

III. THE USE OF CRITERIA AND INDICATORS BY THE NORTHEASTERN AREA AND THE NORTHEASTERN AREA ASSOCIATION OF STATE FORESTERS

The USDA Forest Service, Northeastern Area, State and Private Forestry (NA) and the Northeastern Area Association of State Foresters (NAASF) share a commitment to the sustainable management of forests. Ideally, criteria and indicators (C&I) provide relatively complete, accurate, and unbiased information on forest conditions, the factors that influence forest conditions, and the way changes in forest conditions affect the benefits derived from forests. The Montreal Process framework of C&I has been endorsed by NA and NAASF as a useful tool for identifying the key ecological, social, and economic factors affecting the sustainable management of forests at multiple geographic scales and for structuring cooperative efforts to monitor and assess trends across political and administrative units (USDA Forest Service 1999).

NA and NAASF have committed to the long-term coordination and staffing of a forest sustainability information clearinghouse in close cooperation with the 20 State forestry agencies represented by NAASF. NA is also producing a C&I-based report on the status of forest health and sustainability in the 20-State region (box 2). In addition, NAASF commissioned a work group of Northeastern Forest Resource Planners Association (NFRPA) members and NA staff to help articulate the actions needed to implement C&I on an ongoing basis (appendix B). Key projects identified for the work group to date include (1) the compilation of information on the development and use of criteria and indicators, which has resulted in the production of this sourcebook; (2) the development of a limited number of indicators that can provide focus for State and cross-State collaboration in C&I data collection and reporting efforts, referred to as the base set of indicators or base indicators; and (3) an assessment of data availability and data gaps for the base indicators (appendix C).

The base indicators adopted by NAASF are targeted for NA-wide and State level assessment (box 3). They span the Montreal Process sustainability criteria and subcriteria, and link to information needs and issues common among the States.¹ The use of a consistent and coherent subset of Montreal Process indicators and associated metrics across State boundaries is intended to provide an important pathway for the flow of sustainability information at State, regional, and national levels. It also lays the groundwork for assessing

Box 2. Northeastern Area initial assessment of sustainability using the Montreal Process C&I

The Northeastern Area has conducted an NA-wide assessment of sustainability using the Montreal Process C&I framework. The 67 Montreal Process indicators were addressed to the extent possible using readily available information from a variety of sources—Federal, State, and private inventory and monitoring programs, technical reports, journals, other publications, and public programs. The assessment builds on the base of information provided through the USDA Forest Service’s Forest Inventory and Analysis and Forest Health Monitoring Programs and uses an ecologically based approach to assess forest conditions. The assessment has been used for NA strategic planning. It establishes a regional context for State and National forest planning, and, when published, will serve as a reference document on data availability and compatibility among the 20 States (USDA Forest Service 2001a).

¹ See appendix D for the process taken to develop these indicators.

*Box 3. This list of base indicators adopted by NAASF spans the Montreal Process criteria and subcriteria and is recommended for use in NA-wide and State forest sustainability assessments.**

Criterion 1—Conservation of Biological Diversity

Ecosystem Diversity

1. Area of forest land relative to nonforest land, area of timberland, and area of reserved land
2. Exent of area by forest type and by size class, age class, and successional stage
3. Degree of forest land conversion, fragmentation, and parcelization

Species Diversity

4. Status of species and communities of concern with focus on forest associated species

Criterion 2—Maintenance of Productive Capacity of Forest Ecosystems

5. Area of timberland
6. Annual removal of wood products compared to net growth

Criterion 3—Maintenance of Forest Ecosystem Health and Vitality

7. Area and percent of forest affected by damaging agents such as insects, disease, exotic/native species, fire, storm, land clearance, and domestic animals

Criterion 4—Conservation and Maintenance of Soil and Water Resources

8. Area and percent of forest land with significantly diminished soil organic matter, erosion, compaction, and/or changes in other soil chemical or physical properties
9. Area and percent of forest land adjacent to surface water and area of forested land by watershed
10. The condition and vulnerability of aquatic systems by watershed

Criterion 5—Maintenance of Forest Contribution to Global Carbon Cycles

11. Total forest ecosystem biomass and carbon pool, and contribution of forest ecosystems to the total carbon budget

Criterion 6—Maintenance and Enhancement of Long-term Multiple Socio-economic Benefits to Meet the Needs of Societies

Production and Consumption

12. Value and volume of wood and wood products production, consumption, imports, and exports

Recreation and Tourism

13. Outdoor recreation activities and use, recreational facilities and use

Investment in the Forest Sector

14. Public and private investments in forest health, management, processing, manufacturing, and research

* No priority or order is implied in the numeric listing of the criteria and indicators.

Box 3 (continued)

Cultural, Social, and Spiritual Needs and Values

15. Public, private, and industrial ownership and land use (including acres of specially designated land)

Employment and Community Needs

16. Trends in forest-related sectors' (e.g., wood products, recreation, and forest management) earnings and employment

Criterion 7—Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management

Extent to Which the *Legal Framework* Supports the Conservation and Sustainable Management of Forests

17. Existence, type, and monitoring of voluntary or mandatory best management practices

Extent to Which the *Institutional Framework* Supports the Conservation and Sustainable Management of Forests

18. Existence, type, and frequency of forest-related planning, assessment, and policy review, including cross-sectoral planning and coordination

conditions in ecosystems and watersheds that span multiple States. In addition, these indicators can be incorporated into broader sets that encompass forest components, such as statewide sustainable development and environmental monitoring efforts.

An assessment conducted with this suite of base indicators can introduce the many facets of sustainability to the general public; can contribute to informed discussions of the appropriate balance among ecological, social, and economic considerations; and is a useful mechanism to track general information with regards to sustainability (e.g., by identifying agency performance measures linked to individual indicators). NAASF recommended that the base indicators be used to develop an NA-wide forest sustainability C&I assessment report every 5 years, at a minimum.

NA and NAASF continue to work on technical and organizational issues needed to fully utilize this set of base indicators. Probable metrics and data sources have been identified (appendix E), but further work is needed on common definitions, data availability, data currency, reliability, costs, reporting cycles, organizational roles, and partnerships.

As requested by NAASF, the NFRPA/NA C&I project work group surveyed individual States to determine which data from the base set of indicators, not already identified as available, are collected at the State level.² The work group has begun analysis of this information and is compiling it into a comprehensive availability assessment of the base indicators (including data available from all sources).

As part of their clearinghouse function, NA and NFRPA have compiled information on criteria and indicators. This information includes a database of 60 sustainability/indicators

² See appendix F for the process taken for the survey of data available at the State level.

projects, as well as a database of actual indicator sets for 39 projects. These databases were used in the development of this sourcebook and are available by request.³

This report and other sustainability-related information and Web links are available on the Northeastern Area's Sustainability Program Web site (<http://www.na.fs.fed.us/sustainability/>). As the data are assembled, it is anticipated that data on the base indicators for the 20 States and the region as a whole will also be posted on this Web site.

³ To request a copy of the database(s), please contact Sherri Wormstead, NA Sustainability Program Assistant, at swormstead@fs.fed.us or 603-868-7737 or access additional information on-line at <http://www.na.fs.fed.us/sustainability/>.