



NATIONAL REPORT ON SUSTAINABLE FORESTS: 2010



Objectives of Today's Discussion

- ▶ Share contents of the DRAFT 2010 National Report
- ▶ Provide background and discussion of concepts underlying report
- ▶ Briefly touch upon key issues and suggestions arising from the public review process



The Draft 2010 National Report

- ▶ Designed to track and assess forest sustainability in the United States using the 7 criteria and 64 indicators of the Montréal Process Criteria and Indicators for Forest Sustainability (MP C&I)
- ▶ Close to thirty Forest Service scientists, technical staff and outside collaborators contributed to the report
- ▶ The report is 222 pages. More than 150 pages are used to report information on each of the 7 criteria and 64 criteria and indicators
- ▶ Extensive and detailed background documentation, data, and analyses will be provided on the project website



Origins of Sustainability Reporting

- ▶ The Earth Summit UN Conf on Environment and Development (UNCED) June 1992.
 - Focused on the environment and sustainable development, especially links between the two. Also developed “Statement of Forest Principles”

- ▶ The President’s Council on Sustainable Development, formed by Executive Order 12852 (July 1993), identified frameworks for tracking sustainable development & experimental set of 40 indicators

- ▶ The Santiago Declaration (1995)
 - Focused on implementing the UNCED Statement of Forest Principles
 - Created criteria & indicators for the conservation and sustainable management of temperate and boreal forest ecosystems



The Montréal Process Working Group

- ▶ USA is one of 12 member countries in the Montréal Process Working Group on the Conservation and Sustainable Management of Temperate and Boreal Forests. The MPWG countries have:
 - 90 percent of world's temperate and boreal forests
 - 60 percent of globe's total forests

- ▶ MPWG developed an internationally-agreed set of 7 criteria and 64 indicators for sustainable forest management
 - Non-legally binding, but useful as guidelines for policy makers

- ▶ MPWG countries are each producing national reports
 - The first set of national reports was produced in 2003-2004
 - The second set are emerging in 2008-2010
 - The USA's ***National Report on Sustainable Forests—2010*** is our second report; the first was published in 2003



Table of Contents for the DRAFT Report

- ▶ Chapter **1**: Introduction
- ▶ Chapter **2**: Presentation of Criteria and Indicators
- ▶ Chapter **3**: Summary of Significant Conditions and Trends
- ▶ Chapter **4**: Broadening and Deepening Commitments to Sustainability
- ▶ Chapter **5**: Call to Action



Chapter 1. Introduction

- ▶ Context for the report
 - ✿ Definition of sustainability
 - ✿ The Montreal Process
 - ✿ Development of the 2010 Draft Report

- ▶ Public comment is welcomed on the context set for the report



Chapter 2. Presentation of the Criteria and Indicators

- ▶ The meat of the report
 - 150 pages with tables, graphics and analysis
- ▶ Organized according to the MP C&I
 - 7 criteria, each with front-piece describing:
 - ◆ Rationale for criterion
 - ◆ Major data developments
 - ◆ Evolution of criterion's indicators since 2003
 - 64 Indicators; each with 2 pages answering:
 - ◆ What is the indicator and why is it important?
 - ◆ What does the indicator show?
 - ◆ What has changed since 2003?
 - ◆ Are there important regional differences
 - ◆ (Why can't the entire indicator be reported at this time?)
- ▶ Public input is welcomed on any aspect of the information presented



Sample Indicator Brief

Indicator 1.01 - Area and percent of forest by forest ecosystem type, successional stage, age class, and forest ownership or tenure

What is the Indicator and why is it important?

This indicator uses age-class distribution by broad forest type as a coarse measure of the landscape-scale structure of the Nation's forests. Within forest types, this serves as a surrogate for stand development or successional stage. A diverse distribution of forest lands across forest types and age-classes is an indicator of tree-size diversity and is important for determining timber growth and yield, the occurrence of specific wildlife and plant communities, the presence of other non-timber forest products, and the forest's aesthetic and recreational values.

What does the indicator show?

Forest area in the United States stands at 751 million acres, or about one-third of the Nation's land area. Forest area was about one billion acres at the time of European settlement in 1630. Of the total forest land less of nearly 300 million acres, most occurred in the East (divided into "North" and "South" regions in the accompanying charts) between 1850 and 1900, as broadleaf forests were cleared for agriculture. For the last 100 years, the total forest area has been relatively stable, while the U.S. population has nearly tripled.

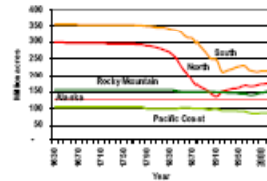


Figure 1-1. - Historic forest area in the U.S. by geographic region, 1630-2007

Today, regional forest cover ranges from a low of 19 percent of the land area in the Rocky Mountain region (Fig. 1-3) to 45 percent in the Pacific Coast region, 41 percent in the North, 40 percent in the South, and 34 percent in Alaska.



Figure 1-2. - Area of natural forest, planted forest and other land by geographic region, 1630 and 2007

Broadleaf forests. Broadleaf forests cover 290 million acres nationwide (Figure 1-3), predominantly in the North and South (239 million acres). At 139 million acres, oak-hickory is the largest single forest cover type. It constitutes more than 10 percent of all forest land in the Nation and nearly half of all broadleaf forests. Covering 54 million acres, maple-beech-birch forests are also dominant in the Eastern United States. Combined, these two upland forest types constitute nearly two-thirds of all broadleaf forests and have increased 25 and 39 percent, respectively, since 1977. Broadleaf types have a fairly normal age distribution, showing a bulge in the 40- to 79-year age-class, as second- and third-growth forests in the East continue to mature (Figure 1-4).

Conifer forests. Conifer forests cover 409 million acres in the U.S. and are found predominantly in the West (314 million acres) and South (69 million acres). Pines are the single-most dominant group of conifer forests. Loblolly-shortleaf pine and longleaf-slash pine types in the South and ponderosa and lodgepole pine types in the West combine to cover 12.1 million acres, or more than one-fourth of all conifer forest types.

The largest single conifer type, with 58 million acres in interior Alaska, is the spruce-birch type. Douglas-fir follows closely, with 39 million acres found predominantly in the Pacific Coast Region. Conifer forests are somewhat bimodal in age structure with more acreage in younger age-classes because of intensive human management for wood production in the South and a preponderance of older stands in the West where most of the nation's old-growth forests occur.

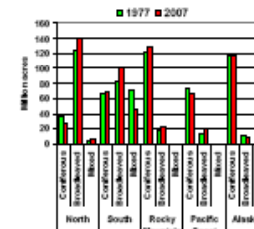


Figure 1-3. Area of forest land in the United States by major cover group, 1977 and 2007

Mixed forests. Virtually all of the nation's mixed forests are found in the South, where oak-pine (30 million acres) and oak-gum-cypress (20 million acres) are the major forest types. While oak-gum-cypress is found in the wet lowlands, oak-pine is usually found on the drier uplands of the South. The largest age class for these forests is 40-59 years old.

While trend data on forest age-class are sparse, historic data are available for average tree size in forest stands (Figure 1-5). Stands averaging 0 to 5 inches in diameter increase as older stands are harvested and regenerated. The recent trend in this diameter class is slightly downward. Intermediate stands in the 6 to 10 inch diameter range have been declining, while stands averaging more than 11 inches in diameter have been rising. This latter trend is indicative of shifts in management that have

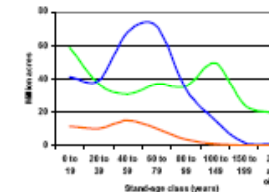


Figure 1-4. Forest area by stand-age class for conifer, broadleaf and mixed forests, 2007 (excludes Alaska)

harvesting on public forests in the West, thus increasing the acreage of larger diameter stands in that region, particularly in coniferous forest types.

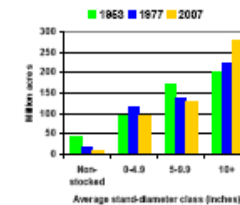


Figure 1-5. Trends in timberland area by average stand-diameter class, 1953-2007

Ownership patterns have a profound effect on forest management policies and activities. While forests of the North and South are predominantly in private ownership, the forests of the western regions are predominantly in public ownership (Fig. 1-6). Nearly 60 percent of all U.S. forests are in private ownership.

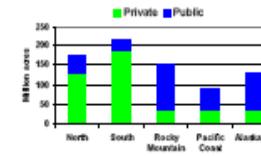


Figure 1-6. - Forest land ownership in the U.S. by geographic region, 2007

What has changed since 2003?

Forest land area has remained essentially stable since 2003. The data indicates an increase of 6 million acres (about 1 percent), but much of this increase came as result of changes in the classification of land cover types as either forest or non-forest. From a regional standpoint, there has been a general loss of forest in the coastal regions of the East and West with offsetting gains in forest area in the interior region.



Populating the Indicator Framework

- ▶ Indicator coverage is *not* consistent throughout
 - Nature of the data
 - Nature of the indicators
- ▶ The 2010 Report relies mainly on secondary data sources—where data is good, coverage is good, where data is bad...
- ▶ Some indicators are not liable to concise, quantified and replicable reporting, but this doesn't mean that they are not important
- ▶ Forest sustainability reporting is an ongoing process



Chapter 3. Summary of Significant Conditions and Trends

- ▶ An initial step to determining sustainability
- ▶ Narrative approach and winnowing of information (150 pages => 16 pages)
- ▶ Organization
 - Summary by criterion and across all criteria
 - Summary by Region
 - Synthesis by three major issues
 - ◆ Climate change, bioenergy and loss of forests
- ▶ Summarizing and synthesizing require choices about which facts and issues to highlight. Public input is welcomed on these choices and along with alternative perspectives.



Chapter 4. Broadening and Deepening Commitments to Sustainability

- ▶ Describes application of C&I for forest sustainability in the United States in multiple settings and spatial scales
- ▶ New addition relative to 2003 Report
- ▶ Reviewers may know of additional regional and local examples worthy of recognition in the final report. Please share those with us.



Chapter 5. A Call to Action

- ▶ Describes challenges and opportunities in operationalizing forest sustainability in the context of C&I reporting
- ▶ Identifies major issues confronting forest managers in the United States now and in the future
- ▶ Public comment welcomed on whether the assumptions made and actions advocated are appropriate for this report



Summary of Conditions and Trends Across all Criteria

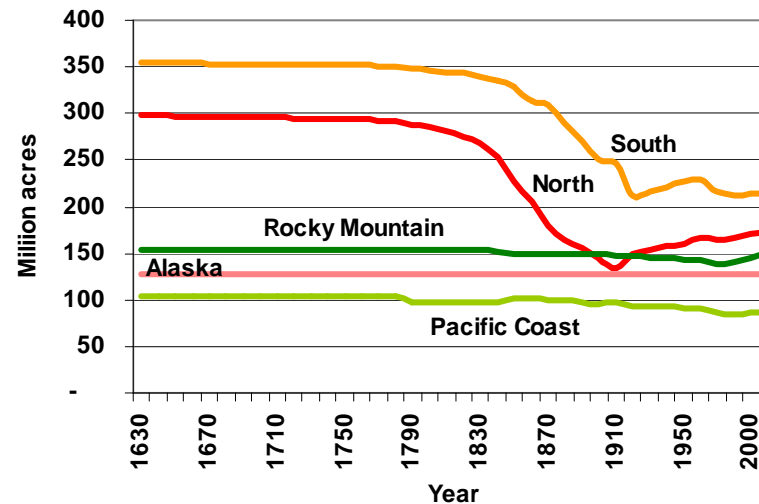
- ▶ In spite of local or regional degradation and loss of forest land, the gross quantity of forests in the United States remains relatively stable
- ▶ Quality, however, is another question
 - And disturbance is a particular concern
- ▶ Our forests resources are continuing to grow and change according to the dynamics of growth and disturbance
- ▶ Likewise our relationship to the forest, the ways in which we impact it, our values and concerns regarding it, and the ways in which we measure and understand it are also evolving
- ▶ The devil is in the details



Summary of Key Findings:

Criterion 1. Biological Diversity

- ▶ Forest area is stable to increasing. Trends in forest integrity, however, are less clear



- ▶ The *quality* of forests is a more complex question
 - Fragmentation
 - Flora and fauna population health and diversity



Summary of Key Findings:

Criterion 2. Productive Capacity

- ▶ “The indicators in this criterion support the conclusion that our current use of the Nation’s forests is sustainable from the perspective of timber production capacity”
 - Total timber volume increases as stable forest area matures → Growth exceeds removals
 - Area of highly productive planted forests continues to rise
- ▶ Harvest of non-timber forest products is “substantial,” though trend is uncertain
 - Sustainability of harvest relative to productive capacity not clearly addressed



Summary of Key Findings:

Criterion 3. Disturbance

- ▶ The two indicators in this criterion provide a clear signal pointing to major areas of concern
 - Three-fold increase in measured insect-mortality relative to reference period
 - Increasing area and severity of fire

- ▶ Probably our best leading indicators of future problems
 - Broadscale forest dynamics , Climate change, etc.

- ▶ Biotic and abiotic disturbances are linked through complex and dynamic processes



Summary of Key Findings:

Criterion 4. Soil and Water

- ▶ The indicators in this criterion do not benefit from the same sort of systematic, wall-to-wall data collection that supports many of the indicators in the previous three criteria
- ▶ Several new indicators and a mix of biophysical and social measures, reporting streams etc.
- ▶ Recently instituted FIA soils data allows for some definitive analysis of soils conditions, but trends cannot yet be firmly established
 - Nonetheless, evidence of soil degradation in the Eastern US (primarily from acid deposition) is a major finding
 - Forestry identified as only a minor cause of water quality impairment



Summary of Key Findings:

Criterion 5. Forest Carbon

- ▶ Forests in the US contain a massive amount of carbon (27 times our yearly emissions from burning fossil fuels)
 - ▶ And that quantity is growing—yearly net sequestration offsets 11 percent of total US annual carbon emissions
 - ✿ Consistent with growing stock increase in criterion 2
 - ▶ These numbers indicate the important role forest can play in mitigating climate change...
- ...**But** also the risk of large increase in emissions via the disturbance processes addressed in criterion 4



Summary of Key Findings:

Criterion 6. Socioeconomic Conditions

- ▶ **Sprawling criterion** (20 indicators under 5 sub-criteria)
 - Production and consumption
 - Investment in the forest sector
 - Employment and community needs
 - Recreation and tourism
 - Cultural, Social and Spiritual Needs and Values

- ▶ Wood products consumption increasingly exceeds production with imports filling the gap

- ▶ Declining forest sector employment due to stable to declining production in combination with increasing labor productivity



Summary of Key Findings:

Criterion 6. Socioeconomic Conditions (Cont.)

- ▶ Indicator 27 identified \$553 million in expenditures for ecosystem services, with payments for carbon offsets and conservation easements increasing 38% in the last three years alone

- ▶ Recreation use continues to rise while availability of private lands for recreation use is declining

- ▶ Development of new indicators
 - 6.38 Community Resiliency
 - 6.44 Importance of Forests to People



Summary of Key Findings: Criterion 7. Institutional Framework

- ▶ A very challenging criterion
 - Complex indicators (e.g. 7.56)
 - Not amenable to quantified measurement
 - 2003 Report addressed indicators in this criterion primarily through narrative

- ▶ Nonetheless a very important criterion
 - Measures our institutional capacity and will to manage forests sustainably

- ▶ 2010 Report introduces a matrix framework for analyzing the policies and institutions in Criterion 7
 - A step toward consistent reporting and comparability



Regional Differences

- ▶ Regional differences in this report are analyzed in regard to their significance for *national* reporting
- ▶ The data, however, will be made available at sub-national scales where possible (website, data reports)
- ▶ Some regional differences do stand out:
 - The South as primary producer of the nation's timber
 - Influence of disturbance in the Rocky Mountain states
 - Predominance of public lands in the West
 - Development pressures and impact in the more populous East



Data Adequacy

- ▶ The report relies on several key data streams for consistent “wall-to-wall” national data:
 - Forest Inventory and Analysis (FIA)
 - Socioeconomic data streams (BEA, BLS, Commerce & Census)

- ▶ Additional data sets provide good coverage for particular indicators
 - FS Forest Health Program, FS & BLM Permits
 - Breeding Bird Survey
 - Etc...

- ▶ ...But many indicators still depend on proxies, anecdotal information, and qualitative observations



Information Delivery vs. “Sustainability Call”

The question of how much and how far we should interpret the information in the document in regard to sustainability has been a major theme arising throughout our review process

- ▶ How far do you think we should go in making sustainability judgments?
 - By indicator?
 - By Criterion?
 - By C&I information set as a whole?

- ▶ How and by whom should these judgments be made?

- ▶ How and where should they be presented?



A Note on the Information Value of the Report

The 2010 Report:

- ▶ Is comprehensive
- ▶ Uses an explicit structure to organize the information it contains
- ▶ Strives to provide continuity in data and analysis
- ▶ Provides quick and easy access to a vast amount of definitive information
- ▶ Is a window on cutting edge research activities
- ▶ Is unique (for the U.S. at least)



Public Review and Comment Process on the DRAFT National Report

- ▶ Public comments received until April 10, 2009

- ▶ Three workshops held:
 - Western USA: Denver area February 4-5
 - Eastern USA: Athens, Georgia area February 24-25
 - Washington, DC: March 23

- ▶ Workshop summaries, targeted reviews and general comments total some 400 pages of text



Where to Get Copies & Send Comments

- ▶ DRAFT report is on the web at <http://www.fs.fed.us/research/sustain/2010SustainabilityReport>
- ▶ (Or Google 2010 National Report of Sustainable Forests)

- ▶ Questions about the Comment:

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Thank You for Listening

Questions?