



<b>Country:</b>	United States of America
<b>Date of submission:</b>	January 8, 2020

**Format for reporting on progress towards the implementation of the United Nations strategic plan for forests 2017–2030, the United Nations forest instrument and voluntary national contributions<sup>1</sup>**

1. The format is structured around the global forest goals and targets of the United Nations strategic plan for forests 2017–2030 and builds on the format previously used for reporting to the United Nations Forum on Forests at its eleventh session. It is largely narrative, reflecting the qualitative nature of many of the targets.

2. Only information that is not currently provided to the member organizations of the Collaborative Partnership on Forests or that is not in other international databases is requested. The information submitted will be supplemented with quantitative data, among other things, from the following international data providers:

(a) Food and Agriculture Organization of the United Nations (FAO) Global Forest Resources Assessment/collaborative forest resources questionnaires, Forest Europe, Economic Commission for Europe, International Tropical Timber Organization, Montreal Process and Observatory for the Forests of Central Africa;

(b) Reports on the state of the world’s forests, produced every two years by FAO;

(c) Statistics Division of the Department of Economic and Social Affairs of the Secretariat;

(d) Organization for Economic Cooperation and Development;

(e) Other data sources, including the Forest Stewardship Council and the Programme for the Endorsement of Forest Certification.

3. Members are kindly requested:

(a) To submit their completed national reports electronically (in Microsoft Word format) in English, French or Spanish to [unff@un.org](mailto:unff@un.org) by mid-November 2019, bearing in mind that early submissions will greatly facilitate the secretariat’s preparation of the report on progress towards the goals and targets of the United Nations strategic plan for forests 2017–2030 [title and focus to be determined] to be presented to the Forum in 2021 [to be confirmed];

(b) To submit, in a separate electronic file, a scanned version of the official signed letter conveying their submission from the respective ministry, or a note verbale from their permanent mission to the United Nations in New York;

*Please submit the completed format to: [unff@un.org](mailto:unff@un.org) by 15 November 2019.*

---

<sup>1</sup> Detailed guidelines will be prepared and discussed and will, among other things, state the purpose of reporting and how the data will be used. References to voluntary national contributions will be harmonized with the process to be put in place for announcing voluntary national contributions.

(c) In view of the cross-cutting nature of issues relating to forests and sustainable forest management, to consult experts from relevant national ministries, such as those of the environment, economic development, finance and agriculture, in completing the reporting format and to consult the national focal points for the forest resources assessments, the Rio Conventions secretariats, other member organizations of the Collaborative Partnership on Forests, criteria and indicators processes, and relevant stakeholders, where applicable. Members may also wish to consult stakeholders when preparing their report.

4. The year 2015 is used as a baseline.
5. Where possible, all terms used herein are consistent with the terms and definitions used by the FAO Global Forest Resources Assessment.
6. Wherever possible, please indicate the source of information or provide a weblink.

## General information

### National focal point

Name:	Cathy Karr-Colque
Title:	Division Chief, Forests
Address:	Office of Conservation and Water (ECW), HST Room 2657
Organization:	U.S. Department of State
Telephone:	202-647-2255
Email:	Karr-ColqueCJ@state.gov

### Person to contact concerning the national report, if someone other than the national focal point

Name:	Aysha Ghadiali
Title:	Policy Analyst
Address:	1 Thomas Circle, NW, Suite 400, Washington, DC 20005
Organization:	U.S. Forest Service, International Programs
Telephone:	202-644-4625
Email:	Aysha.Ghadiali@usda.gov

### Institutions involved in the preparation of the national report

Institution(s):	U.S. Forest Service, U.S. Department of State, USAID, National Association of State Foresters
Address:	
Email:	

## Global forest goal 1 and associated targets<sup>2</sup>

**Reverse the loss of forest cover worldwide through sustainable forest management, including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change**

### *Associated targets*

- 1.1 Forest area is increased by 3 per cent worldwide<sup>3</sup>
- 1.2 The world's forest carbon stocks are maintained or enhanced
- 1.3 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally
- 1.4 The resilience and adaptive capacity of all types of forests to natural disasters and the impact of climate change is significantly strengthened worldwide

### **Questions on goal 1**

1. (a) Since 2015,<sup>4</sup> what types of action have been taken (by the Government, the private sector, communities, civil society or others) in your country to advance or contribute to the achievement of targets 1.1–1.4?

*Please indicate to which targets the actions relate and briefly describe the results to date (in a maximum of 250 words). For each action, please indicate whether it is continuous, planned, in progress or completed.*

- (i) Legislative and policy actions

Various laws and policies contribute to the attainment of goal 1 in the United States of America, particularly through guidance and financial appropriations to the United States Forest Service (USFS). These legislative and policy actions are focused on forest restoration and enhancing resilience to disturbance processes, addressing targets 1.3 and 1.4, as well as 1.1 and 1.2 indirectly. Disturbance processes include natural disturbance from fire, wind, ice, drought, and endemic pests, or human activities through urban development, forest fragmentation, management, introduction of exotic species, etc.

- The [USFS 2012 Planning Rule](#) supports restoration activities reported by the United States to meet its 2020 Bonn Challenge pledge.
- The [2016 Ecosystem Restoration Policy](#) provides standard definitions and guidance for carrying out ecological restoration practices.
- The [Agricultural Act of 2018](#), or the 2018 United States Farm Bill, includes amendments to the Healthy Forest Restoration Act of 2013 for cross-boundary hazardous fuels reduction projects and other provisions supporting collaborative, landscape-scale restoration on state lands.
- The [Consolidated Appropriations Act of 2019](#) provides a new budget authority for wildland firefighting for the next 10 years, as well as provisions allowing greater flexibility in managing for fire risk and other disturbance processes.

These recent legislation and policies, along with other longstanding national laws and policies, guide land management on federal lands. State and private forest lands are subject to state level policies, though federal regulatory laws, such as the Endangered Species Act and the Clean Water Act, apply across all landownership in the country.

---

<sup>2</sup> Goal 1 and its targets support and contribute to the achievement of, among other things, targets 6.6, 12.2, 13.1, 13.3, 14.2, 15.1–15.4 and 15.8 of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 5, 7, 9, 11, 14 and 15, and are supported by paragraphs 6 (o) and 7 (d) and (e) of the United Nations forest instrument.

<sup>3</sup> Based on the Global Forest Resources Assessment 2015.

<sup>4</sup> Or earlier, where relevant to capturing important action. The same applies hereafter.

(ii) Institutional actions

Institutional actions related to this goal undertaken by federal and state level government agencies, as well as the private sector, are focused primarily on forest health and restoration (target 1.3), but address other targets. Actions include:

- The USFS directly manages 59 million hectares of federal forest land, but engages in activities beyond its own lands. Selected activities and approximate budget expenditures include: Hazardous Fuels management (\$430 million per year) focused on forest health and fire risk reduction); Recreation, Heritage & Wilderness management (\$260 million per year); Wildlife & Fisheries Habitat Management (\$136 million per year); and Forest Health Monitoring (\$85 million per year). [https://www.fs.usda.gov/sites/default/files/media\\_wysiwyg/usfs-fy-2020-budget-justification.pdf](https://www.fs.usda.gov/sites/default/files/media_wysiwyg/usfs-fy-2020-budget-justification.pdf)
- The Collaborative Forest Landscape Restoration (CFLR) program was reauthorized in 2018 to support forest health and resiliency through collaborative efforts with state and private entities. Appropriations up to \$80 million are authorized through 2023 to be managed by the USFS. Under CFLR, more than 200 local businesses, counties, state, tribal, and other federal government agencies, utilities companies, and NGOs, work together to restore large landscapes. <https://www.fs.fed.us/restoration/CFLRP/>
- State level government agencies directly manage 29 million hectares of forest land, engaging in forests restoration, fire risk reduction, watershed enhancement and wild life habitat management activities. For example, 29 states and the territory of Guam operate their own seedling nurseries, producing over 170 million seedlings in 2016 for reforestation and afforestation projects.

(iii) Financial actions

Public and private entities provide financial support for management actions or incentive payments promoting goal 1 and its associated targets. Examples include:

- USFS Forest Landscape Restoration (FLR) activity is funded primarily through public expenditures from the federal treasury. From 2011 to 2017, this amounted to \$8 billion, however, through partnerships, and additional funding from the philanthropic, non-profit and private sectors, an additional \$1.5 billion contributed to the United States Bonn Challenge commitment.
- Funded at approximately \$60 million per year, the USFS Forest Legacy Program (FLP) protects critical forest landscapes threatened by land conversion through conservation easements and fee-simple purchases in partnership with state agencies and private landowners. Projects are selected for funding under the FLP through a competitive process. By the end of 2018, the FLP had conserved over 1.1 million hectares.
- The United States Department of Agriculture (USDA) Natural Resource Conservation Service provides incentive payments to promote land conservation on agricultural lands, often with a strong forestry component. For example, in 2018, \$39.9 million were spent to incentivize conversion of 154 thousand hectares to forests, riparian forest buffers, windbreaks and agroforestry applications. An additional \$22 million was spent to reduce the climate change impacts and wildfire risk on 100,000 hectares. <https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/>

(iv) Technical and scientific actions

The sustainable forest management objectives expressed in goal 1 are supported in the United States by a foundation of technical development and scientific research. These include: (1) silvicultural techniques developed by private and public forestry managers; (2) extensive forest inventory and monitoring activities; (3) forest planning activities and public engagement at national, state and local levels; and (4) forest research by government, academia, and forest industry, much of which is focused on forest ecosystem processes and sustainable forest management. Some examples are:

- USFS' Research and Development branch, which is funded at \$220 million a year, includes ongoing research and technical development to advise prescribed burning and hazardous fuel reduction activities, improve silvicultural management practices, habitat restoration, assisted natural regeneration, and invasive species and insect treatments.
- The USFS Forest Inventory and Analysis (FIA) Program is funded at approximately \$80 million a year and includes a national forest inventory in all 50 states, as well as a survey of private forest owners and mills. Recently, FIA has extended its inventory work to include selected urban areas and United States territories in the Pacific and Caribbean.
- On the state level, research from Idaho's Department of Lands Treasure Valley Canopy Assessment proved their valley's trees hold 1.36 million metric tons of carbon dioxide equivalents, worth approximately \$29 million. These trees remove an additional \$1.1 million worth of CO<sub>2</sub> each year and provide \$8.2 million in annual stormwater, energy, and air quality benefits. The Idaho Department of Lands translated the research into action by working with the private sector, including the Nature Conservancy, Treasure Valley Canopy Network, and Ecosystem Sciences Foundation, by marketing CO<sub>2</sub> offset credits to support tree planting projects. Over eight thousand trees have been planted as part of the project since 2013. <http://www.tvcanopy.net/resources>

(b) How do the actions listed above support the implementation of the United Nations forest instrument?

The actions listed above describe United States actions in support of the attainment of goal 1 with special emphasis on forest land restoration (target 1.3) and resilience to disturbance processes, notably fire (target 1.4). These actions support maintenance of forest area (target 1.1) and enhancement of forest carbon stocks. Results include the following:

- In 2018, the United States surpassed its Bonn Challenge pledge early by completing restoration activities on 17 million hectares, 2 million hectares beyond the original 15 million pledge. <https://www.iucn.org/news/forests/201907/report-captures-achievement-us-bonn-challenge-pledge-restoration-progress-19-countries>
- 23 Collaborative Forest Landscape Restoration projects contributed to meeting the Bonn Challenge pledge. These restored lands have reduced the risk of catastrophic wildfire on more than one million hectares, providing various other benefits to local and national stakeholder groups in the process, such as wood products, improved access for recreational visitors through road and trail maintenance, and over one million hectares of wildlife habitat enhancement.

As a result of these efforts and other factors, forest area has remained stable at the national level, and forest stocking has steadily increased, resulting in over 730 million tons of additional CO<sub>2</sub> equivalent sequestered in United States forests every year. [https://www.fs.fed.us/nrs/pubs/ru/ru\\_fs178.pdf](https://www.fs.fed.us/nrs/pubs/ru/ru_fs178.pdf)

The national restoration commitment was realized through a concerted effort by the USFS, multiple NGOs, and other public and private organizations. Relevant policy framework and strong institutional arrangements supporting implementation are key factors in the successful realization of the restoration goals. These positive restoration outcomes are possible through strong reporting and monitoring systems within the USFS, advanced technical underpinning, and adequate funding. <https://www.fs.fed.us/restoration/CFLRP/index.shtml>

(c) What are the main challenges in achieving goal 1 in your country?

The United States' complex governance and landownership system requires clear legislation, significant collaboration, and frequent communication efforts to meet the challenge of competing priorities. However, it has proved to be a successful compromising approach to managing vast amounts of land in a highly diverse country. The federal government directly manages 31% of forest land, while private landowners hold the majority 58% of the forest estate. In relation to target 1.3, sustainable forest management provisions and restoration activities on private lands are generally voluntary, though they are managed through best-management practices developed and applied at the state level. Despite complex governance structures, the UN Food and Agriculture Global Forest Resources Assessments statistics state sustainable forest management is broadly applied in the United States, and its Bonn Challenge commitments have been exceeded.

Forest disturbance is an increasing challenge and may be further exacerbated by climate change. To the extent that these disturbance processes increase beyond historical norms, they may begin to impact attainment of goal 1 targets. Additional challenges include the increase of insect and disease mortality, making monitoring and treatment more intensive and important, as well as the inconsistent quality and efficacy of restoration treatments throughout the country.

(d) If your Government has announced a voluntary national contribution or contributions relating to goal 1, please provide brief information, including target dates and the progress made thus far.

Although the United States has not announced a specific voluntary national contribution to the UNSPF, the United States' Bonn Challenge commitment set an ambitious target of putting 15 million hectares under restoration by 2020. In partnership with other government agencies, states, tribes, NGOs and private landowners, the USFS has succeeded in placing over 17 million hectares under restoration, surpassing its goal. Forest landscape restoration on USFS land has involved a range of activities, but the majority are through silvicultural practices and contribute to the targets of goal 1. In 2018, the United States Congress extended the CFLRP program through 2023 and increased authorized funding to \$80 million. This significant extension of forest landscape restoration funding will build upon the first phases of the program, learn from past experiences, and lead to greater restoration activities in the future.

(e) Any additional comments on goal 1:

In addition to activities on domestic lands, the United States contributes to activities abroad through partnerships and technical assistance, funded with support from United States Agency for International Development (USAID) and the United States Department of State, with other forest ministries and NGOs. Forest restoration partnerships include activities in Guatemala, Lebanon, Jordan, Georgia, Haiti, the Dominican Republic, and in the Pacific region, amongst others. Additionally, USFS hosts the International Seminar on Forest Landscape Restoration in the state of Oregon. Since 2015, the Seminar brings an estimated 20 individuals from Asia, Africa, and Latin America together for an intense field training supported by research studies. The Seminar assists partner countries in fulfilling their Bonn Challenge pledges.  
<https://www.fs.fed.us/about-agency/international-programs/training-seminars>

## Global forest goal 2 and associated targets<sup>5</sup>

### Enhance forest-based economic, social and environmental benefits, including by improving the livelihoods of forest-dependent people

#### *Associated targets*

- 2.1 Extreme poverty for all forest-dependent people is eradicated
- 2.2 Increase the access of small-scale forest enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets
- 2.3 The contribution of forests and trees to food security is significantly increased
- 2.4 The contribution of forest industry, other forest-based enterprises and forest ecosystem services to social, economic and environmental development, among other things, is significantly increased
- 2.5 The contribution of all types of forests to biodiversity conservation and climate change mitigation and adaptation is enhanced, taking into account the mandates and ongoing work of relevant conventions and instruments

#### Questions on goal 2

2. (a) Since 2015, what types of action have been taken (by the Government, the private sector, communities, civil society or others) in your country to advance or contribute to the achievement of targets 2.1–2.5?

*Please indicate to which targets the actions relate and briefly describe the results to date (in a maximum of 250 words). For each action, please indicate whether it is continuous, planned, in progress or completed.*

---

<sup>5</sup> Goal 2 and its targets support and contribute to the achievement of, among other things, targets 1.1, 1.4, 2.4, 4.4, 5.a, 6.6, 8.3, 9.3, 12.2, 12.5, 15.6 and 15.c of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 4, 14 and 18, and are supported by paragraphs 6 (d)–(f), (h), (j), (p), (q), (t)–(v) and (y) and 7 (k) of the United Nations forest instrument.

(i) Legislative and policy actions

Legislative and policy actions in the United States have a strong emphasis on local community development through forest outputs and other forest-based benefits (targets 2.1 and 2.4). Likewise, these actions provide a foundation for federal agency training and extension activities targeting small-scale forest owners (target 2.2), and for planning and management activities governing hunting and gathering on federal lands (target 2.3). As described for goals 1 and 3, these actions underpin GHG mitigation and biodiversity conservation efforts (target 2.5). Examples include:

- The Forestry Title of the [Agricultural Act of 2018](#) created provisions for forest stewardship contracting, a tool to achieve shared land management goals while meeting local and rural community needs, such as providing a continuing source of local income and employment. [http://www.fs.fed.us/restoration/Stewardship\\_Contracting/](http://www.fs.fed.us/restoration/Stewardship_Contracting/)
- The 2018 spending bill P.L. 115-141 includes reauthorization of the Secure Rural Schools program. Initially devised as a means to distribute federal timber receipts to rural communities as recompense for lost property tax revenues, the revenue-sharing program disbursed \$238 million to rural counties since 2015. <https://www.fs.usda.gov/main/pts/securepayments>
- Indian Tribal Energy Development and Self-Determination Act Amendments of 2017 directs the USFS to work with tribes to promote biomass energy Indian forest land and in nearby communities by providing them with reliable supplies of woody biomass from USFS National Forest System lands.

(ii) Institutional actions

Institutional actions on the part of federal and state agencies support local employment, enhance forest benefits, and provide monetary support to communities in forest regions. Examples include:

- The Conservation Reserve Program (CRP), administered through the United States Farm Service Agency, pays farmers for biodiversity conservation, often achieved through forest and tree planting and retention on agricultural lands. The program currently enrolls approximately 3 million hectares on a continuous basis at an annual cost of around \$1 billion. Thanks to voluntary participation by farmers and land owners, the program has improved water quality, reduced soil erosion, and increased habitat for endangered and threatened species (target 2.2). <https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/>
- The Federated States of Micronesia (FSM), a federal republic in free association with the United States, relies substantially on agroforestry and breadfruit production for local food supplies. With science inputs from the USFS, FSM successfully implemented a community based breadfruit restoration effort following major damage from super typhoon Maysak in 2015 (Target 2.3). <https://www.facebook.com/melaimai/>

### (iii) Financial actions

In addition to federal government activities, state governments, NGOs, and private industry provide various financial resources in support of goal 2:

- The National Forest Foundation provides matching grants to help support forest restoration using local youth employment through its Matching Awards Program (targets 2.1 and 2.5). <https://www.nationalforests.org/who-we-are/our-impact/category/matching-awards-program>
- The Keeping Forests as Forests initiative is a 13-state regional initiative focusing on combating projected loss of southern forests and maintaining long-term economic and ecological viability of southern forests. It is supported by a diverse coalition of both private and public stakeholders ranging from human health professionals to traditional forest products manufacturers and conservationists. Among other activities, the initiative promotes the development of new markets for traditional and non-traditional forest products, thus enhancing forest revenues and preventing forest conversion (target 2.4). <https://www.keepingforests.org/>

### (iv) Technical and scientific actions

USFS planning activities have a strong stakeholder engagement component and consider rural development as an important goal in forest planning. Many forestry and environmental studies departments in academia likewise have focus areas on rural development and forest-dependent communities and work in partnership with federal, state and local agencies, and with NGOs to develop studies and analytical tools to achieve the targets listed under goal 2. Specific examples of this work include:

- In 2018, the USDA National Agroforestry Center (NAC) partnered with public and private-sector entities to better understand and communicate the benefits of agroforestry for pollinators and crop pollination services, thus supporting food and nutritional security in the United States. In addition, NAC worked with the University of Nebraska to evaluate the role of woody buffers in reducing pesticide exposure and promoting beneficial insect and pollinator habitat. <http://www.conservationwebinars.net/webinars/role-of-agroforestry-in-supporting-pollinators>
- Based on annual expenditures of over \$200 thousand in direct and partner funds, the USFS Citizen Science Competitive Funding Program provides grants of up to \$30,000 each to fund specific citizen science activities in which local residents, often rural youths, to engage in research activities including inventorying wildlife populations and other resources. While enhancing public engagement (target 2.1), the program provides information to support forest conservation and management (target 2.5). <https://www.fs.fed.us/working-with-us/citizen-science/competitive-funding-program>

### (b) What other action is being taken (by the Government, the private sector, communities, civil society or others) in support of the achievement of goal 2?

A 2017 economic analysis indicates USFS programs contribute nearly 196,000 jobs and more than \$11 billion in gross domestic product annually. Recreational visitor use, hunting and fishing, energy and minerals development, forest products, and livestock grazing generated nearly 65 percent of the economic activity. [https://www.fs.usda.gov/sites/default/files/media\\_wysiwyg/usfs-fy-2020-budget-justification.pdf](https://www.fs.usda.gov/sites/default/files/media_wysiwyg/usfs-fy-2020-budget-justification.pdf)

Actions to address rural poverty, food security, ecosystem services, and biodiversity conservation are occurring in all sectors in the United States. Numerous actions and actors from the private sector provide incomes (target 2.1) and grow food in rural areas. Integration of small-scale land owners and forest enterprises (target 2.2) is pursued through technical extension activities on the part of government and academia as well as incentive programs providing supplemental financing for conservation activities (target 2.3). Food security directly associated with forests and forestry (target 2.4) is supported by agroforestry development through government and universities.

The Collaborative Forest Landscape Restoration (CFLR) program, with authorized expenditures of \$80 million through 2023, has a strong community development program, extending local job and contracting opportunities to rural communities in order to meet forest restoration objectives (targets 2.1, 2.4 and 2.5). The restoration work associated with these 23 projects supported an estimated 5,600 jobs per year since 2012 and is estimated to have contributed \$ 1.8 billion in local labor income. Many of these new jobs are in rural and economically depressed areas. <https://www.fs.fed.us/restoration/CFLRP/>

On the state level, New York supported rural forest markets by hosting its first forest and wood products summit in 2018. Major outcomes included expanding the New York State "Grown & Certified" program to include New York's firewood, paper, and lumber industries, highlighting New York's forest products industry at the New York State Fairgrounds through various events and displays, doubling funding for the New York State Wood Products Development Council, and authorizing a procurement preference for New York grown and manufactured wood products.



(c) How does the action listed above support the implementation of the United Nations forest instrument?

See above.

(d) What are the main challenges in achieving goal 2 in your country?

Regarding food security, forests are often not directly integrated into agricultural systems in the United States. While the use of trees and forests in agricultural applications such as wind breaks is widespread, significant opportunities for expanded use of agroforestry remain. Likewise, forest contributions to nutrition through wild game and other non-timber forest products is significant in some areas, but enhancing these outputs face competing objectives.

Cyclical fluctuations and long-term economic trends in wood products markets are challenging in regard to providing consistent incomes and related economic benefits to forest communities. As exhibited most recently by downturns in the 2008 recession, the housing construction sector, a major source of wood demand in the United States, is notoriously cyclical. These cycles result in layoffs and income disruption in rural communities engaged in forest products production. Long-term trends include increasing productivity due to capital intensification in the wood products sector resulting in sluggish demand for labor in rural wood products producing regions. There has also been a long-term stagnation in the demand for small-diameter timber to feed paper mills in the United States, due to higher use of electronic media and the loss of paper packaging demand by the manufacturing sector due to a shift to overseas manufacturing. However, there are signs of a slight recovery in regard to increased demand for small diameter timber to manufacture wood pellets for export.

Overall, prospects for small wood processing facilities in the United States are limited by a long-term trend of capital intensification and establishment size growth. Smaller firms and plants, often located in more remote rural areas, are being replaced with larger firms and plants in the production of both coniferous and non-coniferous lumber. Employment in the forest sector has been shrinking over time in the pulp and paper sector, but also in the wood products sector, as capital intensification continues.

(e) If your Government has announced a voluntary national contribution or contributions relating to goal 2, please provide brief information, including target dates and the progress made thus far.

(f) Any additional comments on goal 2:

In 2019, the Anchorage Climate Action Plan was adopted exemplifying a concerted effort to address climate change at the local level through interagency collaboration, regional initiative, and sustainable forest management. Recommended actions included hiring a municipal forester through the Anchorage Fire Department, developing an urban forest management plan, regular updates to the Anchorage tree canopy cover, and conducting a priority planting analysis. Anchorage’s vision for 2050 is that of “a resilient, equitable, and inclusive community prepared for the impacts of a changing climate.”

[http://www.muni.org/Departments/Mayor/AWARE/ResilientAnchorage/Documents/2019%20Anchorage%20Climate%20Action%20Plan\\_ADOPTED.pdf](http://www.muni.org/Departments/Mayor/AWARE/ResilientAnchorage/Documents/2019%20Anchorage%20Climate%20Action%20Plan_ADOPTED.pdf)

In 2019, the United States Bureau of Economic Analysis started compiling outdoor recreation economic data nation-wide. Led by boating and fishing, outdoor recreation made up 2.2% of the country's gross domestic product in 2017 and outpaced the overall economy's growth. The outdoor recreation economy in 2017 accounted for \$427.2 billion in GDP, generated \$778 billion in gross output and supported 5.2 million jobs. Forest lands play an essential role in providing the landscapes and ecosystem services supporting this recreation activity and the benefits citizens derive from it.

## Global forest goal 3 and associated targets<sup>6</sup>

**Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests**

### *Associated targets*

- 3.1 The area of forests worldwide designated as protected areas or conserved through other effective area-based conservation measures is significantly increased
- 3.2 The area of forests under long-term forest management plans is significantly increased
- 3.3 The proportion of forest products from sustainably managed forests is significantly increased

### **Questions on goal 3**

3. (a) Since 2015, what types of action have been taken (by the Government, the private sector, communities, civil society or others) in your country to advance or contribute to the achievement of targets 3.1–3.3?

*Please indicate to which targets the actions relate and briefly describe the results to date (in a maximum of 250 words). For each action, please indicate whether it is continuous, planned, in progress or completed.*

- (i) Legislative and policy actions

Of the 159 million hectares under IUCN protection categories I to VI, 73% are under federal ownership and are managed by federal agencies, such as the United States National Park Service. 21% is owned by states, resulting in a total of 94% public ownership of IUCN protected lands currently identified in the United States Geological Survey's Protected Area Database. Public ownership in the United States usually confers protection from widespread conversion of natural landscapes. As a result, protected forest area (target 3.1) is highly correlated with changes in the extent of public ownership. Past legislation, notably the Wilderness Act of 1964 and the Endangered Species Act of 1973, has resulted in substantial protection under IUCN categories Ib and IV, and protected forest area has remained relatively stable. <https://www.usgs.gov/core-science-systems/science-analytics-and-synthesis/gap/science/protected-areas>

Forest planning (target 3.2) on federal lands is mandated by the National Forest Management Act of 1976 and similar legislation, but this legislation does not extend to private owners. <https://www.fs.fed.us/research/sustain/docs/indicators/i7.45%20Editing%20Complete%202019%2005%2031.pdf>

---

<sup>6</sup> Goal 3 and its targets support and contribute to the achievement of, among other things, targets 7.2, 12.2, 12.6, 12.7, 14.2, 14.5, 15.2 and 15.4 of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 7, 11, 12 and 16, and are supported by paragraphs 6 (p), (q) and (x) and 7 (f) and (g) of the United Nations forest instrument.

## (ii) Institutional actions

Institutional actions in support of the establishment and maintenance of protected forest areas (target 3.1) include: (1) actions by federal and state agencies; (2) easement and outright purchase strategies used to constrain development activities on private lands; and (3) research forests maintained by academic institutions, public and private, which are subject to varying levels of management intervention.

Forest planning (target 3.2) and production from sustainable forest management (target 3.3) are supported by a broad spectrum of public and private activities, including professional societies, academic training, technology extension, forest certification, and others.

<https://www.fs.fed.us/research/sustain/docs/indicators/i7.50%20Editing%20Complete%202019%2005%2031.pdf>

Forest certification has been extended to 15.4 million hectares of forest lands in the United States. While not mandatory in the United States among other reasons due to the low-risk of unsustainably harvested timber products, certification of private forests has increased by about 6% over the last 15 years. Currently, Sustainable Forestry Initiative, Forest Stewardship Council, and American Tree Farm System, all recognized by PEFC, are the major certification bodies active in the United States.

- The American Forest Foundation administers the internationally-recognized American Tree Farm System (ATFS) program, the largest program specifically for small family forest owners. ATFS provides tools, resources and third-party certification to forest owners, allowing for increased market access and enhanced incomes (target 2.2). <https://www.forestfoundation.org/american-tree-farm-system>
- The Sustainable Forestry Initiative (SFI) is a forest certification standard that advances sustainable forest management. More than 145 million hectares are SFI-certified, including 8.9 million hectares of state lands, including in New York State where over 315,000 thousand hectares are certified under Forest Stewardship Council and SFI systems, and Washington State where all state forest lands, just under one million hectares, are certified under SFI. <https://www.dnr.wa.gov/programs-and-services/product-sales-and-leasing/timber-sales/forest-certification>
- The Society of American Foresters offers a Certified Forester program, which listed 2,000 certified and candidate certified foresters in 2016.

## (iii) Financial actions

Financial actions in support of protecting forest lands (target 3.1) include providing incentives and subsidies in the form of federal and state income tax benefits; favorable treatment of timber and wildlife habitat in state and local property taxes; deductions for donating land or its development rights in perpetual conservation easements; and direct conservation incentive payments through the Federal Farm Bill and other sources. Financial support for forest planning and sustainable forest management (targets 3.2 and 3.4) include similar instruments designed to promote forest management. Conservation easements are a common financial tool to secure forest protection and sustainable forest management objectives.

<https://www.fs.fed.us/research/sustain/docs/indicators/i7.47%20Editing%20Complete%202019%2005%2031.pdf>

Examples of financial actions supporting goal 3 include:

- Montana State's Forest Legacy Program is designed to conserve forest lands by assisting with the purchase of conservation easements. In northwest Montana, the Flathead Land Trust holds 60 easements and protects over 5,000 hectares across northwest Montana. The Flathead Land Trust is one of 230 land trusts in the United States to receive recognition for meeting national standards of excellence for land trusts and conservation. <http://fwp.mt.gov/fishAndWildlife/habitat/wildlife/programs/forestLegacy.html>
- USFS Forest Legacy Program funded at \$60 million per year protects critical forest landscapes threatened by land conversion through conservation easements and direct purchases in partnership with state agencies and private landowners. <https://www.fs.fed.us/managing-land/private-land/forest-legacy>
- Conservation easements in the United States currently total around 170 thousand in number and cover 11 million hectares, with forest being a primary land-use component. <https://www.conservationaleasement.us/>

(iv) Technical and scientific actions

The United States has a well-developed research and technical extension infrastructure to support goal 3. <https://www.fs.fed.us/research/sustain/docs/indicators/i7.51%20Editing%20Complete%202019%2005%2031.pdf>

Examples of work in this area include:

- The USFS Research and Development sustainability reporting and resource assessment activities regularly report out on forest conditions in the United States and their implications for sustainable forest management and planning (targets 3.2 and 3.3). The National Report on Sustainable Forests uses the Montréal Process C&I framework to provide a summary of forest conditions as they relate to sustainability. <https://www.fs.fed.us/research/sustain/>
- The Resource Planning Act assessment similarly reviews forest conditions on a five-year schedule and provides 50-year projections of key variables using integrated modelling techniques (<https://www.fs.fed.us/research/rpa/>).
- Starting in 2018, as a public-private partnership, the Forests in Focus project uses GIS mapping technology and geospatial analysis to assist forest land owners, and wood products producers and major consumers to assess the sustainability of their lands or production chains. The project was designed to facilitate risk-based assessments to facilitate certification and other forms of sustainability assurance. <https://www.forestfoundation.org/forests-in-focus-assessment>

(b) What other action is being taken (by the Government, the private sector, communities, civil society or others) in your country in support of the achievement of goal 3?

Extension of long-term forest plans (target 3.2) is supported by an extensive array of policies, incentives, technical extension and other actions that are generally designed to support planning and sustainable forest management.

After nine years of collaborative development, the new Headwaters State Forest in the State of North Carolina opened to the public in 2018. Covering almost 3,000 hectares, Headwaters State Forest combines natural resource conservation objectives while providing recreation opportunities and community-based jobs to the residents of North Carolina. In addition, it serves as a demonstration forest, providing education on different forest management techniques. <https://www.ncforestservice.gov/headwaters/>

(c) How does the action listed above support the implementation of the United Nations forest

- Direct legislation and policy actions designating protected status on public lands; and public/private payments for direct purchase or conservation easements on private lands contribute to target 3.1.
- Legally mandated forest planning and public engagement processes for public forest lands; technical extension and public information efforts for private land owners; and third party certification efforts requiring forest management planning contribute to target 3.2.

instrument?

(d) What are the main challenges in achieving goal 3 in your country?

The main challenges in pursuing goal 3 are:

- Conflicting interests and values regarding the management of public lands in relation to protection constraints, and the predominance of privately-owned forested land, both contribute to complexities in achieving target 3.1.
- Fragmented land ownership mitigating against integrated forest planning at larger scales and the predominance of small holders facing adverse economies of scale in developing and implementing plans remain a challenge for target 3.2.

(e) If your Government has announced a voluntary national contribution or contributions relating to goal 3, please provide brief information, including target dates and the progress made thus far.

(f) Any additional comments on goal 3:

The International Seminar on Protected Area Management, held in the northern Rocky Mountains of the western United States, is an annual program designed for senior level planners and managers of nationally significant protected areas worldwide. This integrated state-of-the-art course examines strategies to conserve the world's most special places. The program, sponsored by the United States Government and the Universities of Montana, Idaho and Colorado State University, evaluates policies and institutional arrangements that sustain both people and Natural Resources. Additionally, USFS in cooperation with the Colorado State University, hosts the International Field Course on Protected Area Management entirely in Spanish. This course presents key concepts, principles, and methods of protected area management while emphasizing field-based practical exercises for Spanish speaking professionals. <http://warnercnr.colostate.edu/cpam-course-sp>

South Carolina recently piloted a new initiative developed for a 13-state area of the southern United States called Learn, Plan, Act, which engages small-scale forest owners in forest management practices, providing web-based information resources as well as opportunities to link with professional foresters. <https://southcarolina.learnplanact.org/>

## Global forest goal 4 and associated targets<sup>7</sup>

**Mobilize significantly increased, new and additional financial resources from all sources for the implementation of sustainable forest management and strengthen scientific and technical cooperation and partnerships**

### *Associated targets*

- 4.1 Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation
- 4.2 Forest-related financing from all sources at all levels, including public (national, bilateral, multilateral and triangular), private and philanthropic financing, is significantly increased
- 4.3 North-South, South-South, North-North and triangular cooperation and public-private partnerships on science, technology and innovation in the forest sector are significantly enhanced and increased
- 4.4 The number of countries that have developed and implemented forest financing strategies and have access to financing from all sources is significantly increased
- 4.5 The collection, availability and accessibility of forest-related information is improved through, for example, multidisciplinary scientific assessments

---

<sup>7</sup> Goal 4 and its targets support and contribute to the achievement of, among other things, targets 12.a, 15.7, 15.a, 15.b, 17.1–17.3, 17.6, 17.7 and 17.16–17.19 of the Sustainable Development Goals, as well as Aichi Biodiversity Target 19, and are supported by paragraphs 6 (h), (i), (m), (r) and (s) and 7 (a)–(c) and (l)–(q) of the United Nations forest instrument.

#### Questions on goal 4

4. (a) Please describe major actions taken in your country to move towards goal 4 and its associated targets. More detailed information on actions for each target may be supplied below.

The United States is an active partner for sustainable forest management and biodiversity conservation worldwide through its programs primarily funded by USAID, as well as the Department of State, USFS, and other agencies. For example, USAID funded \$265 million in international biodiversity-conservation programs in 2017, which financed projects in 57 countries. In addition to direct allocations, more than \$43 million in USAID funding indirectly contributed to the conservation of biodiversity. USAID forestry investments totalled \$195 million in approximately 40 countries, with \$189 million focused on tropical forests. Other activities, including for the conservation of forests and wetlands, accounted for approximately \$11.1 million of USAID's forestry investments in 2017. USAID also invested \$68.1 million to combat wildlife trafficking, which represents a five-fold increase since 2012, and developed a comprehensive strategy to strengthen law enforcement from parks to ports to reduce consumer demand for illegal wildlife products and build international cooperation and partnerships.

In addition to these programs, USAID manages two whole-of-Government efforts related to forests: USAID hosts the Enterprise for the Americas Initiative and the *Tropical Forest Conservation Act* Secretariat, managed in partnership with the Departments of State and Treasury. Through 2017, the U.S. Government has completed 20 *Tropical Forest Conservation Act* agreements, and eight Enterprise for the Americas Initiative agreements, with 18 countries, which have generated more than \$516 million to fund activities to protect the environment and conserve tropical forests. However, total reporting of forestry related development assistance is challenging as many forest-related activities are included under other comprehensive climate change programs.

[https://pdf.usaid.gov/pdf\\_docs/PA00TJ96.pdf](https://pdf.usaid.gov/pdf_docs/PA00TJ96.pdf)

On the domestic level, the Forest Stewardship Program (FSP) of USFS works in partnership with state forestry agencies, cooperative extension, and conservation districts to connect private landowners with information and tools to manage their forests and woodlands to provide timber, fuel wood, wildlife habitat, watershed protection, recreational opportunities, and biodiversity benefits. FSP offers resources to help landowners develop a forest management plan focused on how to increase economic value while protecting wildlife habitat, water and air quality. FSP works through numerous private partners and projects, such as the Forest Resource Coordinating Committee, the Joint Forestry Team, the American Forest Foundation, and the Sustaining Family Forests Initiative. These partnerships facilitate private forest conservation and sustainable forest management by providing direction and coordination within the Department of Agriculture and with state agencies. <https://www.fs.fed.us/managing-land/private-land/forest-stewardship>

- (b) If your Government has announced a voluntary national contribution or contributions relating to goal 4, please provide brief information, including target dates and the progress made thus far.

#### Progress towards targets 4.1 and 4.2

- (c) Since 2015, has your country (the Government, the private sector, communities, civil society or others) been able to mobilize significantly increased financial resources for the implementation of sustainable forest management?

X Yes       No

If yes, please specify the sources:

- X Public domestic funding  
X Private domestic funding  
X Public international funding, including official development assistance  
X Private international funding  
X Blended financing

Please describe the main challenges in mobilizing funds in a maximum of 250 words:

Domestically, the USFS 2020 budget is \$5.14 billion, a decrease of \$815 million from 2019, though a national cap adjustment for wildland fire management will go into effect in 2020, easing the large financial burden of fire management on the agency. The budget includes \$1.9 billion for the management of National Forest System (NFS) lands, but to maximize results and outcomes in a competitive budget environment with numerous priorities, the agency relies on state and private partnerships to accomplish many land management goals, thus leveraging additional funds and increasing effectiveness through collaboration.

In 2018, the Secretary of Agriculture announced a new strategy entitled “Toward Shared Stewardship Across Landscapes: An Outcome-Based Investment Strategy” that calls for stronger collaborative decision-making with states and partners and employs new technology that can be shared.  
[https://www.fs.usda.gov/sites/default/files/media\\_wysiwyg/usfs-fy-2020-budget-justification.pdf](https://www.fs.usda.gov/sites/default/files/media_wysiwyg/usfs-fy-2020-budget-justification.pdf)

**Progress towards target 4.3**

(d) Is your country (the Government, the private sector, communities, civil society or others) engaged in international cooperation to promote sustainable forest management?

Yes       No

If yes, please specify the entity or entities with which your country is cooperating:

- Governments
- Intergovernmental organizations/processes
- Private sector
- Non-governmental organizations
- Other

Types of cooperation:

- North-South
- South-South
- North-North
- Triangular
- Technical
- Financial
- Other (please specify):

Areas of cooperation:

- Forests and climate change
- Forest biodiversity
- Valuation of the ecosystem services provided by forests
- Socioeconomic issues, including livelihoods
- Forest degradation and rehabilitation
- Scientific cooperation
- Forest monitoring/data collection
- Technology transfer and capacity development
- Production of timber or non-timber products
- Other (please specify):

**Progress towards target 4.4**

(e) Since 2015, has your Government developed or implemented financing strategies to achieve sustainable forest management and to implement the United Nations forest instrument?

Yes       No



If yes, what is the time frame for these strategies (multiple answers possible, if there is more than one strategy)?

- 2–5 years
- 5–10 years
- 10–20 years
- More than 20 years

### **Global forest goal 5 and associated targets<sup>8</sup>**

#### **Promote governance frameworks to implement sustainable forest management, including through the United Nations forest instrument, and enhance the contribution of forests to the 2030 Agenda for Sustainable Development**

##### *Associated targets*

- 5.1 Number of countries that have integrated forests into their national sustainable development plans and/or poverty reduction strategies is significantly increased
- 5.2 Forest law enforcement and governance are enhanced, including through significantly strengthening national and subnational forest authorities, and illegal logging and associated trade are significantly reduced worldwide
- 5.3 National and subnational forest-related policies and programmes are coherent, coordinated and complementary across ministries, departments and authorities, consistent with national laws, and engage relevant stakeholders, local communities and indigenous peoples, fully recognizing the United Nations Declaration on the Rights of Indigenous Peoples
- 5.4 Forest-related issues and the forest sector are fully integrated into decision-making processes concerning land use planning and development

#### **Questions on goal 5**

- 5. (a) Please describe major actions taken in your country to move towards goal 5 and its associated targets. More detailed information on actions for each target may be supplied below.

The amended United States Lacey Act (2008) continues to be a significant legislative achievement to prohibit trade in wood and plant products taken in violation of domestic and international law. Through the cooperation of all relevant agencies, the United States is actively engaged in the Asia Pacific Economic Cooperation (APEC) Experts Group on Illegal Logging and Associated Trade, which seeks to combat illegal logging and associated trade and promote legal trade.

USAID supports programs to combat illegal wildlife with the U.S. Fish and Wildlife Service and Department of Justice participating in law enforcement capacity building to combat wildlife trafficking. The United States Government is also supporting the development of wildlife enforcement networks in Central America, Central Africa, and elsewhere, and participates in INTERPOL's Wildlife Crime Working Group and Project Leaf (Law Enforcement Assistance for Forests).

Domestically, law enforcement cooperation among federal, state and local entities has intensified efforts to combat forest-related crime including narcotics trafficking. Since 2015, USFS Law Enforcement and Investigations (LEI) unit cooperates with international efforts and capacity building activities on reducing international trafficking in illegally harvested forest products. USFS Forest Products Laboratory has also advanced technology on portable wood identification tools to aid customs and border patrol professionals on the front lines of stopping international illegal timber shipments.

<https://www.fpl.fs.fed.us/>

<sup>8</sup> Goal 5 and its targets support and contribute to the achievement, among other things, of targets 1.4, 2.4, 5.a, 15.9, 15.c, 16.3, 16.5–16.7, 16.10 and 17.14 of the Sustainable Development Goals, as well as Aichi Biodiversity Targets 2 and 3, and are supported by paragraphs 6 (a), (c), (k), (l), (n) and (w) and 7 (c) and (h)–(j) of the United Nations forest instrument.

(b) If your Government has announced a voluntary national contribution or contributions relating to goal 5, please provide brief information, including target dates and the progress made thus far.

In 2018, the National Association of State Foresters launched the ground-breaking Legal/Sustainable Timber Assurance Resource (LSTAR), an online information resource designed to present trading partners with information on the legality and sustainability of timber and wood products produced in the United States (also contributing to target 2.4). LSTAR is a dynamic resource, which reviews key federal policies and legislation in all 50 states and five territories, demonstrating assurances to all parties of the low-risks of procuring forest-based products from unsustainable sources in the United States. <https://www.stateforesters.org/timber-assurance/>

### **Progress towards target 5.1**

(c) In your country, have forests been integrated into national sustainable development plans and/or poverty reduction strategies?

Yes  No

If yes, please specify if integrated into:

National sustainable development plans and/or

Poverty reduction strategies

### **Progress towards target 5.2**

(d) Since 2015, has your Government taken steps to prevent and reduce illegal international trafficking in forest products, wildlife and other biological resources?

Yes  No

If yes, please specify the type of action:

New legislation

Improved enforcement of existing legislation

Export controls

Import controls

Bilateral agreements between exporting/importing countries

Other action, for example, public procurement policies and public-private partnerships. Please list below:

### **Progress towards target 5.3**

(e) Are mechanisms in place to ensure cross-sectoral coordination among government agencies?

Yes  No If yes, please specify in a maximum of 250 words:

In the United States, several federal agencies coordinate and work together to strengthen policies coherence and synergies on forest-related issues at all levels: United States Department of State, USAID, USFS, United States Fish and Wildlife Service, United States Trade Representative, United States Department of Justice, Department of Commerce, and the United States National Parks Service. These agencies coordinate to represent the United States in a number of multi-lateral processes and forest-related reporting efforts including with Food and Agriculture Organization, the Economic Commission for Europe Timber Committee, UN Forum on Forests, International Tropical Timber Organization, UN Framework Convention on Climate Change, Convention on International Trade in Endangered Species, APEC, and IUCN. The work of these agencies has increased awareness of the value of forests and their sustainable management in the United States. There are a number of efforts in the United States that facilitate cooperation among federal agencies and groups that link federal agencies with state and local governments, private sector, and NGOs.

(f) What types of mechanism are in place to involve stakeholders in forest/ sustainable forest management policy formulation, planning and implementation?

Please specify in a maximum of 250 words:

As a requirement of the United States National Environmental Policy Act (NEPA), all local federal projects conduct extensive public participation activities. The Office of the Federal Registrar administers a comment period for the public to review, understand, and participate in the regulatory process of Government decision-making. In 2019, USFS revised amendments to the NEPA rule to reduce decision-making timelines based on high quality, science-based analysis. In addition, states complete State Forest Action Plans every five years, which by law include stakeholder engagement. <http://www.forestationplans.org/>

With support from the United States Government, World Resources Institute (WRI) manages the Forest Legality Initiative, an international, public and private multi-stakeholder initiative designed to achieve better forest governance and biodiversity conservation by reducing demand for illegally harvested forest products and increasing the capacity of supply chains to deliver legal wood and paper. The initiative aims to educate and build capacity among forest product supply chains about emerging demand-side forest legality policies and new tools for increasing transparency and legality, provide forest product supply chain participants with practical, interactive, and freely accessible tools for exercising due care and keeping illegally harvested forest products out of the market. <https://forestlegality.org/>

#### Progress towards target 5.4

(g) Are mechanisms in place to involve the forest sector in cross-sectoral coordination among government agencies in charge of land use planning and development?

Yes  No

If yes, please specify in a maximum of 250 words:

At the national and state levels, there are numerous mechanisms to involve various actors in the forest sector to coordinate among government agencies. For example, the Planning Rule directs land use planning process for national forests and grasslands, includes involving the forest sector in coordination. The National Forest Management Act requires USFS to develop land management plans for all National Forest System lands. <https://www.fs.usda.gov/planningrule>

Many states maintain Forest Advisory Committees, comprised of citizens and representatives of timber, environmental, and recreation groups, which provides a forum to discuss issues, opportunities and concerns. In Oregon, the Forest Advisory Committee offers advice and guidance on the implementation of the Northwest Oregon State Forests Management Plan. The plan provides guidance for managing 250,000 hectares through a balanced approach to generate revenue while prioritizing environmental and social benefits. <https://www.oregon.gov/odf/board/pages/sfac.aspx>

The Pacific Northwest Recreation Resource Advisory Committee (RAC) is a citizen's advisory committee that provides recommendations on recreation fees. Advice from this RAC, combined with other public communication efforts, helps land management agencies make sound decisions regarding recreation fees. <https://www.fs.usda.gov/main/r6/recreation/racs>

#### Global forest goal 6 and associated targets<sup>9</sup>

**Enhance cooperation, coordination, coherence and synergies on forest-related issues at all levels, including within the United Nations system and across member organizations of the Collaborative Partnership on Forests, as well as across sectors and relevant stakeholders**

*Note: targets 6.1 and 6.2 are not included in this section of the reporting format as they address actions taken by the international community, and not those taken at the national level*

*Associated targets*

6.3 Cross-sectoral coordination and cooperation to promote sustainable forest management and halt deforestation and forest degradation are significantly enhanced at all levels

---

<sup>9</sup> Goal 6 and its targets support and contribute to the achievement of, among other things, target 17.14 of the Sustainable Development Goals and are supported by paragraphs 6 (b), (c), (g), (m) and (w) and 7 (r) and (s) of the United Nations forest instrument.

6.4 A greater common understanding of the concept of sustainable forest management is achieved and an associated set of indicators is identified

6.5 The input and involvement of major groups and other relevant stakeholders in the implementation of the strategic plan and in the work of the Forum, including intersessional work, is strengthened

### Questions on goal 6

6. (a) Please describe major actions taken in your country to move towards goal 6 and its associated targets. More detailed information on actions for each target may be supplied below.

Forestry Best Management Practices (BMPs) exist in every state in the United States as a way of ensuring clean water outcomes during forest management activities. BMPs set standards for how practices such as timber harvesting, forest roads use, and stream crossings are to be carried out, creating a framework for states to monitor and report on implementation. This is a unique arrangement, whereby clean water standards are set by the national Environmental Protection Agency, but the BMP programs are administered by state forestry agencies. State programs may be compulsory or voluntary, with a market-incentive to comply, but their efficacy is extremely high at 92% aggregated nationwide. BMPs are a great success story of how individual state approaches can work together for a common desired outcome for the United States. The diversity of programs provides a forum for continuous group learning and improvement. <https://www.stateforesters.org/bmps/>

On the state level, the Wyoming Living Snow Fence is an example of cross-sectoral coordination and cooperation between the Wyoming Department of Transportation, Wyoming State Forestry Division, local Conservation Districts, and private landowners to implement windbreak plantings for the purpose of snow catchment along state highways. Living snow fence plantings enhance efforts to keep roads safe and open during periods of adverse winter weather. The Wyoming Department of Transportation provides \$100,000 annually to cover the costs of planting and maintaining the living snow fences. As of 2018, 57 projects have been installed to protect 55,529 feet of roadway, creating a nature-based solution for improving numerous lives. <https://wsfd.wyo.gov/forestry-assistance-programs/living-snow-fence>

(b) If your Government has announced a voluntary national contribution or contributions relating to goal 6, please provide brief information, including target dates and the progress made thus far.

Healthy Trees, Healthy Lives is a multi-state initiative that centers on engaging the public in natural resource conservation and stewardship while also promoting mental and physical health. Through the development of partnerships with health agencies and hospital networks, mental health organizations, primary care clinics, and universities, city planners and policy makers, Healthy Trees, Healthy Lives is bringing the influence of nature to the forefront of conversations about health and wellbeing. By understanding the ways in which forests and trees positively impact human health, communities can make better management decisions and implement solutions that provide measurable, scalable benefits to our environments, economies, and health of everyday people. This program encourages forestry agencies to branch out of their traditional roles as natural resource managers and work to bridge the gap between people, health, and the resources that sustain societies. <https://www.southernforests.org/urban/healthy-trees-healthy-lives>

### Progress towards target 6.4 (criteria and indicators)

(c) Are criteria and indicators for sustainable forest management used in your country?

Yes  No

If yes, please specify which sets are used:

National or subnational

Regional or international<sup>10</sup>

Other (please specify):

For which of the following purposes are they used? (Multiple answers possible)

<sup>10</sup> For instance, those used by the International Tropical Timber Organization, Forest Europe, the Montreal Process and the Tarapoto Proposal on Criteria and Indicators for Sustainability of Amazonian Forests.

- X To generate information for national reports on forest conditions and management
- X To monitor and assess forest conditions and management
- X To review and develop national forest policies and tools for sustainable forest management
- X To communicate with society and carry out dialogue with stakeholders
- X To report on forests to regional and international organizations (please specify):

**Progress towards target 6.4 (communication and awareness)**

(d) Since 2015, have actions been taken (by the Government, the private sector, communities, civil society or others) in your country to communicate and promote a greater understanding and awareness of sustainable forest management?

- Yes       No

If yes, please specify in a maximum of 250 words:

In 2019, the United States celebrated 75 years of Smokey Bear’s wildfire prevention education awareness campaign. Smokey Bear is one of the most successful public awareness messages for sustainable forest management in the United States. Founded in a partnership between the USFS, National Association of State Foresters, and the Ad Council, the historic campaign’s clear and focused messaging on human caused accidental wildfires has inspired animal friendly wildfire prevention mascots worldwide. For Smokey Bear’s 75<sup>th</sup> anniversary, numerous educational and public events were held throughout the country, including video spots with famous spokespersons, such as talk show host Stephen Colbert.

<https://www.youtube.com/watch?v=29kjsFKyha0> and <https://www.smokeybear75th.org/>

Project Learning Tree (PLT), an award-winning environmental education program designed for educators, parents, and community leaders working with youth from preschool through grade 12, developed special curriculum for International Day of Forests’ 2019 theme: forests and education. PLT’s resources, partnered with the Sustainable Forestry Initiative, help over half a million educators integrate complex environmental issues into lesson plans for all grades.

<https://www.plt.org/news/three-cheers-for-trees-international-day-of-forests/>

People of Forestry, an education initiative, highlights the diversity of experiences, backgrounds, and cultures in the field of forestry in the United States. The program engages the public through a series of eLearning tools, print resources, and high-quality video content, such as:

<https://www.youtube.com/watch?v=QZsy8ZWI6vw&list=PLjo3Sljzmaevdt7ssk6EqXzncE1ylZna>

**Progress towards target 6.5**

(e) Have actions been taken by your Government to involve major groups and other relevant stakeholders in the implementation of the United Nations strategic plan for forests 2017–2030?

- X Yes       No

If yes, please specify in a maximum of 250 words:

Major Groups are important stakeholders for the United States. A few examples of ongoing actions and outreach to Major Groups include:

National, state and local governments in the United States engage in extensive collaboration with the scientific and technological community, including public, private, and academic institutes, historic Land-Grant Universities, and centers engaged with the development and application of technological innovations for sustainable forest management and achieving Global Forest Goals. Translating science for the field-level managers and industry practitioners is among the responsibilities of USFS Research and Development, which coordinates with the National Institute of Food and Agriculture to disseminate information to practitioners.

State and privately managed forests comprise a majority share of forests in the United States, and the USFS has conducted consultation meetings with the National Association of State Foresters to track the implementation of the UNSPF since 2015. The New York State Forester attended UNFF11 in 2015 and USFS attends annual State Forester meetings providing updates on the Global Forests Goals and associated targets amongst other global policies and actions.

Outreach with the private sector and NGO partners is a significant part of the United States' International Day of Forests (IDF) commemoration. The Sustainable Forestry Initiative, the Boys & Girls Clubs of America, and well as children and youth at local schools in Washington, DC and New York City were all active in commemorating IDF 2019.

Finally, the Sustainable Forestry & African American Land Retention Program is an effort to aid African American landowners in turning their forested properties into ecological, economic and social assets for future generations. The program collaborates with USDA, state forestry and natural resource agencies, forest industry, universities, and other community organizations to provide support to projects within a seven-state network. To date this network has assisted over 1,000 African American forest landowners with developing forest management plans, accessing cost-share programs, implementing forestry practices, harvesting timber and resolving property title issues helping the United States to implement the UN Strategic Plan for Forests. [www.bflt.org](http://www.bflt.org), [www.heirsproperty.org](http://www.heirsproperty.org), [www.recforestry.org](http://www.recforestry.org), and [www.wcshc.com](http://www.wcshc.com)

### Other questions

7. (a) Since 2015, has your country taken action to promote gender equality in the forest sector?

Yes  No

If yes, please indicate action taken with regard to the following:

Women's effective access to the control and use of forest resources

Women's effective participation in decision-making at the household and community levels

Women's effective participation and representation in forest management institutions

Other

Please provide a brief description:

In 2018, the United States appointed its second female Chief of the USFS to lead the 35,000-person agency. Under Chief Vicky Christensen's direction, USFS created a new division, the Work Environment and Performance Office, focused on efforts to improve and sustain a culture in which all employees feel safe, secure, respected, and supported for delivering the priority work of the agency regardless of gender. The agency strengthens policies for all employees to work in a safe, healthy, harassment-free, productive and resilient environment. This office has created numerous gender and harassment related trainings, listening sessions, and new policy protocols for reporting harassment of any employee. <http://fsweb.wo.fs.fed.us/wepo/aboutus.php>

Domestically, the Women Owning Woodlands network supports women in forest leadership, women who manage their own woodlands, and all who facilitate the stewardship of forests through topical, accessible, and current forestry information. <http://www.womenowningwoodlands.net/>

Internationally, with support from the US Department of State Bureau of Oceans and International Environmental and Scientific Affairs, USFS started working with women in Jordan in 2017 on rehabilitating arid watersheds through native seedlings grown in community nurseries. The Northern Badia Women's Cooperative, in partnership with local NGOs, the Watershed and Development Initiative and the Hashemite Fund for the Development of the Jordan Badia, provides economic opportunities and training for women in their nurseries. The work experience increases ownership over natural resources, financial and management literacy, and civic engagement.

Since 2017, USFS, with support from USAID, has developed a program to promote gender equity and equality in the natural resources management sector in Mexico. The program has provided targeted technical and leadership training for women, focusing efforts on female firefighters from the region, as well as training NGOs and the Mexican government on concepts of gender mainstreaming, including gender identity, stereotypes, and issues of socio-diversity, and unconscious bias. These organizations have been challenged to improve equity, such as salary gaps and gender composition, and equal opportunities for professional growth. Additionally, the program has supported women to lead their own trainings and mentor other women, as well as share their successes and present at national and international conferences. USFS has reached an estimated 200 women and men through these trainings.

(b) What action has been taken (by the Government, the private sector, communities, civil society or others) in your country in observance of the International Day of Forests?

- X Cultural activities (for example, art, music, film and theatre)
- X Educational activities (for example, workshops and symposiums)
- X Media activities (for example, newspapers, magazines, television and radio)
- X Social media activities

Please provide two to three examples and, if possible, a weblink or weblinks to relevant documentation:

Since 2015, the United States has commemorated International Day of Forests (IDF) through multiple platforms including formal presentations at the UN and Food and Agriculture Organization's Headquarters, webinar presentations, guest speakers, visits to elementary and high schools, as well as through online blog articles and social media posts by numerous federal and state government and nongovernmental agencies.

In 2019, to celebrate the theme 'forests and education,' the United States featured 18 youth representatives from partner Lower Eastside and Los Angeles Girls Clubs at the IDF ceremony at the UN in New York. The youth created a video on the importance of forests and water and highlighted their partnership with their sister Club Balam in Chiapas, Mexico. Given the education theme, featuring youth on the floor of an UN was a powerful representation for attending delegates and a professional development experience for the youth. The 2019 theme also led to a special publication, *Beyond Trees*, released on March 21 by USFS' International Seminar on Urban Forestry & Community Engagement. The publication features articles from USFS-trained participants from around the world.

Links to relevant IDF activities by year: **UNHQ Presentations:** 2019; 2018; 2018 Part II (FAO Rome HQ); 2017; 2016

**Blog Posts:** 2019; 2018; 2017; 2016; 2016 Part II; 2015; 2015 Part II; 2015 Part III

**Publications:** 2019; 2018 (two chapters in FAO publication on cities)

**Public Private Partnerships:** *Project Learning Tree*; *Three Cheers for Trees*; *Blount International*

**Selected Samples from Social Media Posts:** *USFS*; *Texas State Parks*; *National Forest Foundation*; *National Resources Defense Council*; *Ohio Department of Natural Resources*; *MIRA USA*; *Morton Arboretum*; *Massachusetts Department of Conservation & Recreation*

## Success stories

8. Do you have any success stories relating to the implementation of the United Nations strategic plan for forests 2017–2030 in your country? If so, please provide a brief description, with references (such as weblinks, publications and articles), showing how the action contributed to achieving the goals and targets and specifying which goals and targets are relevant. Please provide a maximum of three success stories.

**1. Collaborative Forest Landscape Restoration Program** By working closely with communities, the USDA Collaborative Forest Landscape Restoration Program (CFLRP) projects contributed, along with other important public and private partners, to the United States surpassing its Bonn Challenge pledge by restoring 17 million hectares before 2020. CFLRP proved to be one innovative program for increasing community support for restoration projects, leveraging capacity and scientific expertise, and expanding the scale of restoration. Through its place-based investments in restoration, the Program also supports local rural communities through the generation of forest products such as timber and biomass for bioenergy production, as well as the creation and maintenance of jobs. CFLRP projects advance high priority, integrated results, including projects that improve forest and watershed health, reduce wildfire risk and produce forest products that provide local jobs and support economic stability. This important work contributes to Global Forest Goals 1 and 2 directly, as well as numerous associated targets indirectly.

In 2018 alone, CFLRP projects treated over 210,000 hectares to reduce wildfire risk, contributed over 432 million board feet of timber to local economies through sustainable forest management, reforested over 11,000 hectares and improved soil and watershed health on over 27,000 hectares. The Program continues to advance community engagement and the livelihoods of forest-dependent people and communities. The program's multi-party monitoring requirement also leverages diverse scientific expertise of partners to improve project outcomes. Projects involve over 200 local partners who support shared priorities and coordinate work across the landscape and the focused Federal investment through CFLRP has attracted significant partner investments, averaging \$20 million in partner match on USFS lands and an additional \$51 million in investments across the full CFLRP landscape boundary. This leveraged capacity and support extends beyond CFLRP efforts to enhance cooperation and coordination between diverse communities, tribes, states, and federal agencies.

By promoting shared leadership, shared capacity, and shared risk, CFLRP projects generate social consensus, durable decisions, and the ability to solve problems when challenges arise. The majority of CFLRP participants have reported reduced conflict and improved decision-making processes. For example, the Kootenai Valley Restoration Initiative in Idaho involves diverse perspectives. The collaboration has had strong payoffs in creating social license and reducing the risk of litigation, and the sustained investment has attracted significant partner investments including other federal agencies such as the U.S. Fish and Wildlife Service. The CFLRP project effectively leverages partner resources, including employing local youth crews for recreation work, competing for State grants for restoration, and providing opportunities for senior citizen volunteer crews.

On average, the 23 CFLRP projects generate \$214 million in local labor income per year and support 5,400 jobs through restoration work. A third-party economic analysis completed for the Missouri Pine Oak Woodlands Restoration CFLRP showed that the local community benefited from \$2.20 of local economic activity for every dollar invested, with the net value estimated as \$28 million. In Mississippi, the Longleaf Pine Ecosystem Restoration and Hazardous Reduction CFLRP helps generate \$1.5 million in the local economy annually through contracts, grants, and agreements for restoration and related work. The increased scale of restoration treatments from CFLRP has benefited the economy and provided sustainable forest products to local mills and industry. In the fire-adapted forests of the Western United States, reducing the risk of catastrophic wildfire is a major forest health need. In 2018, CFLRP projects contributed 15% of USFS's overall wildfire risk reduction accomplishments. These treatments are producing results. For example, recent multi-party monitoring data on the Uncompahgre Plateau CFLRP in Western Colorado demonstrates that they have reduced the risk of crown (or canopy) fire. After thinning, winds would have to exceed 161,000 meters per hour for a fire to move from one tree crown to another. Treatments are designed to accomplish multiple objectives, including enhancing habitat for elk and mule deer, producing forest products for local economies, and restoring ecological function.

In 2018, the United States Congress extended the CFLRP program through 2023 and increased authorized funding to \$80 million. This significant extension of forest landscape restoration funding will build upon the first phases of the program, learn from past experiences, and lead to greater restoration activities in the future. <https://www.fs.fed.us/restoration/CFLRP/index.shtml> Source: USFS 2020 Budget Justification report, March 2019: [https://www.fs.usda.gov/sites/default/files/media\\_wysiwyg/usfs-fy-2020-budget-justification.pdf](https://www.fs.usda.gov/sites/default/files/media_wysiwyg/usfs-fy-2020-budget-justification.pdf)

**2. Firewise USA** The Firewise USA program reflects research that shows the effectiveness and benefits of implementing wildfire mitigation concepts across property boundaries and throughout communities. It utilizes a standard six-step process to help communities develop action plans that guide their residential risk reduction activities and encourages community members to become active participants in building a safer place to live. There are more than 1,500 Firewise sites across America with many located in the western states. California notably has the highest concentration, with 30 recognized communities in one country alone. The prevalence of Firewise USA communities shows how programs can work together to expand cooperation and coherence, meeting multiple Global Forest Goals. <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA>

**3. The Urban Forest Strike Team Program** Natural disasters can cause considerable damage to the urban tree canopy, posing significant risks to municipalities, human health and safety, and overall sustainability of urban forests. The Urban Forest Strike Team Program results in a timely, proactive approach to recovery, removal of debris and damaged trees, and provides data and recommendations that help cities apply for federal public assistance. The program is a coordinated disaster response and relief effort between local communities, state forestry agencies, and the USFS tasked with aiding cities and assessing tree and canopy damage in the critical window following a natural disaster. Since 2007, this program has successfully mobilized 10 multi-agency deployments, including in the aftermath of recent major hurricanes such as Hurricane Harvey in 2017 and Hurricane Michael in 2018. The team encouraged post-incident reforestation and restoration of crucial green infrastructure while helping communities rebuild after a natural disaster. These important activities cross-cut multiple Global Forest Goals. <https://www.southernforests.org/urban/ufst>



## Annex II

### Draft global core set of forest-related indicators

<i>Indicator</i>	<i>Thematic element</i>	<i>Unit</i>	<i>Tiera</i>	<i>Data supplier</i>	<i>Linkages to globally agreed goals and targets</i>
1. <b>Forest area as a proportion of total land area</b>	1. Extent of forest resources	Percentage	1	FAO Global Forest Resources Assessment	Measures progress towards target 15.1 of the Sustainable Development Goals and global forest goal 1. Sustainable Development Goal indicator 15.1.1
2. <b>Forest area annual net change rate</b>	1. Extent of forest resources	Percentage	1	FAO Global Forest Resources Assessment	Measures progress towards target 15.2 of the Sustainable Development Goals and target 1.1 of the United Nations strategic plan for forests 2017–2030. Subindicator of Sustainable Development Goal indicator 15.2.1
3. <b>Net greenhouse gas emissions (source)/ removals (sink) of forests, and carbon balance of harvested wood products</b>	1. Extent of forest resources 4. Productive functions of forest resources	Kilotons of carbon dioxide emissions per year	2	United Nations Framework Convention on Climate Change secretariat	Measures progress towards targets 1.2 and 2.5 of the United Nations strategic plan for forests 2017–2030. Linkages with Sustainable Development Goal 13 and measuring, reporting and verifying requirements under the United Nations Framework Convention on Climate Change
4. <b>Proportion of forest area located within legally established protected areas</b>	2. Forest biological diversity	Percentage	1	FAO Global Forest Resources Assessment	Measures progress towards target 15.2 of the Sustainable Development Goals, targets 2.5 and 3.1 of the United Nations strategic plan for forests 2017–2030 and Aichi Biodiversity Target 11. Subindicator of Sustainable Development Goal indicator 15.2.1
5. <b>Change in area of primary forests</b>	2. Forest biological diversity	Hectares	1	FAO Global Forest Resources Assessment	Measures progress towards target 1.3 of the United Nations strategic plan for forests 2017–2030 and Aichi Biodiversity Target 5. Linkages with Sustainable Development Goal 15
6. <b>Proportion of forest area disturbed</b>	3. Forest health and vitality	Percentage of forest area	2	FAO Global Forest Resources Assessment	Measures progress towards target 1.4 of the United Nations strategic plan for forests 2017–2030

<i>Indicator</i>	<i>Thematic element</i>	<i>Unit</i>	<i>Tiera</i>	<i>Data supplier</i>	<i>Linkages to globally agreed goals and targets</i>
7. <b>Area of degraded forest</b>	3. Forest health and vitality	Hectares	3	FAO Global Forest Resources Assessment	Measures progress towards target 1.3 of the United Nations strategic plan for forests 2017–2030. Linkages with target 15.3 of the Sustainable Development Goals, as well as Aichi Biodiversity Target 15. Linkages to strategic objective 1 of the 10-year strategic plan and framework to enhance the implementation of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (2008–2018), and the United Nations Framework Convention on Climate Change
8. <b>Above-ground biomass stock in forest</b>	4. Productive function of forest resources	Tons per hectare	1	FAO Global Forest Resources Assessment	Measures progress towards target 15.2 of the Sustainable Development Goals and targets 1.2 and 2.5 of the United Nations strategic plan for forests 2017–2030, as well as Aichi Biodiversity Target 7. Subindicator of Sustainable Development Goal indicator 15.2.1
9. <b>Volume of wood removals</b>	4. Productive function of forest resources	Cubic metres	1	ECE/FAO/International Tropical Timber Organization/Eurostat joint forest sector questionnaire	Measures progress towards target 2.4 of the United Nations strategic plan for forests 2017–2030
10. <b>Wood-based energy share of total final energy consumption</b>	4. Productive function of forest resources	Percentage	2	ECE and FAO	Linked to target 7.2 of the Sustainable Development Goals

<i>Indicator</i>	<i>Thematic element</i>	<i>Unit</i>	<i>Tiera</i>	<i>Data supplier</i>	<i>Linkages to globally agreed goals and targets</i>
11. <b>Forest area with a designated management objective to maintain and enhance its protective functions</b>	5. Protective function of forest resources	Hectares	1	FAO Global Forest Resources Assessment	Linked to target 1.4 of the United Nations strategic plan for forests 2017–2030
12. <b>Employment related to the forest sector</b>	6. Socioeconomic functions of forest resources	Number of full-time equivalents	2	FAO Global Forest Resources Assessment	Measures progress towards target 2.4 of the United Nations strategic plan for forests 2017–2030
13. <b>Number of forest-dependent people in extreme poverty</b>	6. Socioeconomic functions of forest resources	Number	3	FAO and United Nations Forum on Forests	Measures progress towards global forest goal 2 and target 2.1 of the United Nations strategic plan for forests 2017–2030
14. <b>Contribution of forests to food security</b>	6. Socioeconomic functions of forest resources	To be decided	3	FAO and United Nations Forum on Forests	Measures progress towards global forest goal 2 and target 2.3 of the United Nations strategic plan for forests 2017–2030
15. <b>Financial resources from all sources for the implementation of sustainable forest management</b>	6. Socioeconomic functions of forest resources	United States dollars	3	OECD, World Bank	Measures progress towards global forest goal 4 and targets 4.1 and 4.2 of the United Nations strategic plan for forests 2017–2030. Linkages with targets 15.a and 15.b of the Sustainable Development Goals
16. <b>Existence of national or subnational policies, strategies, legislation, regulations and institutions that explicitly encourage sustainable forest management</b>	7. Legal, policy and institutional framework	References	1	FAO Global Forest Resources Assessment	Measures progress towards global forest goal 5 of the United Nations strategic plan for forests 2017–2030

<i>Indicator</i>	<i>Thematic element</i>	<i>Unit</i>	<i>Tiera</i>	<i>Data supplier</i>	<i>Linkages to globally agreed goals and targets</i>
17. <b>Existence of national or subnational forest assessment process</b>	7. Legal, policy and institutional framework	References	1	FAO Global Forest Resources Assessment	Measures progress towards target 4.5 of the United Nations strategic plan for forests 2017–2030
18. <b>Existence of national or subnational stakeholder platform for participation in forest policy development</b>	7. Legal, policy and institutional framework	References	1	FAO Global Forest Resources Assessments	Measures progress towards target 4.5 of the United Nations strategic plan for forests 2017–2030
19. <b>Proportion of forest area under a long-term forest management plan</b>	7. Legal, policy and institutional framework	Percentage	1	FAO Global Forest Resources Assessment	Measures progress towards target 15.2 of the Sustainable Development Goals, targets 1.3 and 3.2 of the United Nations strategic plan for forests 2017–2030 and Aichi Biodiversity Target 7. Subindicator of Sustainable Development Goal indicator 15.2.1
20. <b>Forest area under an independently verified forest management certification scheme</b>	7. Legal, policy and institutional framework	Hectares	1	FAO Global Forest Resources Assessment	Measures progress towards target 15.2 of the Sustainable Development Goals and targets 1.3 and 3.3 of the United Nations strategic plan for forests 2017–2030. Subindicator of Sustainable Development Goal indicator 15.2.1
21. <b>Existence of traceability system(s) for wood products</b>	7. Legal, policy and institutional framework	References	2	FAO Global Forest Resources Assessment	Measures progress towards targets 3.3 and 5.2 of the United Nations strategic plan for forests 2017–2030

*Abbreviations:* ECE, Economic Commission for Europe; FAO, Food and Agriculture Organization of the United Nations; OECD, Organization for Economic Cooperation and Development.

<sup>a</sup> Tier 1: methodology and data in place. Tier 2: methodology in place, data challenges. Tier 3: methodology and data both present challenges.