

## **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 19<sup>th</sup> 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 8<sup>th</sup> 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.