



Roundtable on Sustainable Forests

A Partnership for the Future

DRAFT II

STAKEHOLDER

SUSTAINABLE FORESTS ACTION STRATEGY

Prepared by Participants of the Roundtable on Sustainable Forests Core Group
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October 14 and 15, 2009 National Meeting in Washington, DC

Table of Contents

- Executive Summary 1
- I. Introduction..... 2
- II. Developments, Challenges and Opportunities 3
 - Forest Conversion and Fragmentation..... 4
 - Forest Health..... 4
 - Forest Infrastructure 5
- III. An Action Strategy for Sustainable Forests 6
- IV. Recommended Actions 7
 - 1. Identify and Conduct Economic Valuations of the Nation’s Priority Forested Watersheds7
 - 2. Support National Data Gathering and Reporting Activities 8
 - 3. Enact Dedicated Funding Sources for Wildland Fire Suppression..... 8
 - 4. Heighten Awareness of Forests Benefits with a Focused Communication Campaign..... 9
 - 5. Develop and Support a Portfolio of Pilot Landscape Level Sustainable Forests Projects in All Regions of the Country 9
 - 6. Develop a Targeted Outreach Strategy and Tracking System for Local Governments to Characterize the Status of Local Forest Protection Through Land Use Mechanisms 10
 - 7. Carry Out a Focused Analysis of the Impact of Tax Policies to Sustainable Management of Private Forests in the United States..... 10
 - 8. Maintain and Diversify Markets that Allow Sustainable Forest Management..... 11

Executive Summary

The first *National Report on Sustainable Forests* was produced in 2003 and the second National Report will be released in 2010. The draft *2010 Report* contains important change analysis, indentifying key trends such as the: 1) a substantial decline in the health of the nation's forests; 2) an increase in conversion of forests to non-forest uses; and 3) an increasing dependence on private lands and foreign imports for U.S. forest products consumption.

The *Draft Sustainable Forests Action Strategy* examines significant changes in forest conditions between the 2003 and 2010 *National Reports* (See Annex 1), as well as identifying key developments, challenges and opportunities within the forest sector. But the *Action Strategy's* major purpose is to facilitate an open national dialogue, among a diversity of interests, to develop priority actions to be taken in the next two years to improve the conservation and sustainable management of the nation's forests. To achieve this, the draft *Action Strategy* will be the focus of discussion at the RSF's national stakeholder meeting that will take place on October 14 and 15, 2009. The complete document with accompanying Issue Papers (Annex 2) may be downloaded at http://www.sustainableforests.net/docs/DRAFT_SFAS_v2_090930.doc.

We believe the recommended actions within the strategy are achievable in the next two years by leveraging existing programs, providing an important foundation and momentum to:

- Maintain or improve information and public knowledge on forests;
- Assess the economic value of forests and the benefits they provide;
- Ensure federal investments for forest management in the face of fire borrowing;
- Demonstrate the effects of good forest management;
- Provide local units of government with tools to help dampen the loss of forests; and
- Remove disincentives and enhance markets for private forest landowners to retain forest lands in forests.

The eight recommended actions are as follows.

1. Identify and conduct economic valuations of the nation's priority forested watersheds.
2. Support forest inventory and forest health monitoring activities.
3. Enact dedicated funding sources for wildland fire suppression.
4. Heighten awareness of forests benefits with a focused communication campaign.
5. Develop and support a portfolio of pilot landscape level sustainable forests projects in all regions of the country.
6. Develop a targeted outreach strategy and tracking system for local governments to characterize the status of local forest protection through land use mechanisms.
7. Carry out a focused analysis of the impact of tax policies to sustainable management of private forests in the United States
8. Maintain and diversify markets that allow sustainable forest management.

I. Introduction

On August 14, 2009 in Seattle, Washington, USDA Secretary Tom Vilsack delivered a speech outlining his national vision for America's forests, using the guiding principle of conservation defined by the first Chief of the Forest Service, Gifford Pinchot. That is, we shall address the stewardship – management, protection and wise use – of our natural resources for the good of most over the long-term. His national vision is characterized by an “all lands” approach to forest and rangeland stewardship and focused on programs designed to accentuate community health and wealth, such as clean and abundant water and protecting communities from wildfires.

America's forests are as diverse as the communities that own, occupy, and steward them. There is a mosaic of forest types and ownership/tenure patterns that span our country, all playing distinctly different roles and purposes such as public forests, tribal forests, commercial private forests, family-owned woodlands, and urban forests. One size certainly does not fit all, yet we all have a collective reliance on our forested lands as well as a collective responsibility for their well-being.

To deal with the challenges of climate change, catastrophic wildfires, disease and pests and other forest health-related issues, it is time for a change in the way we view and manage America's forest- lands with an eye towards the future. This will require an enhanced collaborative approach that engages the American people and stakeholders in conserving and restoring both our National Forests and other non-federal lands, with a special emphasis on privately-owned forests.

The Roundtable on Sustainable Forests (RSF) is an open and inclusive process committed to [sustainable forest management](#) (SFM) on public and private lands in the United States. RSF participants include public and private organizations and individuals committed to better decision-making through shared learning and increased understanding. The RSF has assisted in an analysis of the status of U.S. forests using an internationally agreed upon set of SFM [criteria and indicators](#). The purpose of this is to develop a shared understanding of current forest conditions and a baseline against which to mark future progress toward sustainability.

The first National Report on Sustainable Forests was produced in 2003 and the second National Report will be released in 2010. The draft 2010 Report can be [downloaded](#) from the US Forest Service's website. As in its earlier report, the Forest Service will strive to keep this a strictly factual and unbiased presentation of well-documented information. The draft 2010 Report does identify a few specific areas where the time is ripe for decisive action, in both policy and forest management.

The purpose of the *Draft Sustainable Forests Action Strategy* is to move beyond examining significant changes in forest conditions between the 2003 and 2010 National Reports, to facilitating an open national dialogue among a diversity of interests. The goal is to develop

priority actions to be taken during the next two years to improve the conservation and sustainable management of the nation's forests. This draft document will be the focus of discussion at the RSF's national stakeholder meeting on October 14-15, 2009.

The foundation of the *Draft Sustainable Forests Action Strategy* includes two important annexes. Annex 1, *Significant Recent Changes in Forest Conditions and Trends*, which is attached to this document, is derived from data presented in the 2003 and 2010 National Reports. Annex 2, which can be downloaded at http://www.sustainableforests.net/docs/DRAFT_SFAS_v2_090813.doc, is a collection of eight *Issue Papers* that contributed to the authors' formulation of priority actions.

In preparation for the RSF's national stakeholder meeting in October, the RSF's Communication and Outreach Work Group (COWG) gathered stakeholder input on a first draft of the *Sustainable Forest Action Strategy* via webinars, comments provided by e-mail, and conference calls. Comments and input have been integrated into this second draft of the SFAS.

II. Developments, Challenges and Opportunities

The 2010 National Report is designed to provide a common set of information that the forest community can use as a basis for discussion and decision-making. To begin that discussion, the RSF identified major developments based on the information provided by the draft 2010 Report. Challenges and opportunities for key focus areas were also identified to further set the context for the *Action Strategy*.

One clear result highlighted in the draft 2010 National Report is the fact that net forest area in the United States has been relatively stable (Indicator 1), but this national statistic masks significant place-based challenges in relation to declining forest area and fragmentation, as well as trends in forest health and forest benefits that have significant implications for the future of the nation's forests. Following are some examples.

- **Forest Health.** There has been substantial decline in the health of the nation's forests, and many of the stressors can be expected to increase with climate change. These include insect infestations, disease outbreaks, droughts, and fires. Of note is a three-fold increase in insect-caused mortality in last decade (Indicator 15).
- **Forest Protection.** The area of protected forests on public lands has changed little since 2003 (Indicator 2). However, mechanisms for private lands protection are growing in importance. Payments for environmental services were estimated at \$553 million in 2007 (Indicator 27). Federal payments have been relatively stable, but payments from private entities in the form of carbon offset purchases, conservation easements and outright land purchases have increased 38% in the last three years alone and now account for over a third of total payments identified in the report.
- **Forest Conversion.** Converting forests to non-forest uses, particularly suburban development, is leading to declines in the ecosystem services that forests provide to society. Forest fragmentation continues at a steady pace (Indicator 3).

- **Forest Growth and Consumption.** Net growth in timber stocks currently exceeds harvest by a considerable extent in all regions of the United States (Indicator 11). There has been a growing gap between production and consumption, with the difference filled by imports (Indicator 26).
- **Forest Harvests.** Private lands produce 91% of the nation's wood production compared to 86% in 1952 (Indicator 10).
- **Forest Recreation.** Only 15% of privately owned forest is open for public recreation compared to 25% in 1985-86 (Indicator 41).

The following challenges and opportunities further set the context for the Action Strategy.

Forest Conversion and Fragmentation

The Challenge: Conversion of forests to non-forest uses, particularly suburban development, is leading to declines in the ecosystem services that forests provide to society. Not only are the fringes of towns and cities being adversely affected, so are more rural areas as vacation and retirement homes proliferate and properties are sub-divided among heirs. These forest losses can have a significant effect on environmental quality in terms of the loss of wildlife habitat and impacts on water quality. They also affect quality of life through the loss of open space and opportunities for outdoor recreation. Forest fragmentation, the breaking up of forests into smaller and smaller pieces, continues as the average size of family forest ownership has fallen to 17 acres.

The Opportunity: New models for sustainable community ownership and management of forests, where clustering of development allows residents to hold a shared ownership in the remaining working forest, can be created. For example, new collaboration strategies can be implemented to connect with the increasing number of forest landowners, who can bring new financial, human and social capital to the table. These landowners, with proper models of management and means of aggregating resources, can effectively maintain and restore working forests. At the same time, the conservation community has become aware that fragmentation and development are taking a toll and that working forests as a land use are critical to retention of forest lands and health of the forest resource. A number of tools are available, including: conservation easements, forest certification and working with conservation groups to secure investments for sustainable forestry.

Forest Health

The Challenge: Without significant forest management efforts, the number and extent of damaging and large stand-replacing fires are likely to continue to increase in the future. In turn, the roughly ten-fold increase in the forest area impacted by drought may foreshadow increases in other disturbances such as fire and disease, to which drought-stressed trees are more susceptible. The growing influence of insects and fire in the pine forests of the Western and Rocky Mountain region, which are predominately public lands, are of special concern as large areas are being negatively impacted and catastrophic wildfire risk is increasing and threatens

human lives and local communities. Invasive species such as Emerald Ash Borer and Asian Long Horn Beetle will continue their expansion with devastating impacts to urban forests (e.g. Worcester, Massachusetts) and adjacent natural forests.

The Opportunity: Public perception has changed as increasing numbers of citizens have experienced, directly or indirectly, the negative impacts of unhealthy forests. Climate change and the potential for renewable fuels have brought new forest issues to the table. Many communities of place are actively pursuing forest restoration projects, realizing that their prosperity is linked to the health of their forests. Barriers can be removed to allow managers of Federal Lands to manage forests to improve forest health and reduce fire risks. Advances in modeling and science have provided new tools to allow more transparent and adaptive management regimes. New relationships among forest land managers and community members is providing an opportunity to re-draw many of the old forest battle lines to address forest health issues.

Forest Infrastructure

The Challenge: Forest industry is declining in the United States as a result of weakened markets for both building materials and paper products, and shifts in the world economy have made U.S.-based forest products companies less competitive in global and domestic commodities markets. Until recently, forest industry owned and managed nearly 15% of U.S. forests, providing for wildlife habitat and other public benefits, as well as contributing to income and employment in forest-dependent communities. Nearly all of these forest industry lands have been sold during the past decade. Most of them continue to be managed by timber investment management organizations or real estate investment trusts. Some lands have gone out of production or been sold for development.

In addition to the above, the decline or disappearance of wood harvesting operators and infrastructure in certain localities can impact forest management and land-use patterns, particularly in areas subject to housing development pressure or where overstocking and fuel loading create forest health issues and increased fire danger. The disappearance of forest industry infrastructure in communities adjacent to public forest lands, particularly Federal forests in the West, has resulted in a loss of local capacity to carry out hazardous fuels reduction and ecosystem restoration. There is a need for new markets, especially for smaller dimension wood. More importantly, there is a need for relative reliability and consistency in supply from public lands to support investment.

The Opportunity: As is the case with aggregating landowners for management, there is also an opportunity for new organizational structures that would allow communities to create and take advantage of efficiencies of scale (e.g., in transportation) and avail themselves of opportunities to use global markets for community benefit. Regional systems in wood and wood products can present opportunities when supply chains are shortened. Reciprocal partnerships, multi-use of facilities, and reduced energy use can increase the efficiency of the system. Forest investment

zones could be one model where the focus is on a discrete area with a variety of activities. Business incubators renting or time sharing expensive equipment with a cooperative can reduce costs. If developed at the appropriate scale, there are renewable energy possibilities such as promoting community-scale bioenergy production that uses local wood. There is an opportunity to strengthen markets for ecological services while reducing transaction costs, including establishing a carbon registry for all sizes and classes of forest landowners and connecting these to the market.

III. An Action Strategy for Sustainable Forests

While the United States can be proud of past achievements in the stewardship of its forests, important challenges remain. Given the enormous diversity of interests surrounding forests and the variety of values and services they provide, there will be many different perspectives to consider. Yet, we believe that there are many widely shared goals and values. For example, there appears to be agreement regarding the retention of working forest lands, diversification of products and emphasis on local value-adding businesses, development of new and emerging markets, and stronger community capacity for problem-solving and communications.

Similar to the forest landscape, the forest community has become fragmented. For too long, forest battle lines have been drawn and fought on issues that are not helping our forests achieve their strategic potential as a natural resource. For many it will be presumptuous for any one entity to believe that they could create an action strategy to sustain a nation's forests, especially in a country as complex as the United States. We agree. The journey to achieving sustainable forests is not a linear and sequential process – the advancement in one realm cannot await completion of another – and we do not profess to know all that can and should be done.

We hope the *Action Strategy* can expedite that journey, building upon the work of others, focusing our collective energies, while building trust and support in the process. None of the recommended actions are applicable to all forests and there is no intention to discount the fine work currently being done by many entities. We thank and appreciate them for their efforts. The goal is to identify realistic steps that can garner public support for sustainable forest management. Sensitivity and respect for the rights of private forest landowners will be critical in all aspects of implementing the *Action Strategy*.

We believe the recommended actions represent a balanced and integrated approach that can be achieved in the next two years, are relatively inexpensive, and leverage existing programs and efforts. The two year time frame was chosen to provide focus and the initial inertia for the public process. Future planning time frames should be longer (e.g., 5 years) with more explicit discussion on means of implementation up front.

Together, the recommendations provide a foundation for the following.

- Maintain or improve information and public knowledge on forests;

- Assess the economic value of forests and the benefits they provide;
- Ensure federal investments for forest management in the face of fire borrowing;
- Demonstrate the effects of good forest management;
- Provide local units of government with tools to help dampen the loss of forests; and
- Remove disincentives and enhance markets for private forest landowners to retain forest lands in forests.

IV. Recommended Actions

1. Identify and Conduct Economic Valuations of the Nation's Priority Forested Watersheds

The nation's forested watersheds are obviously enormous assets to our economy and society, and the need for dependable supplies of fresh water is expected to increase in the future. Forests supply over 50% of the nation's freshwater in the United States, currently providing drinking water for 180 million people. Several major urban centers, like the Denver metropolitan area, depend heavily on National Forests for their water. Other cities, like New York City, rely on privately owned forests to provide clean water. Climate change and a growing population are expected to strain these vital water supplies.

Little or no benefit, expressed in dollar value, is currently assigned to water resources in their natural state and only limited data are available to quantify the costs and benefits associated with ensuring sustainable forested watersheds. Markets are not taking into account the full value of forests to society, and thus forest landowners are not receiving value for providing this service. New techniques in natural resource valuation can now provide reliable economic estimates for the full range of direct and indirect forest watershed benefits.

Connecting economic data with the multiple values and benefits of water and the importance of forest management to the quality and quantity of those benefits can strengthen the justification of watershed management efforts. Additional benefits include the following.

- Linking the indirect beneficiaries of watersheds to forestry management efforts;
- Developing a methodology for valuing these services;
- Identifying benefit/cost situation when markets are failing to take in to account the full social costs associated with the use of environmental resources; and
- Attracting new and emerging markets for forest products in the region, thereby increasing forest values and incentives for forest retention.

Successful applications of this approach can be found throughout the country (e.g., Hawaii, New York, Maryland). The US Forest Service State and Private Forest Northeast Area is currently working on a project: *From the Forest to the Faucet: Drinking Water Supplies and Forests in the United States*. This project is using a series of biophysical and demographic

data in conjunction with water quality models to create national maps that identify priority drinking water quality protection areas, how well these areas are protected by forested landscapes, and their vulnerability to threats such as development and catastrophic wildfire. This important project should be supported and enhanced with the addition of economic valuation data.

2. Support National Data Gathering and Reporting Activities

National level forest information gathering activities undertaken under the Forest Inventory and Analysis (FIA) and Forest Health Monitoring (FHM) programs comprise the backbone of the draft 2010 National Report and are critical tools that allow us to assess sustainability and health of our forests. The US Forest Service and forest stakeholders should support and vigorously seek funding for fully implementing the base FIA program nationwide. FIA and FHM data are essential to guide the development of forest management/assessment plans and to support our growing data needs in areas such as land use change, water resources, bioenergy and climate mitigation.

Gathering data is one thing, however reporting it in a consistent and accessible manner is yet another. At the national level, the draft 2010 National Report provides the most comprehensive and data rich picture of forest conditions in the United States today. However, there remain a number of data gaps, and the Report's hard copy format does not necessarily lend itself to providing information to many users in the forms that they need. To help correct these problems, the 2010 National Report should be housed on a website where criteria and indicator data can be displayed and delivered in formats and spatial scales defined by users. Where possible, these data should be updated on an annual basis.

3. Enact Dedicated Funding Sources for Wildland Fire Suppression

The cost of fire suppression has risen in recent years and will continue to increase in the future. This past fiscal year alone, the US Forest Service spent over \$1.5 billion, more than 50% of the agency's regular operating budget, for fire suppression costs due to the impact of funding emergency wildfires within a constrained budget. Every year, the President's budget proposal for the US Forest Service non-fire programs is significantly reduced in order to direct more funds towards emergency fire activities. All other forest management efforts, including those programs that help to reduce suppression costs in the long run, have been redirected to pay for the rising expense of these wildfires.

A three-part legislative solution is needed as follows.

- 1) Set up a 'fund' for emergency wildfire suppression costs that is partitioned from the rest of the US Forest Service budget;
- 2) Provide monies to the 'fund' that will not count against the agency's constrained budget; and

- 3) Reformulate the US Forest Service budget to reinvest in the non-fire programs that have been decimated by the rising fire suppression costs. Congress is currently considering legislation to address this situation, but the issue remains unresolved.

4. Heighten Awareness of Forests Benefits with a Focused Communication Campaign

The public needs to understand the impacts and relationships between sustainable forested landscapes and the benefits they provide. A clear presentation of the unfavorable economic and ecologic tradeoffs associated with forest loss needs to be made, especially to local and regional policy makers. User friendly products derived from items 1 and 2 of the legislative solution can add value to this effort. The communications and outreach challenge is to reach beyond the traditional forest audiences to the great diversity of forest stakeholders. The communication campaign should make effective use of regular internet and web-based systems, then amplify its messages through the new web-based social networks, referred to as Web 2.0.

An important first step would be to commission a professionally conducted survey or poll on the perceptions of the public, and perhaps key policymakers, regarding their views on the state of the nation's forests, and the organizations and programs that address their conservation and sustainable management. In addition, the communications campaign should take advantage of the upcoming 2011 International Year of the Forest to communicate key forest related domestic messages.

5. Develop and Support a Portfolio of Pilot Landscape Level Sustainable Forests Projects in All Regions of the Country

Landscape level forest management partnerships have proven to be successful in many areas of the country. They usually involve highly motivated citizens, local, state, and Federal government agencies and commissions, non-governmental organizations, private sector firms, and educational institutions working together on a shared vision. The political and economic advantages in this approach include the following.

- Entire regional watershed areas need conservation and management, which requires the involvement of all major landowners;
- Limited resources are leveraged to take advantage of economies of scale for large infrastructure projects and sharing of technical expertise;
- Threats such as invasive weeds and diseases as well as insect outbreaks do not respect parcel boundaries;
- Funders become more confident that expenditures will be spent in a cost effective manner; and
- Diverse political constituencies begin to build mutual appreciation and support for values and benefits.

The portfolio should invest in projects that facilitate an assessment of different management approaches, such as conservation easements, watershed-based forest planning and zoning, purchase of development rights, current use tax assessment programs, and woodland owner cooperative. An additional deliverable should be guidelines and lessons learned for formulation and implementation of the next generation of projects/programs. Other portfolio criteria to consider include projects that stimulate additional investment, job creation and building community capacity through technical assistance, training, and shared learning. It is important to stress that forest landowner involvement in these projects must be voluntary and without financial penalty or regulatory actions for those that elect not to participate.

6. Develop a Targeted Outreach Strategy and Tracking System for Local Governments to Characterize the Status of Local Forest Protection Through Land Use Mechanisms

Local governments in much of the U.S., including counties and municipalities, are on the front line of the forest conversion/fragmentation issue. They have the greatest influence over forest vulnerability regarding land use change and management, arising from the adoption of local land use plans and their implementation mechanisms including zoning ordinances, development regulations, capital programming for infrastructure improvements, and local taxes. Unfortunately, many local governments are not incorporating analyses of the vulnerability of their forest resources to conversion as part of the land use planning process.

Current and accessible forest data, economic valuation analysis, and planning tools with the latest geographical information system technology are needed now. These tools need to be applied to demonstrate the special need and opportunities to adjust land use plans to reduce conversion potential, and the ways that zoning ordinances and development regulations can creatively protect forest patches from loss or fragmentation.

Target groups for outreach and collaboration might include the American Planning Association (APA), the National Association of Local Government Environmental Professionals (NALGEP), County Commissioner Associations, State Forestry and Planning agencies, Soil and Water Conservation Commissions, Landowner associations, the Non-point Education for Municipal Officials (NEMO), the International Municipal Lawyers Association (IMLA), and the Green Infrastructure Community of Practice, as well as Federal agencies including the US Forest Service and the US Environmental Protection Agency.

7. Carry Out a Focused Analysis of the Impact of Tax Policies to Sustainable Management of Private Forests in the United States

Since the United States relies so heavily on privately owned forests for its timber supply and a wide variety of environmental services, there is a public value and interest in seeking to keep private forests as working forests. The tax code is a key element in achieving this goal. Tax policy changes have had a profound, and often unintended, effect on investment and

the very structure of the forest sector. There is no single public or private institution in the U.S. which has a charge of systematically evaluating Federal and State tax laws, or proposed changes to them, as to their implications to sustainable forest management or the viability of the U.S. forest sector. An analysis, focusing on how taxes (including federal/state income, property and estate taxes) may be acting as barriers to SFM and the retention of forests as forests, is needed.

Development pressures affect small private landowners, many of whom are increasingly under financial pressure to sell their parcels for development. Non-corporate landowners consistently identify taxes as significant factors in their management decisions. As the average age of non-corporate forestland owners increases, estate or inheritance taxes become an issue when passing the land on to the next generation. If the next generation is not interested or is unable to afford to manage the land as forest, an increasing amount of private forestland will be developed. Many landowners view federal estate taxes as contributing to the fragmentation of private forests.

The change in the industry from one type of company (integrated) to another type of company (TIMOs, REITs) was an unintended effect driven in large part by changes in federal tax policy. These tax law changes led to the creation of a new class of forest owners interested primarily in return on investment, whether it comes from harvesting trees or subdividing land for commercial or residential use. Even if the land stays in forest uses, this class of investors tends to periodically sell their land in units smaller than were purchased, which will lead over time to a decline in the economic attractiveness of managing the land for the production of forest products. Another result of this ownership shift has been a substantial reduction in research and development designed to maintain an economically viable forest products industry. Should this situation persist, long-term negative effects on the U.S. forest sector are inevitable.

8. Maintain and Diversify Markets that Allow Sustainable Forest Management

Markets for wood will remain essential to forest landowners and local communities. Private and public landowners need to access new markets for both low-and high-value products and services and forest uses in order to underwrite stewardship activities. Markets for water can provide landowners with incentives to restore wetlands, watersheds, and to manage forests for clean and abundant water supplies. All of these markets can also create jobs in rural communities near forests. Yet, the absence of robust and diversified markets reduces or eliminates the economic incentives that landowners have to keep forests as forests; and can lead to forest degradation by making sustainable management cost, rather than reward, landowners.

Some percentage of the landscape will, and should, be set aside for passive management to protect sensitive areas, ecological reserves, and wilderness areas. On the other hand, it is

clear that active forest management must be practiced on other forest lands, if we are going to provide the range of habitats needed by the full spectrum of forest species, meet fiber needs, decrease dependency on foreign fuel supplies, reduce impacts of insect and disease, and decrease risk of catastrophic wildfire. Active management will depend on access to robust and diversified markets for forest products and services.

Recommendation 8a. Assess the potential benefits of adopting as a public policy objective the goal of fostering the economic viability of the U.S. forest sector.

The United States has no policy goal related to maintaining the economic viability of the forest sector. This is in sharp contrast to other U.S. forest sectors, such as agriculture, where maintaining economic viability is an explicit goal of several federal agencies. It is also at odds with other countries, such as Canada and some northern European countries where maintaining the economic viability of the forest sector is an explicit policy goal. In order to support the long term sustainability of U.S. forests, both public and private, for a wide variety of values and ecosystem services, the federal government should assess the potential benefits of adopting as a public policy objective the goal of fostering the economic viability of the U.S. forest sector.

Recommendation 8b. **Ensure representation of forested landscapes, landowners, and forest advocates in Climate Change mitigation solutions**

State Foresters and other advocates nationally, should continue to develop recommendations for the role of forests in climate change legislation and carbon offset projects as well as the specific role for states, private landowners, consulting foresters, and other entities. State foresters should also actively seek inclusion in national, regional, and state working groups and committees defining the parameters of carbon offset projects and cap-and-trade systems

Recommendation 8c. **Coordinate efforts to implement forest energy program in the Farm Bill**

The Farm Bill authorized the broad framework for a Community Wood to Energy Program at \$5 million a year to encourage the use of woody biomass as the primary fuel for heat or energy at publicly owned or operated facilities such as schools, town halls or libraries. Grants are available for planning community wood energy projects as well as for installing or upgrading community wood energy systems. The Forest Biomass for Energy Program was authorized at \$60 million a year to address the use of forest biomass in energy production through research on the use of low-value forest biomass for energy. Leadership is needed to develop effective projects.

At the regional level, efforts should focus on the issues most important to that region and form a bridge between national and state level efforts. For example, in the West, a logical priority would be to strengthen efforts to emphasize the use of small and low-value material

which could be harvested from wildland urban interface areas; thus reducing fire danger. In the East, issues could include enhancing the use of the region's woody biomass to replace home heating oil. The strategies developed by each level of government need to inform, and be integrated with, the strategies of levels above and/or below it.

Annex 1. Significant Recent Changes in Forest Conditions and Trends

Important changes are taking place in our nation's forests, and these trends are described in detail in the draft 2010 National Report on Sustainable Forests. These specific trends were derived from data within the 2003 and draft 2010 National Reports.

Forest Area and Growth

- **Forestlands.** In terms of the national average, the area of forests in the United States has remained stable at 751 million acres over the past 30 years. Gains in broadleaved forests in the South and interior North have been largely offset by declines in forest area in the more developed coastal regions, particularly in coniferous forests. However, this average masks significant losses of forest in some regions of the country, mostly to urban development. Over the past decade, these losses of forest and open space have been estimated at an average of 3,000 acres per day. Increased forest area in other regions of the country has been the result of marginal crop and pasture land reverting to forest and grasslands converting to forest due to the exclusion of fire.
- **Timberlands.** The area of timberland (i.e., forests available for timber production) in the United States has also been very stable over the past 50 years, currently standing at 514 million acres (i.e., 69% of all forest land). The highest concentration of timberland is in the South, where 95% of the forest is classified as timberland. Two-thirds of the timberland (i.e., 356 million) in the United States is privately owned.
- **Forest harvests.** Private lands produce 91% of the timber harvested in the United States each year. The South supplied 62% of all timber removals in 2006, up from 49% in 1953. On public lands in the West, where timber management has been sharply curtailed in recent years, removals have declined from 4.4 billion cubic feet in 1976 to 2.8 billion cubic feet in 2006, a decrease of 35%.
- **Forest Plantations.** The area of planted forests has increased 11% since 2003 to 63 million acres, consisting mainly of pine plantations in the South. Growing stock volume on planted forests rose 32% since 2003. Since 1982, more than 2 million acres have been planted annually, virtually all with native species.
- **Development.** In 2000, the nation's development footprint accounted for over 13.3% of total land area, up from 10.1% in 1980. This expansion significantly exceeds population growth and it has continued since 2000.

Forest Health

- **Insects and Disease.** There have been substantial increases in the area of forests killed or seriously damaged by insect infestations and disease outbreaks since the 1997-2002 baseline period. In the lower 48 states, the area of forests suffering significant mortality has risen to 37 million acres, compared to 12 million acres during the baseline period. When the area of forest damaged by defoliation is added to this, the number of acres affected since 2003 rises to 50 million, or 8% of forest area in the lower 48 states.

- **Wildfires.** In 2003-2007, 40 million acres burned, compared to 25 million acres during 1997-2002. Currently, 90 million acres are at risk for wildfire that would result in loss of life, property and natural resources, and entail massive firefighting costs and threats to water supply. Fire suppression costs for the US Forest Service and the Department of the Interior have exceeded \$1 billion every year since 2000. In two of those years, costs exceeded \$2 billion.
- **Drought.** Weather related damage to forests also has increased significantly relative to the reference period, rising from approximately 800 thousand acres to nearly 1.8 million acres over the last decade. Most of this damage is related to a roughly ten-fold increase in the forest area impacted by drought.

Forest Benefits

- **Carbon Storage.** Forested ecosystems in the U.S. currently contain an amount of carbon equivalent to over 165 billion metric tons of CO₂, a figure close to 27 times the 5.9 billion tons of CO₂ emitted nationally every year through the burning of fossil fuels and similar sources.
- **Carbon Sequestration.** Each year, U.S. forests sequester 650 million metric tons of carbon dioxide, offsetting approximately 11% of the total U.S. annual carbon emissions. This rate of sequestration has been relatively stable for several decades, reflecting the long-term increases in forest volume.
- **Wood Energy.** Annual production of wood energy is around 2,100 trillion BTUs which is approximately 2% of the nation's annual energy output.
- **Wood Product Consumption and Production.**
 - Total consumption of wood and paper products per person per year remained steady at 63 cubic feet. Total national consumption is increasing at the population growth rate (i.e., 0.88% per year).
 - Both timber harvest and wood products production are down slightly relative to 2003. The difference between production and consumption has been filled increasingly by imports, which now total 5.4 billion cubic feet, or 26% of total consumption.
 - At a little over 20 billion cubic feet, total U.S. consumption has remained relatively stable, though levels dropped off in 2006 due to a decrease in the housing construction market.
 - The total volume of recovered fiber now equals about half of total domestic paper consumption. However, a growing proportion of recycled paper is exported, so domestic use of recycled fiber in paper products has remained stable at about 38% for the last decade.
- **Non-timber Forest Products.** Trends for production and trade figures for non-timber forest products are incomplete, but the values reported for these indicators in 2007 are substantial, with a total estimated retail value of production of \$1.4 billion and exports

exceeding \$450 million. Non-timber forest products data included fruits and berries, mushrooms and other fungi, decorative foliage and forage.

- **Forest Employment.** Employment in the forest sector has fallen 15% since 1997 to 1.29 million employees. Public sector employment is about 1/10 of that in the forest products sector and has been relatively stable. However, the one notable exception within the public sector was employment in the US Forest Service, which has declined to around 23,000 employees from a recent peak of 31,000 in 1991. The 2003 Report estimated that forest-based recreation directly generated 1.1 million jobs.
- **Forest Payments.** An estimated \$553 million was paid to landowners in 2007 for the ecosystem services their forests provide, an increase of 38% in the past three years. While Federal payments have been relatively stable, payments from private entities in the form of carbon offset purchases, conservation easements and outright land purchases for conservation objectives are growing rapidly and now account for over a third of the total payments identified in draft 2010 National Report.

Annex 2. Issue Papers

Protecting Clean Water

Forests play a critical role in providing clean water for cities and towns throughout the U.S. Any significant degradation of forests and their role in protecting critical watersheds will result in a major impact on the nation's health and economic well-being, particularly for the more than 80 percent of the U.S. population residing in metropolitan areas and drawing their drinking water from faraway forests that they may never see. The patterns and trends of forests, water, and people in the 21st century clearly demonstrate the need for a renewed commitment to forest conservation to protect public water supplies, on both public and private lands.

Water has long been recognized as the one of the most, if not the most important, resource of forest lands. Forested watersheds reduce rain's erosive effects, prevent soil from washing into waterways and near shore marine waters, increase infiltration rates into the soil, condense moisture from the clouds, deliver a consistent and dependable source of surface and artesian water, and help sustain aquatic life within and traveling through forested areas.

A century ago, President Theodore Roosevelt recognized this vital connection between forests and water. When President Roosevelt and Gifford Pinchot, the first USDA Forest Service Chief, set up the national forest system, they were most concerned about preserving the long-term timber supply and the watershed function of the forests. Forested watersheds generate most of the water in the country, providing two-thirds of all the precipitation runoff in the 48 contiguous states. According to the Environmental Protection Agency, more than 60 million people in 3,400 communities in 33 states rely on national forests for their drinking water. Millions more depend on state and private forests to facilitate the refilling of aquifers, reservoirs and surface water supplies from which they draw their water. For example, the impetus for creating the Adirondack and Catskill state parks in New York in the late 19th Century was to prevent future devastating floods and provide a reliable source of drinking water for the growing New York metropolitan area.

One of the biggest threats to forests, and the water that derives from them, is the permanent conversion of forested land to a combination of residential, industrial, agricultural and commercial uses. Changes in water supplies from forests can also occur due to climate change. These changes are a particular concern, as they affect the timing and amount of snowmelt runoff as well as an increased potential for fire and insect or disease epidemics.

The nation's forested watersheds are obviously enormous assets to our economy and society and the need for dependable supplies of fresh water is expected to increase in the future. Little or no benefit, expressed in dollar value, is currently assigned to water resources in their natural state and only limited data is available to quantify the costs and benefits associated with insuring sustainable forested watersheds. While the waters forests produce are invaluable, funds are lacking to prevent loss and declines in these watersheds, including insufficient

funding to prevent the catastrophic forest fires occurring in the West, which house the headwaters of many of our nation's major rivers. Debates about water use and allocation will surely continue, but an area of consensus is that the natural systems that provide the water should be maintained and enhanced. If this isn't done, there will be nothing to argue about in the future.

The economics of present and future water resource use, in all its forms, must be connected with the funds needed to manage and sustain forested watersheds. Until the link between the economy and water as an environmental service is made, efforts to protect economically valuable forested watersheds will continue to be more closely associated with efforts to preserve the environment rather than efforts to protect the economy. This approach has led to an emphasis on regulatory prohibitions rather than the economic incentives that are needed.

In regions where private landowners hold portions of important watershed management areas, there is a need for incentives to invoke voluntary participation in resource protection and enhancement efforts. For example, New York City has so far avoided having to build an \$8 billion water treatment plant by investing, with state and federal funds as well as city funds, in buying more forest land in the watershed, working with farmers to prevent non-point source runoff, working with local governments to improve sewage treatment systems within the watershed and working with individual property owners to upgrade their private sewage treatment systems.

Mitigating Climate Change and Providing Renewable Energy

In the decade leading up to the 2010 National Report on Sustainable Forests, forest utilization has begun to be influenced by national priorities for mitigating climate change and expanding renewable energy production. It is expected that this influence will increase significantly in the decade ahead.

The forest biome represents more than one third of the world's land area, and contains more than two-thirds of all carbon stored in living organisms. Forests thus play an essential role in moderating the world's climate and the conservation and sustainable management of forest resources in the U.S., as throughout the world, is critical to mitigating global climate change. This value is becoming more explicitly recognized in public policy through incentives to minimize the loss of forests through conversion and burning, and to maximize the capacity and rate of carbon sequestration by forests. Opportunities are increasing for owners of private forest lands to derive additional economic value through commitments to conserve and manage their forests in ways that maximize carbon storage, and that continue to provide other critical ecosystem services such as protecting water quality and conserving wildlife habitat. Support for public forests is increasing as the importance of these values become more fully recognized and quantified.

Forests in the U.S. are increasingly being looked to as one of the most significant new sources of renewable energy, along with other sources such as wind, solar, and geothermal energy. Forest biomass represents an essentially carbon-neutral source of energy for heat, power, and transportation fuels that is currently derived from fossil fuels. Government estimates of the volume of forest biomass that would be needed to achieve national goals for renewable energy production suggest that wood consumption in the U.S. could more than double from recent historic levels. Expanding markets for forest biomass could represent a significant source of additional economic value to forest landowners, and provide a basis for improved forest management, forest land conservation, and investments in increased growth and productivity. Sustainability presupposes, however, that economic benefits derived from forests depend upon the continuation of environmental benefits from healthy and diverse forests over time.

Expanding utilization of forest resources, while continuing to sustain other essential values such as water quality, wildlife habitat, and biodiversity, presents both an opportunity and a challenge for forest managers. The ambitious goals and timetables for expanding forest biomass-based electric power generation and biofuels production are expected to result in a relatively rapid expansion of new capacity, with corresponding increases in wood demand in the vicinity of new biofuels or bioenergy plants.

A central task will be an evaluation of various methods of estimating a sustainable quantity of harvestable timber for biomass over a variety of forest lands. This timber supply supports a number of existing forest product industries and it is important to the economy to maintain their viability. The questions will relate to identifying the quantities of harvestable wood that can simultaneously provide a new source of low grade wood for new biofuel and bioproduct manufacturing while maintaining sufficient supply for existing industries at a cost they can afford.

Incentives for Private Forest Land Owners to Provide Public Benefits

The nation's 751 million acres of forest land are located in urban and urbanizing parts of the country as well as rural areas. The values these lands provide to society are the responsibility of both private and public forest landowners, with the private lands being owned and managed by individuals, families, and a wide variety of non-profit and for-profit businesses. Today there are about 495 million acres of private forest lands in the U.S. providing significant environmental, social, and economic benefits to society, such as a habitat for plants and animals, filters for pollutants, storage of carbon above and below ground, renewable fuel for energy, places to hike and fish, lumber for construction, and much more. Increasingly, societal benefits are being provided by individuals and families as changes in the forest products industry take place. This is especially true in the eastern U.S. where private forests are close to many of the country's largest population centers, and play a key role in providing clean drinking water and outdoor recreation opportunities. While some owners of trees, woodlands, and forests consider themselves to be farmers and timber producers, many do not and many do not understand the importance of the forests to society or how to manage them. The nation's forest lands are a strategic national resource as recently highlighted with passage of Maryland's Sustainable

Forestry Act of 2009 which focuses on retaining and expanding privately owned forest lands for improving water quality and the health of the Chesapeake Bay watershed.

Private forest lands are threatened like all forests. Large-scale threats include the subdividing of forest land as well as the permanent conversion of forest land to other uses, the overstocking of forests and the associated build-up of biomass resulting in fires due to poor or no active management, the invasion of non-native plants and animals through trade and other activities affecting biodiversity, and much more. Societal impacts include the loss of ecosystem functions that threatens the ability of forests to naturally absorb storm water, to filter pollutants in the air and on the ground before they reach streams and lakes, and to sequester carbon. Unhealthy forests also will not produce wood for construction over time, support outdoor recreation and tourism, or generate revenues needed for owners to continue managing the land and for communities to provide schools, roads, and other services. These issues have become so intertwined they are now large-scale as distinguished by their complexity and impact on the environmental, social, and economic well-being of communities. The actions and inactions of neighbors also exacerbate the risks of fires, floods, and invasives which do not stop at boundaries. Strategic actions are needed now to protect and restore important forest landscapes in this era of climate change through the sustainable management of private forests.

Conserving Our Public Forest Legacy

A century ago, when the rapid exploitation of America's forests caused destructive floods, fires, and the threat of wood shortages, people rose to their defense and an American legacy was born. President Theodore Roosevelt and other visionaries, mindful of the disastrous floods and other problems tied to deforestation in the East part of the U.S., vowed to protect and restore our natural resources for the benefit of future generations. In the 1890's, inspired by broad-based conservation movement, Congress passed legislation laying the foundation for a system of public wild lands to be managed in perpetuity for sustainable multiple uses. In 1905, the care of these lands, our national forests and grasslands, was entrusted to the newly-created Forest Service, within the U.S. Department of Agriculture. At the same time, states were forming their own forest management agencies, not only to manage their trust lands, but also to assist private forest landowners within their states. Tribal entities, predating all of these efforts, also play a key role and provide important examples of sustaining communal forest lands.

Today, more than 316 million acres of forest land being protected and sustainably managed in public ownership by federal, state, county, and municipal agencies which is roughly 42 percent of the nation's forest land. Most of this, nearly 247 million acres, is federal forest land managed by the USDA Forest Service and by the Bureau of Land Management, U.S. Fish and Wildlife Service, and the National Park Service in the U.S. Department of the Interior. The USDA Forest Service is responsible for the stewardship of most of this federal forest land, 147 million acres of forest out of the total 193 million acres in the National Forests and Grasslands system. These

lands are a treasury of natural and historic resources, and an integral part of our American heritage.

There has been a substantial decline in the health of the nation's public forests in recent years, especially on federal lands. Many of the stressors to the forests can be expected to increase with climate change. In the past five years, over 42 million acres of federal forests have burned in the U.S. In the future, wildfires are likely to be larger, more severe, cost more to suppress, and have greater impacts on air and water quality, wildlife habitat and infrastructure. Current estimates show that 180 million acres of federal forests in the U.S. are at an unnaturally high risk of catastrophic wildfire. There is little political consensus on appropriate active management strategies for our federal forests. Battle lines continue to be drawn and fought on issues that are not helping our federal forests to play a strategic role in mitigating climate change and improving the quality of our citizen's lives.

We need to turn the page on managing our public forests with a focus on forest health and climate change. Healthy, resilient forests sequester carbon, acting as carbon sinks. Forest restoration work can provide biomass for combined heat and power generation and biofuels for transportation. Compared to "no treatment" models, forest management for wildfire reduction and energy production provides clear climate change benefits, including net reductions in greenhouse gas emissions and number of acres burned by wildfire, dramatic drops in fire severity, and reduction in wildfire suppression costs. Forest restoration activities can prevent loss of timber resources to fire and also sustain and enhance wildlife habitat and water quality. These activities also create rural stewardship jobs and protect the rural tourism economy.

Creating a Framework for Sustainable Forests

Current federal and state policies affecting private and publicly owned forests in the U.S. are fractured into a large uncoordinated collection of statutes and authorities reflecting a variety of different purposes and goals, and often producing conflicting or even contrary results. National coordination is needed to clarify the overall role of forests as a strategic national resource and promote sustainable forests as a strategic national priority. Within this national framework, greater recognition is needed for the interrelated but distinctly different roles that are played by public forests, commercial private forests, family woodlands, and urban forests. A clearer delineation and articulation of goals for these four major segments of the forest landscape is the first step toward a more consistent and supportive policy framework that will address the particular challenges of sustainable forest management on these lands, and enable them to continue making their unique contributions to the nation's environmental health and economic well-being.

The need for coherent national coordination for sustainable forests has never been greater. Federal, state and local agency abilities to facilitate planning and management of the nation's forests have been adversely impacted by many factors. Complex challenges have led to

declining management of many federal lands, resulting in degradation of watersheds, devastating fires and forest health threats, and a loss of jobs and economic support in forest-dependent communities. Ineffective tax policies, insufficient incentive programs, and other challenges make it increasingly costly and difficult for private landowners to keep forestland and pass it down to their children. And changes in the ownership of large as well as small tracts of privately owned forests are creating management challenges.

Integrating Forests into Land Use Planning

The sustainability of the nation's forests depends to a significant degree on whether forests are protected from conversion to non-forest land cover and the management objectives established for forested lands. In much of the U.S., local governments, including counties and municipalities, have the greatest influence over forest vulnerability regarding land use change and management, arising from the adoption of local land use plans and their implementation mechanisms including zoning ordinances and development regulations, capital programming for infrastructure improvements, and watershed restoration and land preservation programs. Local governments also are increasingly responsible for assuring the protection of sensitive natural resources and for compliance with federal and state environmental mandates.

The opportunity exists, in particular, to use forest cover at the local government level as a strategic tool for meeting water quality mandates, including non-point source water pollution control under the National Pollutant Discharge Elimination System – Municipal Separate Storm Sewer System (MS4) permit program, the Total Maximum Daily Load (TMDL) program, and protection of designated Tier II and Tier III waters, all mandates under the federal Clean Water Act that are becoming the responsibility of counties and municipalities under state permits. Forests are also critical for source water protection (i.e., Safe Drinking Water Act) and many regional watershed protection partnerships such as the Chesapeake Bay Program. Many local governments are not incorporating analyses of the vulnerability of their forest resources to conversion as part of the land use planning process and are not using forest cover as a strategic tool for environmental protection and restoration.

Communicating Outside the Choir

Forest communications and outreach challenges are changing quickly. For a long time, the overwhelming interest in forests and forest management was entrusted to traditional forest interests, such as forest landowners, the pulp and paper industry, professional foresters, government service and support agencies, academic researchers and educators, and non-government organizations, most of whom have a prime interest in wildlife habitat, conservation and management. Now, conversations with local government officials and communities today very quickly focus on raising revenues locally from ecosystem services from forested landscapes. Communities whose social and economic well being are tied to forest-related economic activities see themselves as particularly vulnerable as they confront a globalized

market for all manner of forest products. In addition, interest in forests today cuts across all demographic groups – rural, urban and suburban, younger and older, white, black, Hispanic and Native American, rich and poor, and across education levels that go from high school to people with graduate degrees and professional training.

The results of the focus groups that contributed to the draft 2010 National Report “clearly indicate that forests are important to Americans in many ways” and show that “Americans have multiple concerns about the future of forests.” The public identifies environmental and biological values as a top interest, with cultural heritage and recreation identified next. These are followed by forest products, sense of place and health and well-being; aesthetics, spiritual and diversity values; and education, economics and privacy values. Concerns about forests come in this order: degradation of forest resources, sustainability, management and policy, forest condition, and lost connections.

Meanwhile, the professional forest management community has identified five big threats to forests as they advocate for a new national policy for sustainable forests. These issues are as follows.

- 1) The rapid loss of forests to development, and with it the loss of wildlife habitat;
- 2) Loss of the forest industry and with it the jobs and tax dollars that support communities;
- 3) The sale of industrial forest lands to real estate interests, (i.e., , the parcelization and fragmentation of forests);
- 4) Growing outbreaks of insects and disease, and more wildfires, all linked to global warming; and
- 5) Lastly, ineffective tax policies and assistance programs making it difficult and costly to keep forestland in the family and pass it down to their children.

The draft 2010 National Report adds one more issue to this list: the growth in use of bio-fuels to help solve the nation’s energy needs.

All of these trends and issue present a communications and outreach challenge, first to reach traditional forest audiences, and second, to reach the great diversity of stakeholders who are now giving voice to the values and concerns described above. The great opportunity we have not yet grasped and mastered is the technical revolution in communications media. First making more effective use of the regular internet and web-based systems we are most familiar with, and then amplifying our messages through the new web-based social networks, referred to as Web 2.0.

The forest community also has a major opportunity to communicate our sustainable forest messages, and their integral relationship with the big issues described in the Annex 2 papers, in the forthcoming 2011 International Year of the Forest. We should take opportunity this international forum presents to vigorously encourage the convening of an 8th U.S. Forest Congress, either as part of the International Year or as a follow up activity to translate internationally generated ideas to the national landscape.

Collecting the Right Data

Collecting, refining and displaying data is integral to the whole forest sustainability reporting effort; it is not just the first step, to be gotten out the way so that we can move on to analysis and interpretation. While the draft 2010 National Report includes important improvements in data relative to the 2003 National Report, there are still substantial data gaps. Owing to the comprehensive nature of the MPC&I, some of these gaps will be difficult and expensive to fill, but others may actually be fairly easy to address. What is needed here is a focused process for identifying opportunities for improving specific indicators and then implementing these improvements in a continuous fashion that builds on the work that has already been completed.

Getting the data is one thing; refining it is yet another. Many of the indicators in the draft 2010 National Report contain a great deal of information, but often this information is difficult to summarize or otherwise comprehend. This problem is magnified when trying to understand results at the criterion level or for the MPC&I set as a whole. To help address this, the Report needs to further develop summary measures for the indicators, measures that convey the gist of the indicator in a simple fashion and that can be consistently updated as time goes by. Obviously, certain indicators will be much more amenable to this sort of summarization than others, and it will be important to make sure that those indicators that cannot be summarized in this way are not ignored.

Finally, we need to consider better ways of displaying the data. The draft 2010 National Report uses many different strategies for displaying data at the indicator level, but it lacks summary displays of data across indicators. The development of summary tables or “dashboard” displays including selected indicators should be a priority as the forest sustainability reporting process evolves beyond the production of the 2010 National Report.