PRE-PUBLICATION DRAFT

Consultation to Guide the Preparation of the 2010 National Report on Sustainable Forests

Final DRAFT

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PRE-PUBLICATION DRAFT

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* to be made available on line with final report *

Executive Summary

The Roundtable on Sustainable Forests is assessing lessons that were learned through the production of the National Report on Sustainable Forests 2003 in order to assure the broad practical utility of the next national report, which will be published by the USDA Forest Service in 2010. The 2010 Report must provide practical use to the stakeholder and decision-maker community while providing useful information to the general public. A Consultation Team was created to ask the forest stakeholders what content and format would meet their needs, and report these findings to the Roundtable and the Forest Service. This report summarizes the results of this consultation.

Invitations were sent to 2439 forest stakeholders whose contact information was accessible through existing forestry databases. A total of 280 individuals responded from all fifty states, representing interests and responsibilities at the local, regional and national level. The federal government was well represented, along with environmental organizations, state government, and academic institutions. Private development organizations, foundations, local government agencies, tribal governments and biologists were less well represented in the respondent population. Statistical tests across different stakeholder groups did not indicate important variations in their responses.

This consultation demonstrated a broad interest and need for indicator information across the forest stakeholder community. They are committed to improving the sustainable management of the nation's forests based on receiving good information regarding the condition and trends of United States forests. More than 75% of the respondents report that they use indicator information for their work, with only 2% reporting they have no use for this information. A large proportion of the respondents (79%) have heard of or read parts of the 2003 Report, though only 15% responded that they used this report to address their need for indicator information. In summary, the 2003 Report did not provide the indicator information that they need, which provides a challenge and opportunity for the 2010 Report.

Certain criteria and indicators were identified in this consultation as providing greater practical value to the forest stakeholders. At the same time, this consultation confirmed the need for some level of reporting on all of the indicators. Quantitative information should be used for these analyses wherever possible, but stakeholders are interested in receiving qualitative assessments for those indicators where quantitative data are not available. Forest health and disturbance information were identified as the highest priorities at the criterion and the indicator levels. Other priority indicators include the use of best management practices, available land for forest production and wood product indicators, the extent and robustness of forest assessments, and the broader suite of values that make forests important to people. Resources available for the 2010 Report should be allocated for better reporting on those indicators that most directly improve the nation's understanding and management of United States forests.

Respondents want to see a simple and visually explicit format for the report, and request the ability to download the underlying data. Information in the report should be presented as graphs, maps, figures and tables whenever possible along with interpretive text. To increase the practical

value of the 2010 Report, the respondents would like an increasingly finer spatial resolution of the indicator information. This would greatly improve the relevance of the 2010 Report for regional and local interpretation and decision-making. These stakeholders want to sustain the economic, social, cultural, ecological and spiritual values that they derive from forests.

The respondents requested three types of summary information. They would like to see summary indices for each indicator relative to benchmarks, with an interpretation of sustainability trends over time for each indicator. They would also like to be presented with integrated summaries across multiple indicators, and would ultimately like to see a summary sustainability index for forest health across all indicators. Finally, the respondents stressed the need for a high-level executive summary that clearly interprets the long-term sustainability of US forests based on the available criteria and indicators information.

Background

1. Objectives for Consultancy

In 1995, the United States and eleven other countries established the Montréal Process on Criteria and Indicators (MPCI) for describing and measuring basic elements of sustainable forest management on a national basis. The MPCI provides a reporting framework for the 2003 and 2010 National Reports on Sustainable Forests (2003/2010 Report) (http://www.fs.fed.us/research/sustain/). These national-level reports are intended to provide information on the condition of and trends of our nation's public and private forests and document the nation's progress toward sustainable forest management.

The 2003 Report provided meaningful information with data that was available. The Roundtable on Sustainable Forests (Roundtable) is now assessing lessons learned from the production and use of the 2003 Report in order to increase the completeness, clarity, and practical utility of the 2010 Report. Resources are limited for the preparation and productions of this Report, which underscores the importance of:

1. Identifying the new types of data that should be collected;
2. Clarifying the specific types of analyses and analytical products stakeholders would like to see; and
3. Clarifying how people are most likely to access the reports and associated data.

The USDA Forest Service (Forest Service) is the federal agency with lead responsibility for producing the 2010 Report. The Roundtable has agreed to support the Forest Service's development of the 2010 Report through a variety of activities, one of which is this consultation. The Forest Service played a major role in initiating and implementing this project and is the major beneficiary of the information that it has produced.

The Roundtable (http://www.SustainableForests.net/) is an open and inclusive process of public and private organizations and individuals committed to the goal of sustainable forest management on public and private lands in the United States. The Roundtable has utilized multi-stakeholder dialogue as the primary vehicle for inquiry, input, and feedback. This process has created a culture of collaboration and shared learning on a subject that is often fraught with gridlock and controversy.

The Roundtable engaged in an on-line consultation to ensure the utility of the second Report, which will be released in 2010. The goal of the consultation was to identify priorities for the allocation of limited resources that will provide the types of analytical products that stakeholders want to use. The consultation focused on capturing stakeholder experiences with the 2003 edition of the Report and their opinion regarding which Montréal Process Indicators provide the greatest value for understanding and managing the sustainability of America's forests.

2. Consultation Team

   The Consultation Team was composed of five persons. Dennis Grossman provided leadership for this effort. The other team members were Paul Geissler, U.S. Geological Survey (USGS); Guy Robertson, Forest Service; Susan Morré, Oregon State University; and Sarah Walen, Meridian Institute. The Team worked closely with the Roundtable Core Group to set the objectives for this consultation, and coordinated its work with the Forest Service to ensure the consultation provided practical and timely input for the development of the 2010 Report.

Consultation Instrument

This consultation process was created to complete a quick assessment of stakeholder requirements for the development of the 2010 Report. Due to budget and time constraints, the Consultation Team made pragmatic decisions regarding the number of forest stakeholders that could be contacted, the means of contact, the amount of information that could be gathered, and the level of analysis that could be completed in this information.

1. General Approach

   The objective was to build a consultation instrument that would extract useful information from a highly variable audience that represents different backgrounds, variable levels of involvement in sustainable forest management, and a range of familiarity with sustainability criteria and indicators. The Consultation Team assumed that the respondents would have limited time to fill out the questionnaire. A web-based consultation approach was selected, and a number of currently available web-based questionnaire software were reviewed. There was capacity to construct this questionnaire by a Team member, and the final three-part web-based consultation instrument was built by Paul Geissler of USGS.

   The consultation questions were structured into three sections with increasing complexity. This structure allowed respondents the ability to stop and submit their answers whenever they had exhausted their knowledge, interest or time. The consultation instrument was built primarily with single response ‘radio buttons’ and multiple response 'check boxes' that facilitate quick responses and structured the capture of all results for analysis and interpretation. In addition, there were a limited number of questions where individual responses were entered in ‘text boxes’. This allowed the Consultation Team to capture an unstructured set of individual responses and experiences.

   Part I focused on background information about each respondent that could help judge the breadth of stakeholder participation and determine any patterns for the responses and gathered information on the respondent’s level of familiarity and use of the 2003 Report. Part II asked questions to determine what would make the 2010 Report most useful for forest stakeholders and asked the respondents to rate the importance of each of the seven Criteria for national reporting, and the importance of each Criterion in helping them to carry out their work. Part III asked similar questions for each of the sixty-seven indicators regarding importance for national reporting and for carrying out the respondent’s work.

A copy of the letter sent to stakeholders inviting them to take part in the consultation is presented in Appendix 1. The Consultation Instrument is included as Appendix 2 and can be viewed online at http://www.pwrc.usgs.gov/brd/Survey.cfm?survey=94&id=0. A copy of the follow-up correspondence to consultation respondents is contained in Appendix 3.

2. Characterization of the Audience that Responded to this Consultation

It is difficult to identify the potential users of the 2010 Report and to obtain a representative sample of those users. The Consultation Team evaluated current databases of forest stakeholders with email contact information. After evaluating the available databases and consulting with the Roundtable Core Group, the Team selected the Meridian Institute Forest Stakeholder database, the National Woodland Owners Association (NWOA) database, the American Forest and Paper Association (AF&PA) database, the Society of American Foresters (SAF) database, and selected individuals that helped to review the consultation instrument.

The Consultation Team believe that organizations and individuals who have been involved with forest issues in the past and who are willing to take the time to respond to this short questionnaire are reasonably representative of those who would take the time to read and use the 2010 Report. There may be a desire to expand the audience for the 2010 Report to those who have not been involved with forest issues in the past, and these audiences may have different information needs.

A total of 2,439 invitations were sent out and there were 280 responses (11.5% response rate) across all fifty states. The number of invitations and responses from the different database sources is as follows. There were 2,311 invitations sent from the Meridian Institute database and 239 responses. Ninety-four invitations were sent from the NWOA database, yielding seventeen responses. Sixty invitations were sent from the AF&PA database and eleven individuals responded. Seven invitations were sent from the SAF database yielding two responses, and fourteen invitations were sent to the Consultation Team and designated reviewers, eleven of whom responded.

As can be seen in Figure 1, there was an even distribution of responses for organizations and individuals across the international, national, regional, state and local levels. For those who work at the regional level, there was similarly an even distribution across the different regions of the United States.

Figure 1. Geographic Focus of Work

Please check the geographic scale that you or your organization works.

111 (41% ± 6%) International Level	
198 (74% ± 5%) National Level	
178 (66% ± 6%) Regional Level (multi-state)	
176 (65% ± 6%) State Level	
134 (50% ± 6%) County/Local/Community Level	
269 Total	

If you work at the regional level, please check the regions.

60 (35% ± 7%) Northeast	
54 (32% ± 7%) Southeast	
38 (22% ± 6%) Midwest	
66 (39% ± 7%) Pacific West (including AK & HI)	
35 (21% ± 6%) Southwest (including TX)	
43 (25% ± 7%) Rocky Mountains	
170 Total	

Figure 2 summarizes the organizational representation that was reported by the respondents. The federal government is best represented, followed by academic institutions, environmental organizations, and state government. The views of private development organizations, foundations, local government agencies and tribal governments are not very well represented by this consultation.

Figure 2. Organization Focus (Shown as 2.4)

2.4 My organization is best described as:

2 (1% ± 1%) County or Local Government	
30 (12% ± 4%) State Government	
2 (1% ± 1%) Tribal Government	
69 (27% ± 5%) Federal Government	
0 (0%) Private Development Organization	
14 (5% ± 3%) Forest Products or TIMO	
16 (6% ± 3%) Private and/or Family Forest Landowner	
37 (14% ± 4%) Non-Profit Environmental or Conservation Organization	
2 (1% ± 1%) Foundation (private, public, or other)	
9 (4% ± 2%) Forest Management Consultant (either independent or with a consulting firm)	
38 (15% ± 4%) College or University	
8 (3% ± 2%) I am not representing an organization	
30 (12% ± 4%) Other (please describe){text}	
257 Total	

Figure 3 categorizes the stakeholder category for all respondents. The professional foresters and scientists were well represented in the respondent group, along with forest users, educators and informed citizens. Similar to the organizational representation discussed above, this consultation does not represent the opinions of the real estate investment community.

Figure 3. Stakeholder Category (Shown as 3.1)

3.1 Which category best describes your interest and relationship to forests?

52 (20% ± 5%) Family forest landowner	
57 (22% ± 5%) Forest product industry	
41 (15% ± 4%) Sustainable Forests Partnership	
41 (15% ± 4%) Environmental organization	
73 (28% ± 5%) Educator	
101 (38% ± 6%) Professional forester	
52 (20% ± 5%) Policy maker	
29 (11% ± 4%) Land use planner	
14 (5% ± 3%) Fish or wildlife biologist	
79 (30% ± 6%) Research scientist	
4 (2% ± 1%) Real estate investor	
73 (28% ± 5%) Informed and Interested Citizen	
85 (32% ± 6%) Active forest user	
34 (13% ± 4%) Other (please describe){text}	
265 Total	

The Consultation Team and the Roundtable Core Group recognized the unevenness of representation by some of the organizations and forest stakeholder groups. The Team did not evaluate whether this unevenness of response was due to the databases or whether it represented individual decisions to respond.

Consultation Results

The Consultation Team presented an overview of the Consultation results to the Roundtable Core Group at their February 9, 2007 meeting in Washington, DC. A copy of the PowerPoint presentation for the February event is presented in Appendix 4. These results form the basis of the following summary.

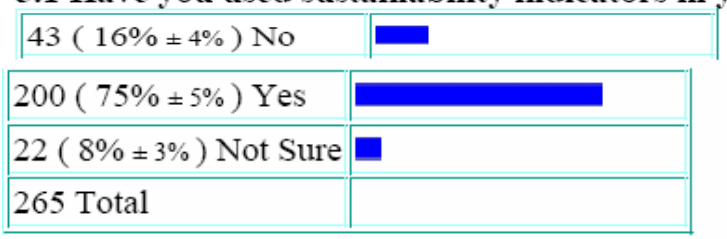
1. Familiarity with Sustainability Indicators and the 2003 Report.

    a. Graphs and Statistics for the Non-text Responses

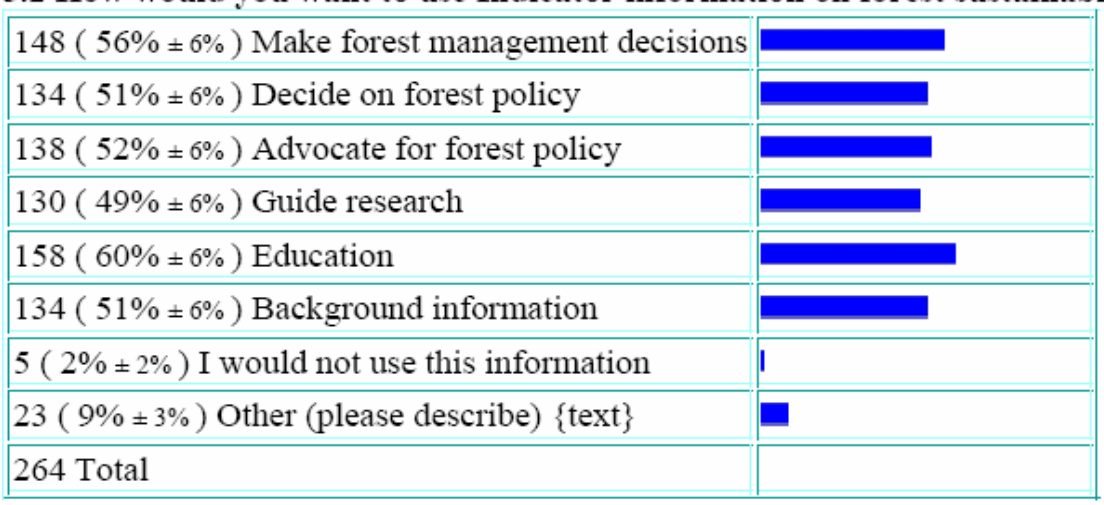
As can been seen in Figure 4, 75% of the respondents indicate they have used sustainability indicators in their work. When asked how they would apply these indicators, there was an even spread across the categories that are listed below.

Figure 4. Prior Use of Sustainability Indicators and Interest for Future Use (Shown as 5.1 & 5.2)

5.1 Have you used sustainability indicators in your work?



5.2 How would you want to use Indicator information on forest sustainability in the future?



Figures 5 and 6 describe the level of familiarity that respondents had with the 2003 Report. Academic stakeholders reported the highest level of familiarity with the report, followed by federal agencies and non-profit organizations. The group that had used this information the most

in their work was the federal agencies. Private and family forest landowners were the least familiar with the 2003 Report. The more local the scale of interest, the less the report was used.

Figure 5. Level of Familiarity with 2003 Report by Stakeholder Group

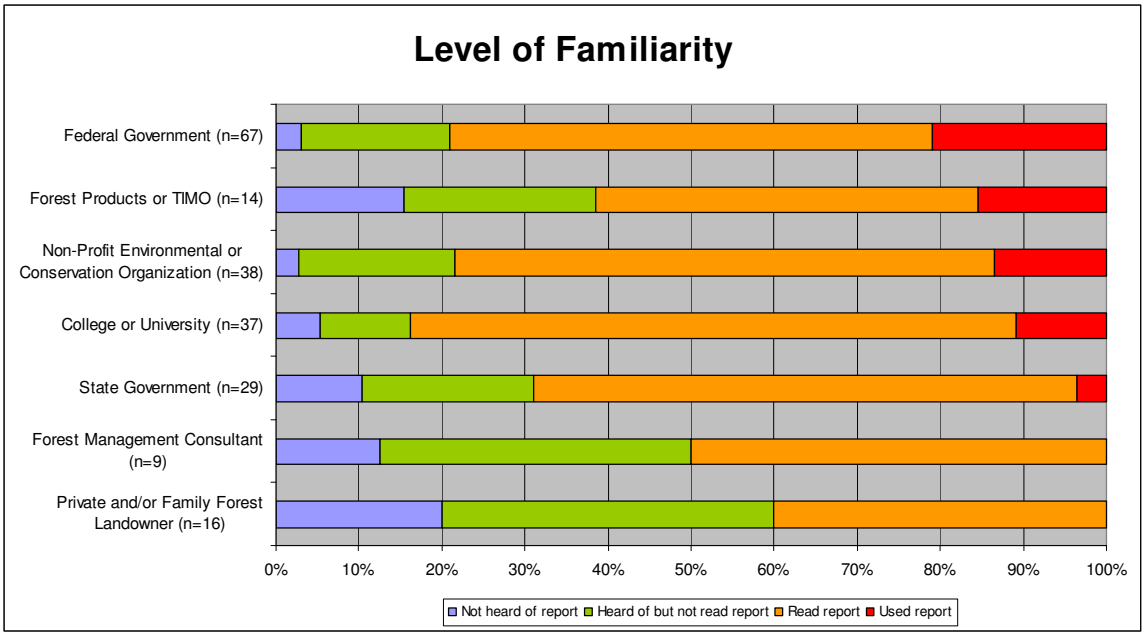


Figure 6. Level of Familiarity with 2003 Report (Shown as 6.1)

6.1 What is your level of familiarity with the 2003 U.S. National Report on Sustainable Forests?

18 (7% ± 3%) I have not heard of the report or the Montreal Process C & I. (Click here to skip this section.)	
57 (22% ± 5%) I have heard of the report but have not read it.	
150 (57% ± 6%) I have read some or all of the U.S. report.	
39 (15% ± 4%) I have used the U.S. Report	
264 Total	

The information presented in the above tables identifies a very high level of interest in forest indicator information, and demonstrates the unique opportunity for the 2010 Report to provide this information to the forest stakeholder community. More than 75% of the respondents report that they use indicator information for their work, with only 2% reporting they have no use for this information. Seventy nine percent of the respondents have heard of or read parts of the 2003 Report. It is striking that only 15% responded that they used this report to address their need for indicator information. One interpretation of this information is that 60% of the respondents would have used the 2003 Report for indicator information if it had been useful and available. This consultation should provide important insight into what factors would make the 2010 Report provide the indicator information that is needed.

b. Summary Findings from the Text Responses

There were three questions that requested respondents to fill in 'text boxes'. The Consultation Team was impressed at the amount of time respondents took to provide thoughtful answers to these questions. In analyzing the open-ended comments, the Consultation Team first coded expressions (sentences and phrases) based on the precise language of the respondents. The comments were grouped into general categories and the number of comments within each category was counted. In reporting these, the Consultation Team presented both the total number of expressions and the percentage of respondents who made them for each category. The results from this sort of analysis will depend on the categories chosen and, to some extent, the subjective interpretation of the person analyzing the comments. Nonetheless, many of the comments were quite clear, and the Consultation Team agreed that the results presented here are a fair and comprehensive representation of the text comments that were received. The responses are summarized below.

i. What was most useful in the 2003 Report?

Figure 7 summarizes the respondent's comments regarding what they found most useful in the 2003 Report. Under the category of General Explanatory Information, the respondents appreciated the summary information for each indicator along with an explanation of why that indicator is important. They also found data on specific indicators very useful for their work. Under Practical Guidelines for use, the respondents noted that this national overview provided an important context for forest managers to develop and implement local management goals and plans. Under the category of Particular Information of Use, the respondents relayed that visual presentations of tables, maps, charts and graphs were most useful. Appendix 5 provides the full table of responses to this question.

Figure 7. What Was Most Useful to You in the 2003 Report?

What Did You Find Most Useful in the 2003 Report?		
	Total Responses (N=154)	**% of Respondents (N=113)**
General Explanatory Information	**75**	**66%**
Overall Context Information	**30**	**27%**
Particular Information of Use	**26**	**23%**
Practical Guidelines for Use	**23**	**20%**

ii. What would have made the 2003 Report more Useful?

Figure 8 summarizes the categories of information that respondents felt would have made the 2003 Report more effective and more useful. "New Information and Analyses" and "Improvements in Indicator Level Reporting" were the top two categories. Under these categories, the respondents specified the need to see more information at the regional and local level to provide better context and guidance for their forest-related objectives and challenges. They also requested a clear summary interpretation of the status and trends for key indicators,

along with a concept of sustainability 'benchmarks'. In other words, they want to know when the nation is doing a good job on any of these indicators and whether these forest values are being sustained. In addition, they suggested the need for a summary 'index' that would integrate results across multiple indicators and help them understand the overall status and trends for the sustainability of the nation's forests. Appendix 6 provides the full table of responses to this question.

Figure 8. What Would Have Made the 2003 Report more Useful?

What Would Have Made the 2003 Report More Useful		
	Total Responses (N=309)	% of Respondents (N=132)
Meaningful Summary and Interpretation	29	22%
Improvements in Indicator Level Reporting	43	33%
New Information and Analyses	51	39%
Organization and Presentation of Results	33	25%
Data Access	13	10%

iii. Why do you think that Forests are Important to People?

In July 2006, the Montréal Process Working Group adopted a new indicator, the Importance of Forests to People, to be used in the 2010 Report. The Consultation Team included an open-ended question in the consultation instrument to gather information on this new indicator. There were 241 persons who voluntarily provided lengthy text responses regarding the types of value forests provide to individuals and society. This response provides a valuable trove of information for in-depth analysis by other working groups, and the information gathered here will be shared with those groups. A high level characterization of the responses is shown in Figure 9 below.

The 241 respondents listed a total of 1,607 responses relative to the question of the importance of forests to people. A listing of detailed responses and the number of times particular responses were made is presented in Appendix 7. The top twenty "values of forests to people" as described in the respondents own words are presented in Appendix 8. The Consultation Team categorized the responses in two different formats. First, the responses were sorted by MPCI to discern which of the respondents' expressed values are already being captured by the Montréal Process framework. Second, the responses were grouped into four major categories: Social, Recreational, and Spiritual Values; Forest Ecosystem Service Values, Forest-Based Products and Economic Values, and Biological and Ecological Values. At the category level, 34% of the responses identified Social, Recreational and Spiritual Values, 29% identified Forest Ecosystem Service Values, 26% identified Forest Based Products and Economic Values, and 11% identified Biological and Ecological Values.

The sustainable supply of wood and wood products that benefit people and the economy was the most often mentioned value (72% of respondents). The second most referred value of forests is recreation (54% of respondents). The service that forests provide for sustaining clean and abundant water, and in protecting and sustaining environmental health and ecosystem processes for the benefit of the earth's inhabitants, were both identified by 48% of respondents. The importance of forests as the source of spiritual renewal, relaxation, well-being, joy and inspiration was addressed by 44% of the respondents. The value of forests for the protection and conservation of diverse wildlife populations and their habitats was noted by 43% of the respondents.

Figure 9. The Importance of Forests to People

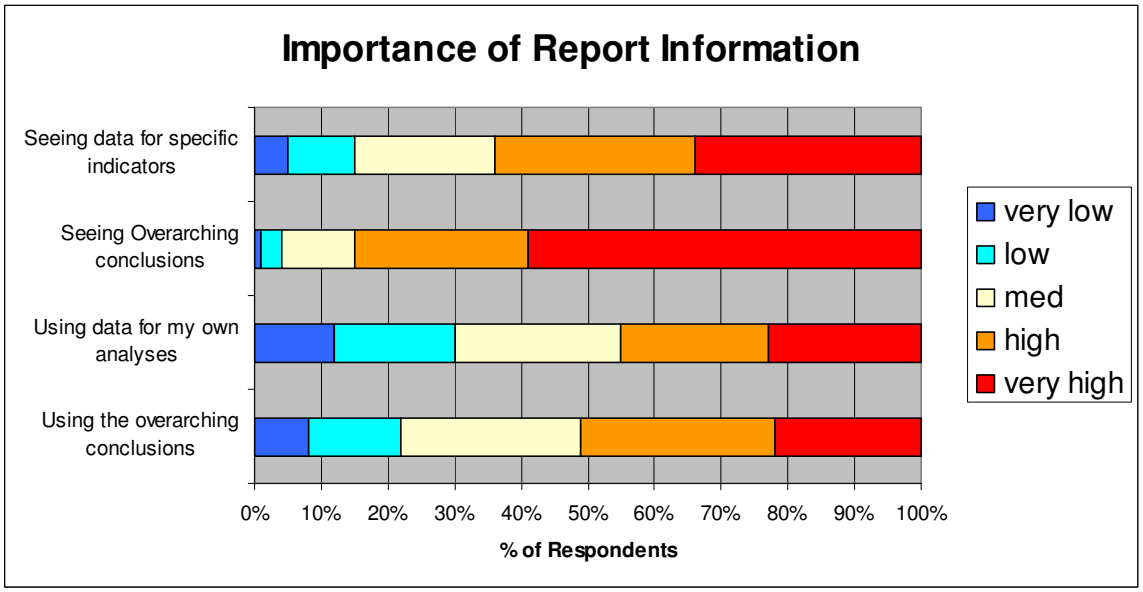
The Importance of Forests to People	Total Mentions (N=1419)	% of Respondents (N=241)
Social, Recreational and Spiritual Values		
Recreation	131	54%
Source of spiritual renewal, relaxation, well-being, joy, and inspiration (77) and sacred space (29)	106	44%
Cultural values, heritage, traditions, and identity	72	30%
Aesthetic value and enjoyment	67	28%
Sustain quality of life and life itself	54	22%
Long-term healthy society connected to the land and sustained by the forest	51	21%
Forest Ecosystem Service Values		
Clean and abundant water	116	48%
Protect and sustain environmental health and ecosystem processes for the benefit of the planet and its inhabitants	115	48%
Clean air (including oxygen and filtration of man-made pollutants)	73	30%
Store carbon and buffer climate extremes	57	24%
Protect watershed health and control soil erosion	50	21%
Forest Based Products and Economic Values		
Sustainable, steady supply of wood and wood products (112) to benefit people, industry, and the economy (62)	174	72%
Personal and community economic health and resilience	70	29%
Long-term economic health of society	62	26%
Socioeconomic benefit of non-wood products use and consumption	61	25%
Biological and Ecological Values		
Protect and conserve diverse wildlife populations and their habitats	104	43%
Conserve biological and genetic diversity	37	15%
Protect and conserve ecological diversity and biological communities	19	8%

2. Questions Regarding the 2010 National Report

   a. Importance of Different Types of Information

With regard to the types of information respondents would like to have in the 2010 Report, Figure 10 shows the strong interest in seeing broad conclusions regarding the sustainability of United States forests. In addition, the respondents are particularly interested to see the underlying data for the specific indicators of greatest interest for them.

Figure 10. The Importance of Different Types of Information



b. Utility of non Quantitative Data

There are a number of indicators with insufficient amounts of quantitative information to complete statistically significant analyses regarding their status or trends. Respondents felt that many of these indicators are well understood by experts, and their expert knowledge can be used to make a strong statement regarding the status of these indicators. This consultation (see Figure 11) demonstrates that the potential audience for this report would strongly prefer to see all available quantitative and qualitative (non-quantitative) indicator information that will improve their understanding of the nation's forests and the ability to manage them sustainably.

Figure 11. The Utility of Non-Quantitative Data (Shown as 9.1)

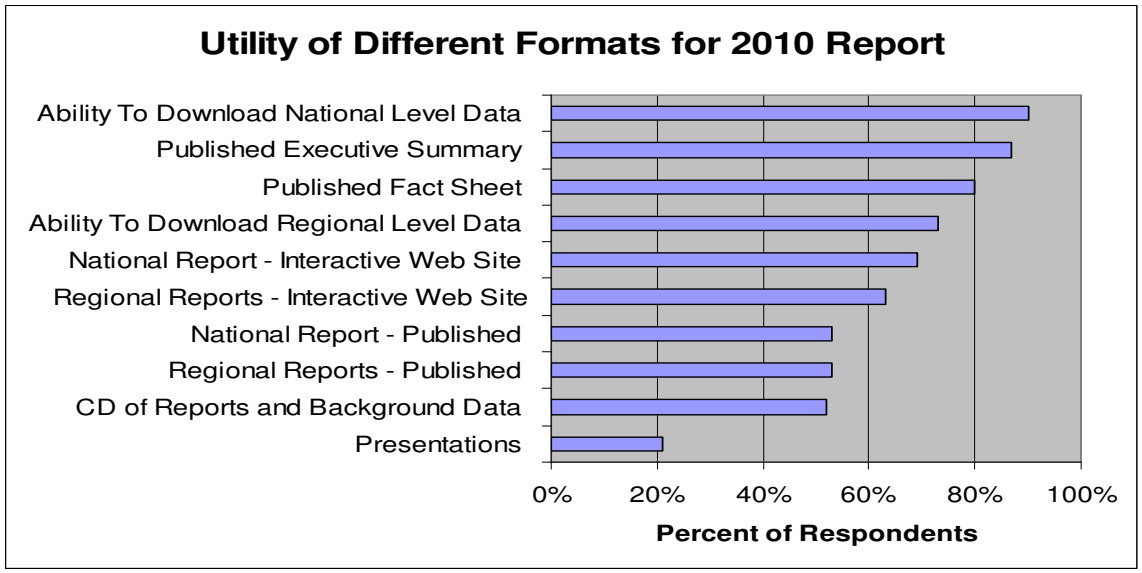
9.1 For certain Indicators, consistent quantified data reported at the national level may not be available. Are less comprehensive analyses using partial or anecdotal information still valuable for your purposes?

150 (64% ± 6%) Yes	
23 (10% ± 4%) No	
62 (26% ± 6%) Not Sure	
235 Total	

c. Desirability of Different Information and Report Formats

Figure 12 represents the desirability of different information and report formats. The majority of respondents want to be able to download data at the national and regional level. There is a strong request for high-level summary information, and would like to have access to published fact sheets that will make it easy to share this information.

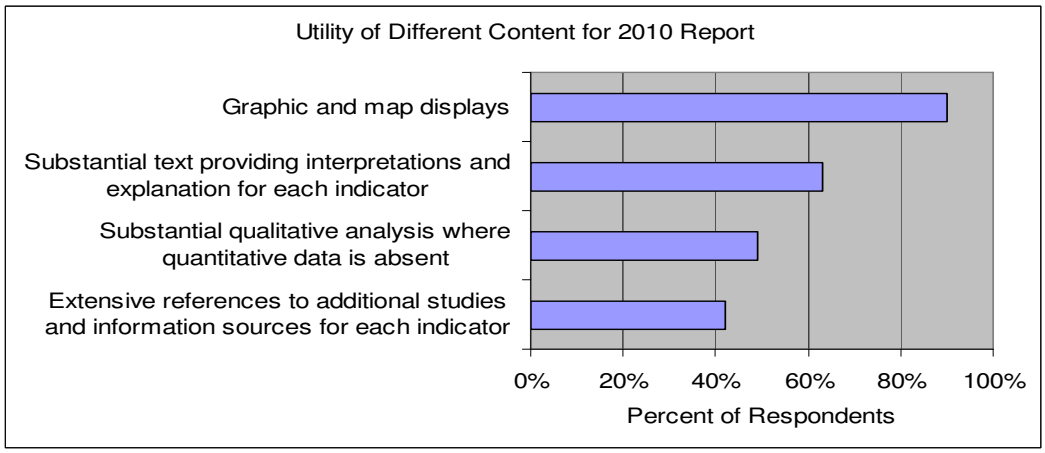
Figure 12. Utility of Different Information Formats



d. Usefulness of Different Report Content

The usefulness of different report content is summarized in Figure 13. Most respondents would like to see the results of indicator analyses presented in graphics and map displays. They are interested to see interpretative text accompanying the graphics, but are not requesting a lengthy text report. As mentioned above, they are interested in being presented with non-quantitative summaries for those indicators that lack quantitative information.

Figure 13. Utility of Different Content for 2010 National Report



e. Prioritization Response for each Criterion

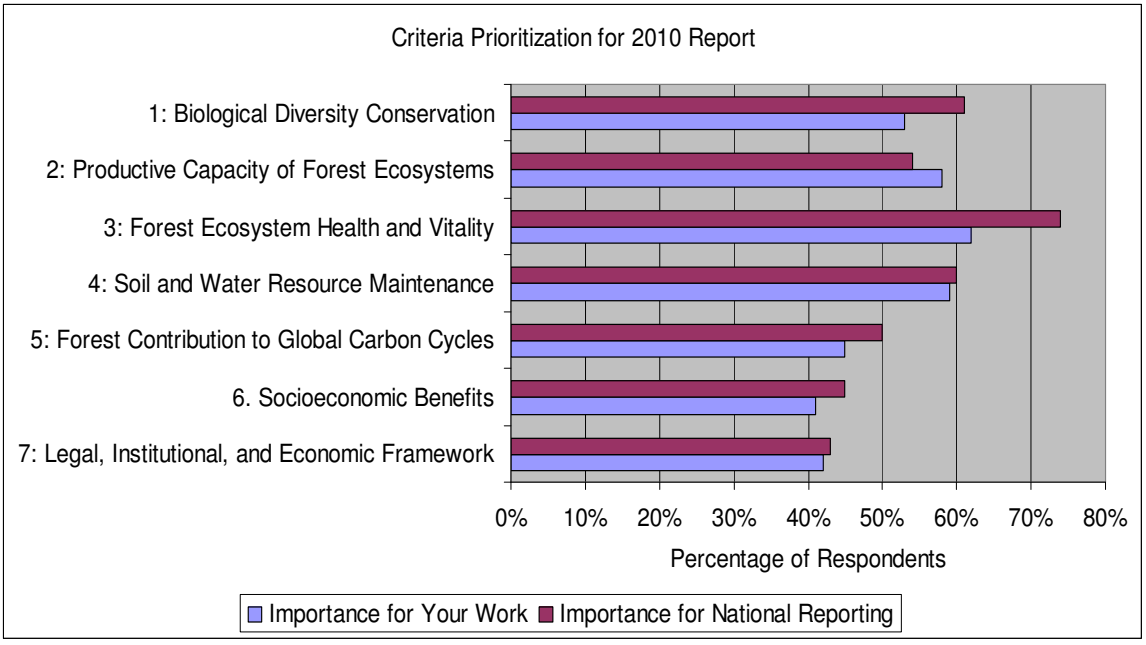
The following bar charts represent the respondents' view of:

i. The level of importance of each criterion to be included in the 2010 Report; and
ii. The level of importance of each criterion for their work.

There were five response categories for each question. These categories could be characterized as Low, Medium Low, Medium, Medium High, and High. The Medium High and High response categories were aggregated to summarize the positive response for the interpretive graphs below.

At the criterion level (Figure 14), the top selections for inclusion in the 2010 Report were Forest Ecosystem Health and Vitality, Biological Diversity Conservation, and Soil and Water Resource Maintenance. The valuation regarding importance of the different criteria for the respondent's work followed a similar pattern. Of particular note was the interest for criterion information on the Productive Capacity of Forest Ecosystems. Though some criteria scored higher than others, all categories were recognized as providing important information for the assessment of and reporting on sustainable forests.

Figure 14. Criteria Prioritization for 2010 Report



f. Prioritization Response for each Indicator

The following bar charts represent the respondents' view of the following:

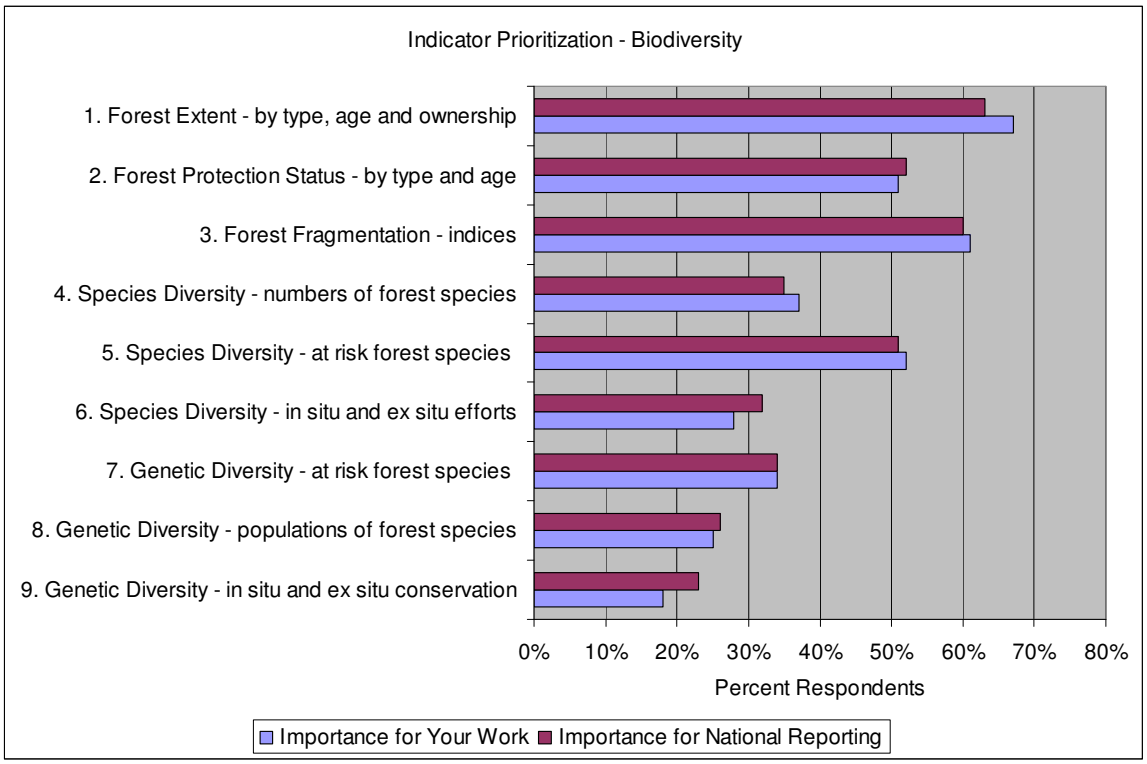
i. level of importance of each indicator to be included in the 2010 Report; and
ii. level of importance of each indicator for their work.

There were five response categories for each question. These categories could be characterized as Low, Medium Low, Medium, Medium High, and High. The Medium High and High response categories were aggregated to summarize the positive response for the interpretive graphs below.

Criterion 1. Biodiversity

Within the Biodiversity criterion (Figure 15), the indicators of greatest value to the respondents were Forest Extent, Forest Fragmentation, Forest Protection Status, and Species at Risk.

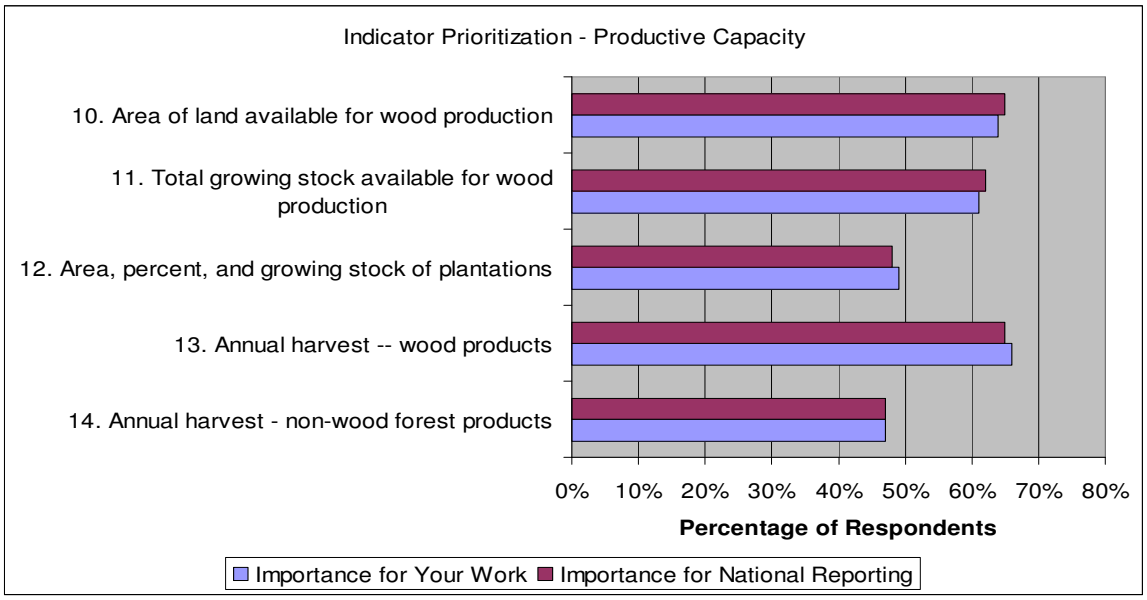
Figure 15. Indicator Prioritization for 2010 Report: Biodiversity



Criterion 2. Productive Capacity

Within the Productive Capacity criterion (Figure 16), the indicators of greatest value were Annual Harvest, Area of Land Available for Production, and Total Available Growing Stock for Wood Production.

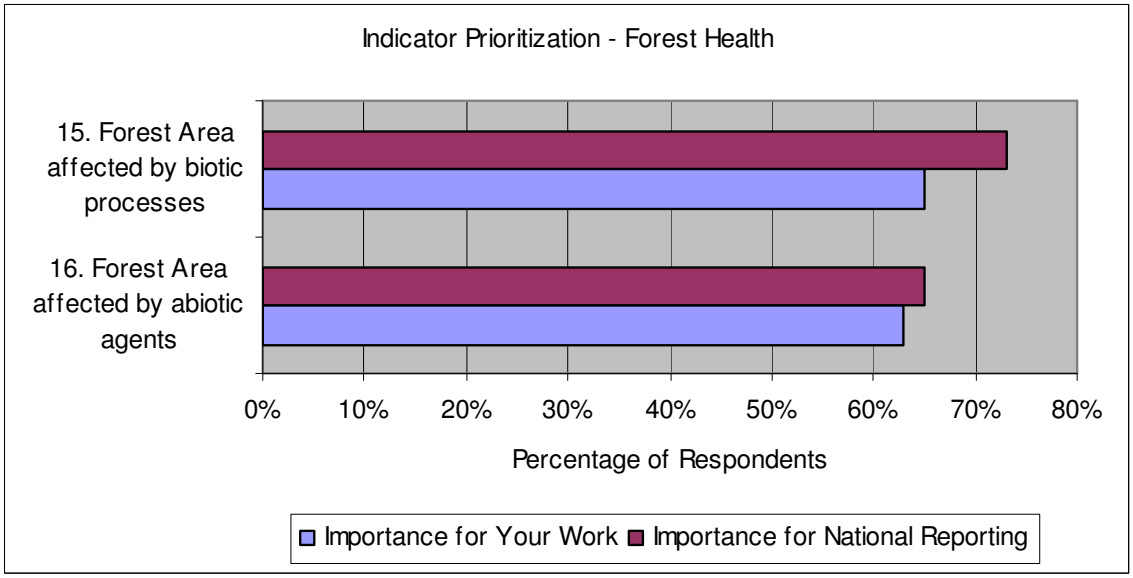
Figure 16. Indicator Prioritization for 2010 Report: Productive Capacity


Indicator Prioritization - Productive Capacity
10. Area of land available for wood production
11. Total growing stock available for wood production
12. Area, percent, and growing stock of plantations
13. Annual harvest -- wood products
14. Annual harvest - non-wood forest products
0%
10%
20%
30%
40%
50%
60%
70%
80%
Percentage of Respondents
Importance for Your Work
Importance for National Reporting

Criterion 3. Forest Ecosystem Health

There are only two indicators in the Forest Ecosystem Health criterion. The respondents rated both of these indicators as very important for national level reporting and for their work (Figure 17).

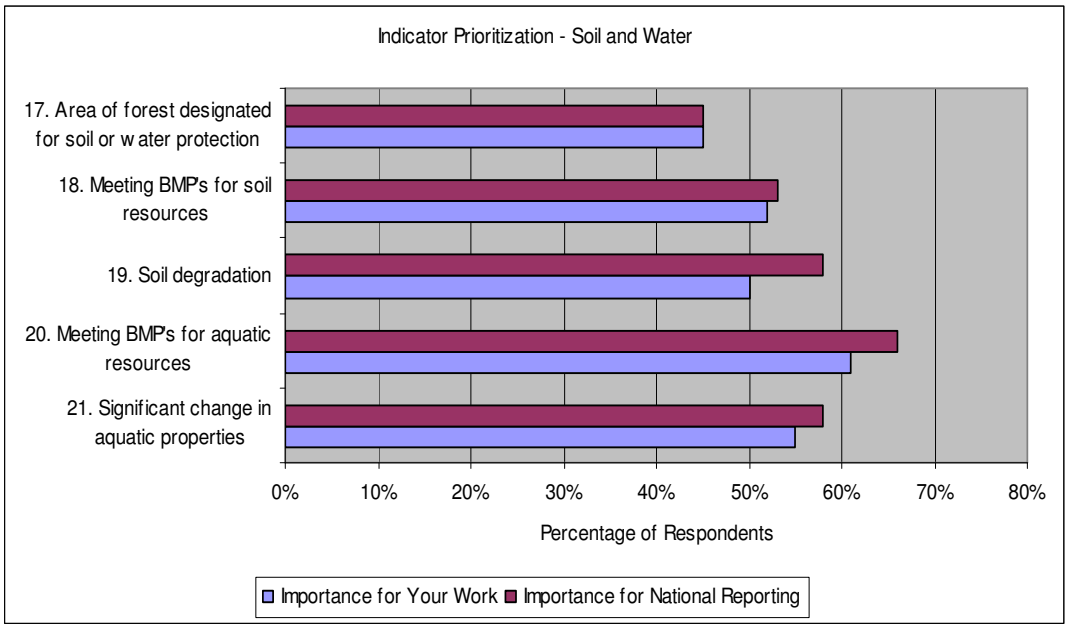
Figure 17. Indicator Prioritization for 2010 Report: Forest Ecosystem Health



Criterion 4. Soil and Water Resources

Within the Soil and Water Resources criterion (Figure 18), there was strong interest in information regarding the quality of both aquatic and soil resources, and the degree to which Best Management Practices are being implemented.

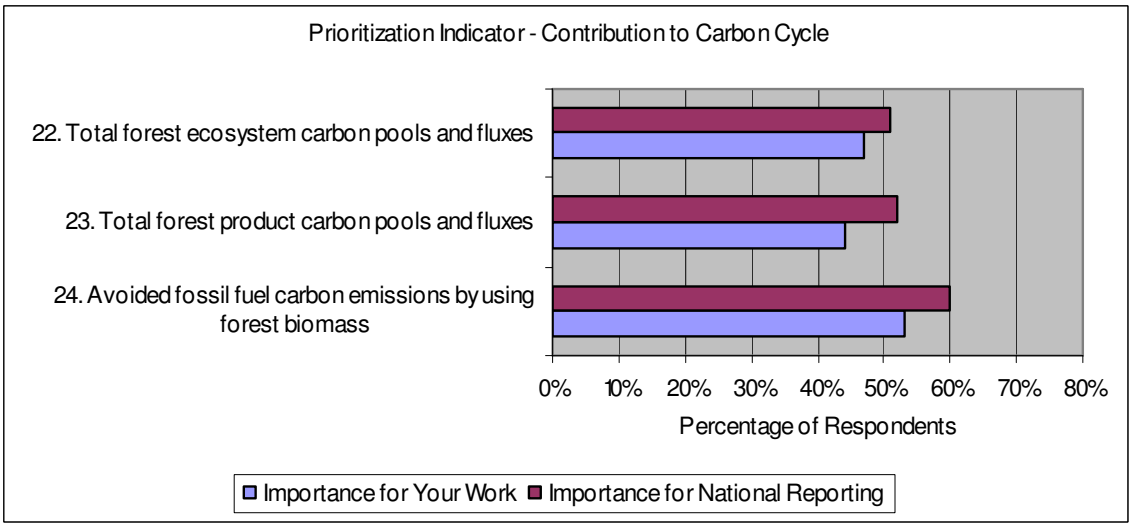
Figure 18. Indicator Prioritization for 2010 Report: Soil and Water Resources



Criterion 5. Contribution to the Carbon Cycle

For the Contribution to the Carbon Cycle criterion (Figure 19), there was interest to have access to information that demonstrates the relationship of forests to climate change and carbon sequestration, and avoided carbon emissions by using forest biomass.

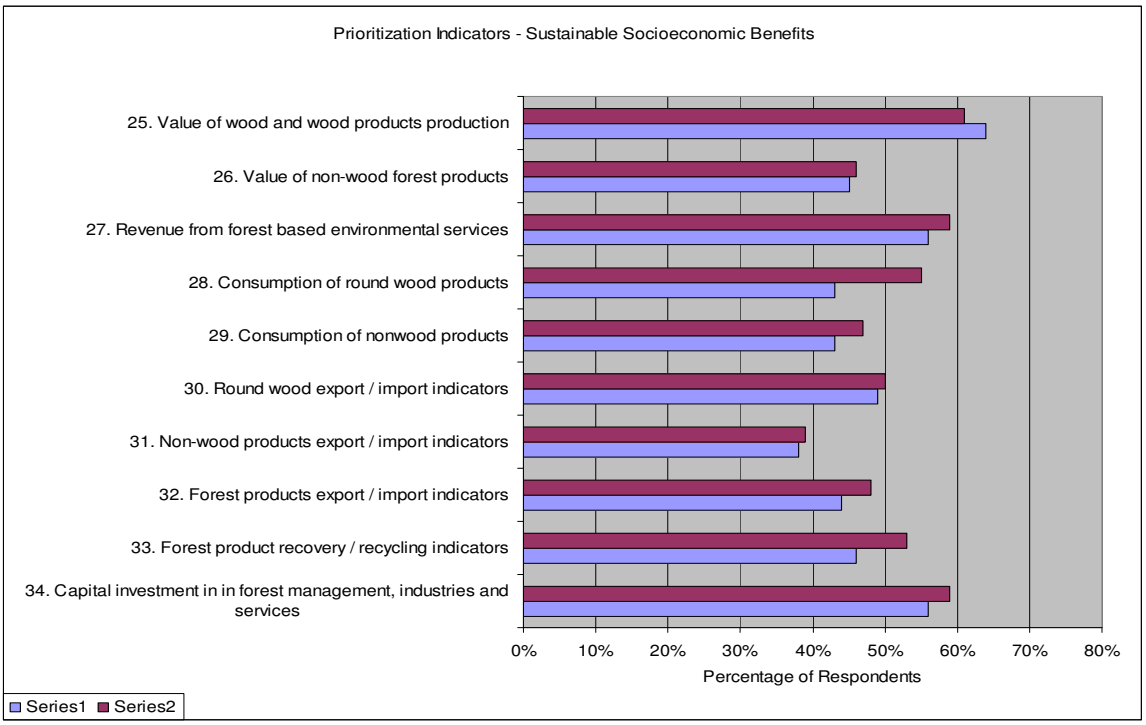
Figure 19. Indicator Prioritization for 2010 Report: Contribution to the Carbon Cycle

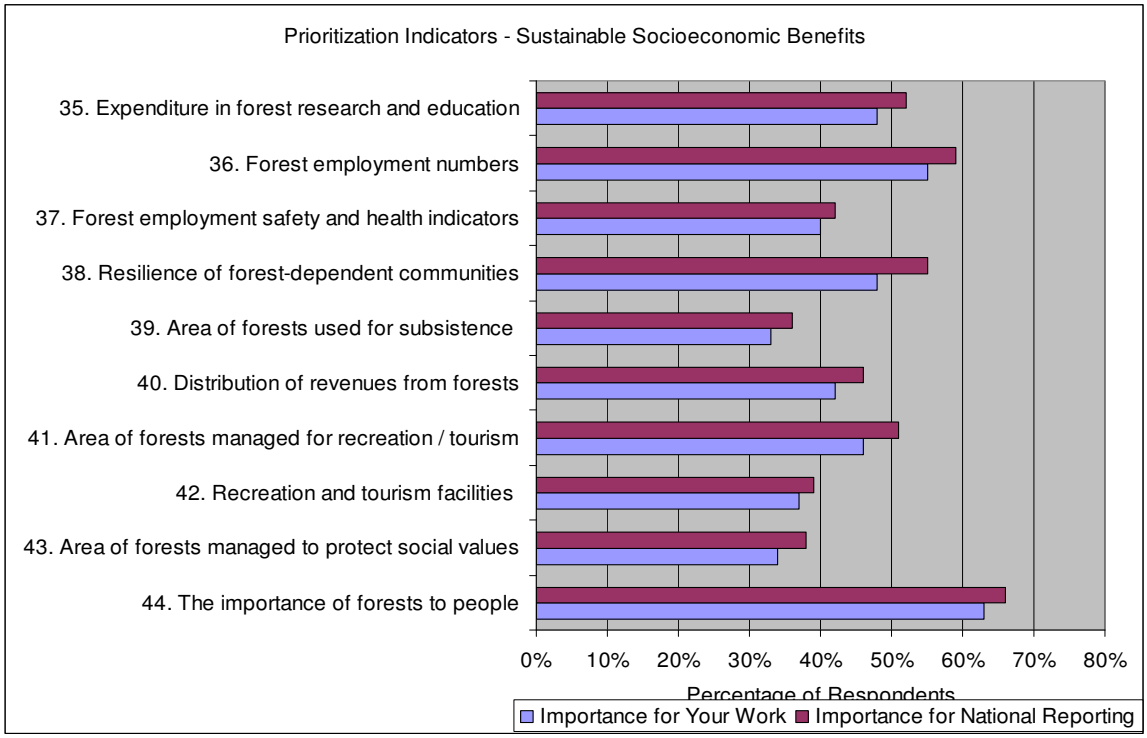


Criterion 6. Socioeconomic Benefits

Within the Socioeconomic Benefits criterion (Figure 20), the most noted indicator was 'The Importance of Forests to People'. The full interpretation of text for this indicator is provided in Section B3. The other socio-economic indicators that received high interest were the Value of Wood and Wood Products, Revenue from Forest-Based Environmental Services, Forest Employment Numbers, and Capital Investment in the Forest Industry.

Figure 20. Indicator Prioritization for 2010 Report: Sustained Socio-Economic Benefits

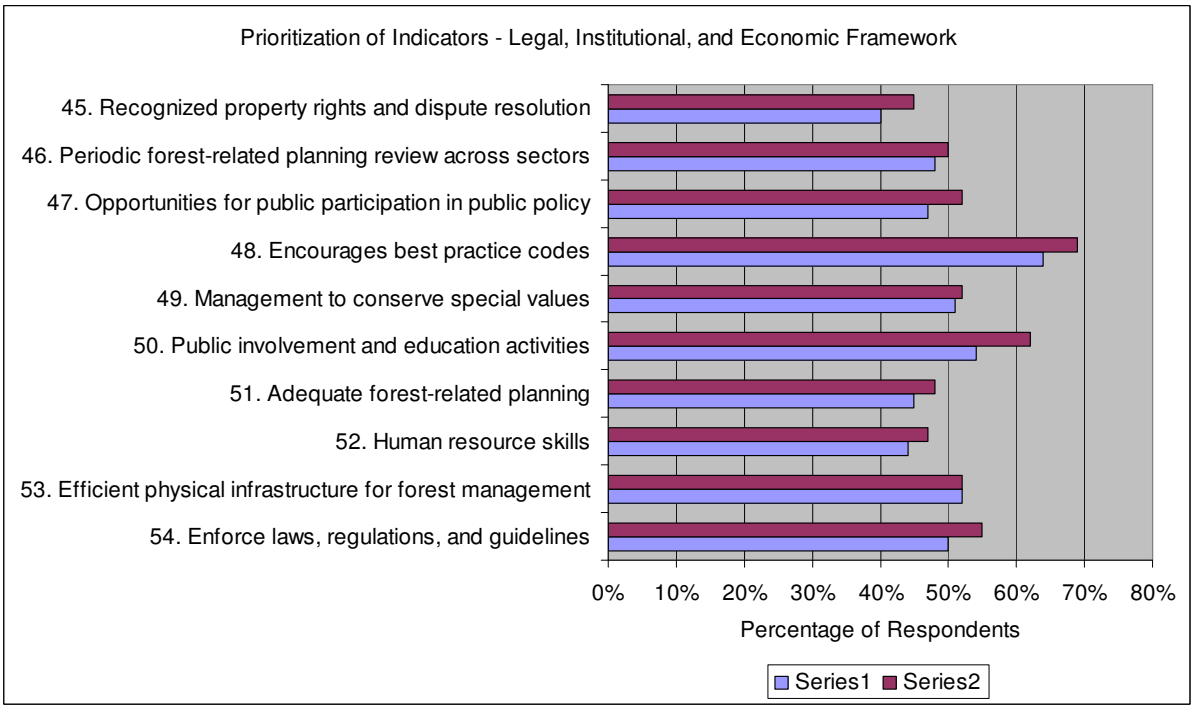


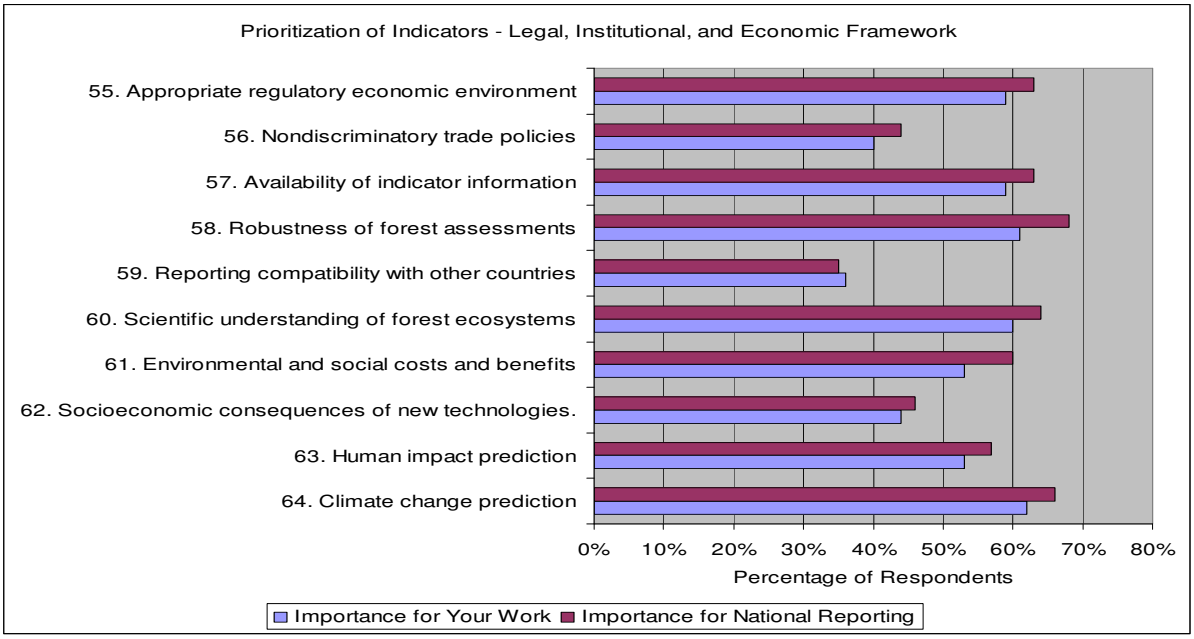


Criterion 7. Legal, Institutional and Economic Framework

Within the criterion of Legal, Institutional, and Economic Framework (Figure 21), indicators regarding the application of Best Practices were the most important to the respondents. These were followed by indicators showing the Robustness of Forest Assessments, Prediction of Climate Change, Scientific Understanding of Forest Ecosystems, Appropriate Economic Regulatory Environment, and the Availability of Indicator Information.

Framework





g. Summary of Priority Indicators across all Criteria

The top ten indicators across all of the criteria are listed in Figures 22 and 23. Figure 22 presents the stakeholder view of the importance for different indicators to be included in the 2010 national report. Figure 23 presents the stakeholder views on which of these indicators provide the most value for their work.

A number of indicators were in the 'top ten' for both national reporting and practical utility for the stakeholder's work. The top choices that were listed in both of categories are listed below. The highest priority is associated with information on the impact of invasive species to forest ecosystems (biotic impacts). Next in importance is whether the nation is using best management practices for forest stewardship activities (including management of aquatic resources). There was broad interest for information detailing annual harvest (wood products) statistics and the availability of land for production. Stakeholders are interested to know the status of forest assessments. Two other indicators in the top ten for both lists were forest information related to climate change and the extent of forest affected by abiotic agents.

A unique indicator that was only identified in the top ten for national reporting was the extent of scientific understanding of forest ecosystems. Unique indicators that were identified as valuable

for the stakeholders work was information on forest extent by type, age class and ownership; along with the production value of wood and wood products.

Figure 21. Importance for National Report: Top 10 Indicators

Indicator	Percent of Respondents
15. Forest Area affected by biotic processes	73%
48. Encourages best practice codes	69%
58. Robustness of forest assessments	68%
44. The importance of forests to people	66%
64. Climate change prediction	66%
20. Meeting BMP's for aquatic resources	66%
13. Annual harvest -- wood products	65%
10. Area of land available for wood production	65%
16. Forest Area affected by abiotic agents	65%
60. Scientific understanding of forest ecosystems	64%

Figure 22. Importance for Your Work: Top 10 Indicators (13 due to tie scores)

Indicator	Percent of Respondents
1. Forest Extent - by type, age and ownership	67%
13. Annual harvest -- wood products	66%
15. Forest Area affected by biotic processes	65%
48. Encourages best practice codes	64%
10. Area of land available for wood production	64%
25. Value of wood and wood products production	64%
44. The importance of forests to people	63%
16. Forest Area affected by abiotic agents	63%
64. Climate change prediction	62%
58. Robustness of forest assessments	61%
20. Meeting BMP's for aquatic resources	61%
11. Total growing stock available for wood production	61%
3. Forest Fragmentation – indices	61%

3. Stakeholder Representation and Potential for Bias

A central concern of the Consultation Team and the Roundtable Core Group was to make sure there was a sufficiently large consultation sample, and that the consequent pool of respondents

would provide a fair representation of the potential users of the 2010 Report. In conducting the consultation, the Consultation Team sent emails to 2,311 names taken from the forest stakeholder database at Meridian Institute and contact lists from three other professional organizations concerned with forest sustainability in the United States (see Table 1). The forest stakeholder database portion of the sample dominated the consultation, comprising 93% of the sample and 85% of the respondents. It is difficult to identify the potential users of the 2010 Report and to obtain a representative sample of those users. The Consultation Team thinks that organizations and individuals who have been involved with forest issues in the past and who are willing to take the time to respond to a short questionnaire are reasonably representative of those who would take the time to read and use the National Report. There may be a desire to expand the audience for the National Report to those who have not been involved with forest issues in the past, but these audiences may have different information needs.

Table 1. Sample Size and Respondents - by Organization

Organization	Sample Size	Respondents	% Response
Meridian Institute (Roundtable)	2311	239	10 %
National Woodland Owners Assn.	94	17	18 %
American Forest & Paper Assn.	60	11	18 %
Society of American Foresters	7	2	29 %
Consultation Team	5	5	100 %
Review Group (from Roundtable)	9	6	67 %
Total	**2486**	**280**	**11 %**

The response rate was 11%. The 280 responses received by the Consultation Team provide a rich source of information about the kind of information people are seeking from the 2010 Report and the reporting formats they prefer. One e-mail reminder was sent. The Consultation Team was unable to measure potential non-response bias for the consultation.

Table 2 displays responses when participants were asked to describe their professional organizations in terms of major organization categories. At 27% of the total number of respondents, the federal government has by far the largest representation; this is followed by academia, environmental non-governmental organizations (NGOs) and state government, each with between 12 and 15% of the sample. Government, academia and NGOs account for approximately 80% of the sample. Private forest products firms and landowners, forestry consultants and local governments comprise most of the remainder.

Table 2. Organizational Categories

Type of Organization	Respondents	% of Total
Federal Government	69	27%
College or University	38	15%
Nonprofit Environmental or Conservation Org.	37	14%
State Government	30	12%

Other	30	12%
Private and/or Family Forest Landowner	16	6%
Forest Products Firm or TIMO	14	5%
Forest Management Consultant	9	4%
Not representing an Organization	8	3%
County or Local Government	2	1%
Tribal Government	2	1%
Foundation	2	1%
Total	**257**	**100%**

In addition to describing their organizations, respondents were asked to identify the stakeholder group or groups with which they most closely identified. Responses to this query are shown in Table 3. Each respondent chose an average of three stakeholder groups, indicating a diverse set of interests and roles on the part of each individual. Thirty eight percent of all respondents identified themselves as "professional foresters" and nearly a third as "active forest users." On the other end of the scale, fish and wildlife biologists and real estate investors were comparatively underrepresented at 5 and 2% respectively.

Table 3. Stakeholder Group

Stakeholder Group	Respondents	% of Total
Professional Forester	101	38%
Active Forest User	85	32%
Research Scientist	79	30%
Educator	73	28%
Informed and Interested Citizen	73	28%
Forest Products Industry	57	22%
Family Forest Landowner	52	20%
Policy Maker	52	20%
Sustainable Forest Partnership	41	15%
Environmental Organization	41	15%
Other	34	13%
Land Use Planner	29	11%
Fish or Wildlife Biologist	14	5%
Real Estate Investor	4	2%
Total*	265	100%

*Respondents could identify multiple stakeholder groups, and the total given here is the number of respondents, not the number of responses.

The Consultation Team could not determine whether the low number of responses for certain stakeholder groups was the result of non-response, or simply that these groups are not well represented in the mailing lists that were available. There was a low representation of biologists, real estate investors and local government amongst the respondents. Given the increasing importance of real estate investment in determining the fate of private forest lands, and the growing recognition of the importance to sustain biodiversity and ecosystem health, a more robust response from people representing these interests would have been helpful.

Major Findings

1. Response and Representation

There was a limited response to this consultation, but those that responded provided a considerable amount of information. They demonstrated a high degree of concern for the topic of sustainable forests and interest in the 2010 Report. Government agencies, NGOs and academia were well represented among respondents. Additional representation from real estate and biologist stakeholder groups would have been useful.

2. Familiarity with Sustainability Indicators

The public demonstrated a high level of familiarity with the use of sustainability indicators, but not so much with the MPCI or the 2003 Report. More than 75% of the respondents report that they use indicator information for their work, with only 2% reporting they have no use for this information. Seventy nine percent of the respondents have heard of or read parts of the 2003 Report. It is striking that only 15% responded that they used this report to address their need for indicator information. One interpretation of this information is that 60% of the respondents would have used the 2003 Report for indicator information if it had been useful and available.

Those that were familiar with the 2003 Report provided very useful comments on aspects that would improve its utility. This consultation should provide important insight into what factors will make the 2010 Report useful and relevant to the forest stakeholders. The forest stakeholders will need to be made aware of this report as it becomes available, with particular attention to market the 2010 Report to local organizations.

3. Desired Approach for 2010 Report

    a. Content – General

The goal for the 2010 Report is to provide information that indicates the status and trends of forest lands with the overall objective that will lead to improved stewardship. To achieve this goal, the respondents have requested a combination of accessible information on specific indicators along with a clear high-level summary interpretation of what all of this information means. This will be the second report on the sustainability of United States forests, and the stakeholders expect an interpretation of the trends for these indicators over time. They would like to see clear benchmarks for each indicator to help them interpret how the nation's forests are

faring relative to each of these indicators. They want to be told if and how things are changing, and the implications of these changes.

Even though individuals and stakeholder groups had their favorites, there were no clear winners and losers relative to which criteria and indicators were more important than others. There was general agreement on the need for some level of reporting on every indicator, even if there is limited data availability for some indicators. The overall understanding of forest sustainability requires a view across all indicators. However, it was suggested that the Forest Service and others prioritize the use of available resources to collect and report on those indicators that provide the most important information to the stakeholders.

The respondents realize that current information best supports the ability for national level reporting and this provides a valuable broad overview for the sustainable management of United States forests. However, in order for this initiative to provide utility for many of the stakeholders, the information will eventually need to address these issues at regional and local scales. They would like to see a statement regarding how this need will be addressed in the future.

A number of respondents identified the need for a summary index that could integrate results across all criteria and indicators and provide one sustainability measure for the status and trends of the nation's forest ecosystems.

b. Content – Detailed

Everyone is interested in the general health of the forest ecosystems. Comments included in the "Importance of Forests to People" category indicate that "health" to forest stakeholders includes the sustainability of forest products, ecosystem services, and existence/aesthetic values.

Respondents want to see more data for high priority indicators. Criteria ranking indicates an overall preference for biophysical measures both in terms of usefulness of indicators in respondent's work and in judgment of overall relevance to sustainability. Recreation and water top the list and deserve focused attention in C&I. Adherence to best management practices and other criterion 7 indicators figure prominently in top ten indicators for national reporting. The needs for reporting on forestry and wood products indicators are strong indicator for those who want to use this report for their work.

c. Format

The respondents want a balance of brief text that explains the indicator and the interpretation of the data for each indicator. The respondents want simple visual information (i.e., tables, graphs, and maps) based on scientific evidence. They would like to have all of the data available through on-line data delivery mechanisms so users can complete their own analyses and interpretation of the information.

The qualitative data regarding indicators was also deemed to be extremely valuable. There is an endorsement that this data and other non-quantitative information be used wherever quantitative data are not available. It is seen as good information and sufficient to provide summary types of

information that many people want for many indicators. It may require additional explanation regarding where the information came from and how it should be used.

In addition, the respondents would like to have summary documents that describe the interpretations at the level of individual and composite indicators. These summary reports should be published as hard copies and should similarly be available to download.

Considerations for Follow-on Activities

1. Get the Data

Correlate the high priority indicators with what has been reported regarding data availability. Make progress on filling data gaps for those priority indicators that folks have identified as useful for national reporting and for their work. Use this feedback to prioritize allocation of resources across all indicators in order to best meet stakeholder needs.

2. Serve the Data

The stakeholders need information in multiple formats. Provide a lot of graphic aids in the report, with sufficient written text to interpret the graphs, figures, and maps. Do not provide more text than is required for this purpose. Allow users to download underlying datasets to meet their own needs. Provide high-level summary reports on the findings.

3. Analyze and Summarize the Findings

There was a clear request for advancement regarding the presentation of trends over time for each indicator in relation to clear sustainability benchmarks. The stakeholders want to see a description of change based on the reporting of these indicators, and to be provided with an interpretation of this change.

Comments from forest stakeholders indicated their desire to be presented with summary indices that would help them understand how well the nation's forests are doing and if there are particular areas for claiming success or for flagging concern. These integrated indices could function across multiple indicators or all indicators. Such indices would have significant communication value, but it would be challenging to reach agreement on the relative importance of the various criteria and indicators. This is an ideal challenge for a multi-stakeholder group such as the Roundtable.

The detailed information that was received on the topic of "Importance of Forests to People" will be provided to the Roundtable to support the ongoing development of Indicator 44 rationale and metrics.