource management & research
    – Environmental quality & protection
    – Agriculture (invasive species, pests)

* 2015 Carnegie Classification of Institutions of Higher Education
Online Survey Administration & Response

• UF Qualtrics
  – closed & open-ended questions
  – 10 - 20 minutes to complete

• 7,092 email invitations sent:
  – Academia - 3,143 emails
  – Non-Academia - 4,150 emails

• Survey was open
  – March 21 - April 25, 2017

Response

942 usable survey responses
Response Rate = 15%
Completion Rate = 95%
Respondents Sector of Work

Summarized as:
  – Academia (35%)
  – Non-Academia (65%)
### Primary Area of Work of Respondents

<table>
<thead>
<tr>
<th>Primary Area of Work</th>
<th>Academia Frequency (%)</th>
<th>Non-Academia Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific research</td>
<td>283 (86%)</td>
<td>121 (20%)</td>
</tr>
<tr>
<td>Teaching</td>
<td>36 (11%)</td>
<td>10 (1%)</td>
</tr>
<tr>
<td>Natural resource management, conservation, and restoration practice</td>
<td>4 (1%)</td>
<td>386 (63%)</td>
</tr>
<tr>
<td>Environmental planning &amp; review</td>
<td>1 (0.5%)</td>
<td>34 (6%)</td>
</tr>
<tr>
<td>Policy, law, administration</td>
<td>1 (0.5%)</td>
<td>29 (5%)</td>
</tr>
<tr>
<td>Technical / scientific information transfer &amp; communications</td>
<td>4 (1%)</td>
<td>32 (5%)</td>
</tr>
<tr>
<td>Sample size (N)</td>
<td>329</td>
<td>612</td>
</tr>
</tbody>
</table>

Academia ≈ work primarily on scientific research activities (86%)

Non-Academia ≈ work primarily on natural resource & environment activities (79%)
Geographic Scope of Respondent’s Primary Work

From ‘Select All that Apply’ question. Total percentages by sector are greater than 100%.
Reuse of Specimen Data

Frequency of Reuse Specimen Data

- Never or seldom: Academia 57, Non-Academia 70
- Frequently: Academia 43, Non-Academia 30

N = 292 for Academia, N = 545 for Non-Academia
Reuse of Observational Data

Percent Frequency of Reuse by Sector

- **Academia** (N = 294)
  - Never or seldom: 35%
  - Frequently: 65%

- **Non-Academia** (N = 555)
  - Never or seldom: 18%
  - Frequently: 82%
Data Type Reuse by Academia

Percentages do not total 100% due to rounding

Specimen Data N = 292
Observational Data N = 294
Data Type Reuse by Non-Academia

Percentages do not total 100% due to rounding

Non-Academia

Percent Frequency of Reuse by Data Type

Frequency of Reuse

Never or less than annual
Anually
Every 6 months
Every 3 months
Monthly
Weekly
Daily

Specimen Data
Observational Data

N = 545
N = 555
Level of Processing of Preferred Data for Reuse

Percent Frequency of Level Data Processing by Sector

- **Original, untransformed**: Academia 60, Non-Academia 35
- **Transformed, normalized**: Academia 3, Non-Academia 6
- **Summarized, synthesized**: Academia 17, Non-Academia 29
- **Analyzed, modeled**: Academia 11, Non-Academia 19
- **Other**: Academia 6, Non-Academia 6
- **No preference**: Academia 3, Non-Academia 5

N = 564 for Non-Academia, N = 300 for Academia
Frequently Used Sources of Data for Reuse

From 5 separate data source questions. Total percentages per sector are greater than 100%.

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Academia</th>
<th>Non-Academia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleagues</td>
<td>290</td>
<td>550</td>
</tr>
<tr>
<td>Reports</td>
<td>290</td>
<td>552</td>
</tr>
<tr>
<td>Books</td>
<td>286</td>
<td>540</td>
</tr>
<tr>
<td>Publications</td>
<td>287</td>
<td>544</td>
</tr>
<tr>
<td>Web</td>
<td>292</td>
<td>554</td>
</tr>
</tbody>
</table>

Sample size (N) per data source:
Use of Web-based Information System in Past 12 Months

~ 80% of survey respondents used a Web-based information system in the last year.
Sources where Respondents Learned about Web-based Information Systems

From ‘Select All that Apply’ question. Total percentages by sector are greater than 100%.
Importance of Availability of Web-based Information Systems

Percentages may not total 100% due to rounding
Next Steps

• Conduct statistical analyses of closed-ended questions
• Code and analyze open-ended questions

Thank You