



Global Public Sector Trends in Ecosystem Services

2009-2013

February 2014 - Update



This working paper was written by Sissel Waage and Corinna Kester. The detailed policy-tracking tables were created by Corinna Kester.

The paper is based on work within BSR's Ecosystem Services Working Group, which was formally launched in January 2007. At the end of the initiative's first year, in December 2007, it was clear to corporate members that governments around the world were becoming more active on the issue of ecosystem services in a range of ways. In response, members of the working group asked BSR to informally track activity by country and region. With increasing activity every year, BSR began formal tracking of public sector engagement with ecosystem services in 2009. BSR's first public report documenting public sector activity on ecosystem services was issued in January 2012. BSR released a revised paper in January 2013.

This 2014 paper is an updated version of the 2013 document. We have added detailed global public sector activity on ecosystem services in 2013 calendar year to the appendix and made slight changes to the main text to reflect shifts in overall global trends.

The purpose of this working paper is to help corporate sustainability teams, as well as strategy and legal teams, understand the full range of public sector activities that have been launched and are under way related to ecosystem services. We hope that this snapshot of the current state of play related to public sector engagement with ecosystem services will catalyze greater corporate engagement in relation to assessing business impacts and dependencies on ecosystem services.

This paper's scope is focused on public sector activity related to ecosystem services—at both the national and subnational levels, insofar as information about these efforts is available publicly online. The paper considers the full gamut of activity, from formation of task forces through funding of research and, of course, the passage of new policies and legislation.

The research methods that inform this working paper combine both a literature review, primarily from online government and NGO sources, and interviews with both government and NGO employees who are working on ecosystem services issues.

In developing this working paper, we are grateful for support and input from the corporate members of [BSR's Ecosystem Services Working Group](#), as well as peer reviewers of the 2013 report (the basis for this updated version), including: Helen Dunn, Valerie Hickey, Paulo Nunes, Michele Pittini, and Pham Thanh Nam.

Please direct comments or questions to Sissel Waage at [swaage \(at\) bsr.org](mailto:swaage@bsr.org) and Corinna Kester at [ckester \(at\) bsr.org](mailto:ckester@bsr.org).

DISCLAIMER

BSR publishes occasional papers as a contribution to the understanding of the role of business in society and the trends related to corporate social responsibility and responsible business practices. BSR maintains a policy of not acting as a representative of its membership, nor does it endorse specific policies or standards. The views expressed in this publication are those of its authors and do not reflect those of BSR members.

ABOUT BSR

BSR works with its global network of more than 250 member companies to build a just and sustainable world. From its offices in Asia, Europe, and North and South America, BSR develops sustainable business strategies and solutions through consulting, research, and cross-sector collaboration. Visit www.bsr.org for more information about BSR's more than 20 years of leadership in sustainability.

Contents

- 5 Introduction**
- 8 Emerging Trends**
- 12 Pathways Forward**
- 13 Appendix:
Detailed Uptake of Ecosystem Services
by Year, Region, and Country, 2009-2013**

Introduction

Ecosystem services are gaining the attention of government officials around the world. Since 2009 BSR has been documenting these developments, which show a wide and growing range of public sector activities related to ecosystem services.

Given the breadth and depth of public sector work, it is increasingly clear that ecosystem services could shape future policy and regulations, as well as government expectations of the private sector, particularly on public lands.



For businesses, the questions about this emerging domain are many and include where, how, and in what time frame ecosystem services may gain significant traction in specific governments around the world. These developments may be linked to the related, growing efforts around natural capital and integrating monetary value of environmental factors, along with more traditional measures, into gross domestic product (GDP).

The potential implications of this public sector work are numerous and could ultimately include transferring the costs of using ecosystem services to beneficiaries and user groups, including the private sector. Tracking developments, therefore, is a wise practice for business leaders.

This document was developed to help businesspeople track the public sector's uptake of ecosystem services concepts around the world. It is based on five years of research by BSR's [Ecosystem Services Working Group](#). Specific details by region and country are arranged by year beginning with the most recent (2013 through 2009).

Ecosystem Services

Ecosystem services are the benefits that functioning ecosystems provide to people. Though seldom acknowledged, people enjoy these benefits in terms of factors that contribute to personal health, vibrant economies, available jobs, and safety.

The 2005 Millennium Ecosystem Assessment (MEA) organizes ecosystem services into four overarching categories:

- » **Provisioning services**, which are goods or products produced by ecosystems (e.g., food, freshwater, wood, fiber, etc.)
- » **Regulating services**, which are natural processes regulated by ecosystems (e.g., regulations concerning climate, food, or disease; water purification; etc.)
- » **Cultural services**, which are nonmaterial benefits obtained from ecosystems (e.g., aesthetic, spiritual, educational, recreational, etc.)
- » **Supporting services**, which are functions that maintain all other services (e.g., nutrient cycling, soil formation, primary production, etc.)

Source: Millennium Ecosystem Assessment, www.unep.org/maweb.

To the best of our knowledge, both this assessment of global public sector uptake of ecosystem services approaches and the detailed tables in the appendix offer a unique view of emerging trends. We have documented the full range of government action, including new task forces convened, voluntary programs formed, administrative decisions issued, and, of course, new policies or regulations passed. We have also tracked activities undertaken by NGOs when we felt that their work could influence governments.

The breadth of our tracking efforts reflects the reality that the ecosystem services domain is in many ways still emerging. Numerous potential avenues of influence could ultimately shape a legislative agenda or specific regulations.

The questions that we have asked in our research over the past five years include:

- » *Are there new ecosystem services-focused government policies and legislation or regulations?*
- » *Are there existing or emerging government-supported, voluntary incentive-based initiatives that focus on ecosystem services?*
- » *Have governments and/or multilateral organizations issued reports that focus on ecosystem services and could signal a change in their approach?*
- » *Are there ecosystem services-based NGO or voluntary initiatives that appear to be influencing (or seem likely to influence) policy makers?*

Our research shows that public sector exploration of ecosystem services concepts is on the rise globally. (See Figures 1 and 2, below, for both specific geographies where activity is under way and illustrative initiatives in various nations.) It is not surprising, therefore, that public sector funds are increasingly available to define, measure, and map ecosystem services, as well as apply the concepts in decision-making processes. We anticipate that such activity will continue to expand in the coming years.

In 2013, ecosystem services activity expanded to new countries, such as on the African continent, and there was growing engagement around payments for ecosystem services (PES) and a deepening of efforts in Europe and North America.

We suggest that corporate decision-makers consider a few questions as they read this report:

- » *What are the implications of this government activity for our business?*
- » *What types of projects should our company become engaged in if public sector activity increases and/or policy signals strengthen?*

For insights on these questions, please see [BSR's Ecosystem Services Working Group](#) website for other reports that provide details about potential pathways forward for business, particularly a [BSR article on scenarios for how ecosystem services uptake may play out by 2025](#).

Finally, while we have sought to provide global coverage of trends, there may well be a sample bias inherent in our conducting this research in English. Therefore, even though we have documented activity around the world, there are more entries for the United States (U.S.) and the U.K. than for other countries. (Please see Figure 2, which shows the nations covered by our public sector tracking data in sizes that are proportional to their frequency of inclusion.) To address this gap, we have sent earlier drafts to colleagues around the world for

review and input. We may well have still missed public sector activity, particularly if it was written about in languages other than English.

We welcome additions to this report, as well as thoughts about our ongoing research on this topic. Please send comments and additions to Sissel Waage at [swaage \(at\) bsr.org](mailto:swaage@bsr.org) and Corinna Kester at [ckester \(at\) bsr.org](mailto:ckester@bsr.org).

Figure 1. Global Public Sector Activity Related to Ecosystem Services



Figure 2. Frequency of Inclusion in BSR's Tracking Data per Country
 Note: Based on the number of times that a country is mentioned in the tables at the end of this report



Growing Support for Integrating Natural Capital into GDP

“More than 50 countries and 86 private companies have joined forces behind the move to factor the value of natural assets like clean air, clean water, forests, and other ecosystems into business decision-making and countries’ systems of national accounting.

Fifty-seven countries and the European Commission are supporting a communiqué that calls on governments, the UN system, international financial institutions, and other international organizations to strengthen the implementation of natural capital accounting around the world.

Private sector companies and financial institutions (like Walmart, Woolworths Holdings, Unilever, Standard Chartered, and Caisse des Dépôts) . . . have reaffirmed their commitment to collaborate globally to integrate natural capital considerations into their decision-making processes.”

Source: World Bank, “Massive Show of Support for Action on Natural Capital Accounting at Rio Summit,” www.worldbank.org and <http://www.worldbank.org/en/news/press-release/2012/06/20/massive-show-support-action-natural-capital-accounting-rio-summit>

Emerging Trends

Within the emerging field of ecosystem services policy, several trends appear to be under way.

1. National governments around the world are exploring the expansion of GDP measures to include natural capital, which would draw in ecosystem services measures.

A growing number of national government officials have publicly committed to measuring natural capital and factoring it into decision-making processes, along with more traditional measures.

For example, 18 countries, plus the EU, are engaging with the World Bank on the [Wealth Accounting and the Valuation of Ecosystem Services \(WAVES\)](#) partnership focused on “ensuring that the national accounts used to measure and plan for economic growth include the value of natural resources.” The effort includes the governments of (some of which are implementing and others of which are donors): Australia, Botswana, Canada, Colombia, Costa Rica, Denmark, the European Commission (EC), France, Germany, Guatemala, Indonesia, Japan, Madagascar, the Netherlands, Norway, the Philippines, Rwanda, Switzerland, and the U.K. Several United Nations (UN) agencies are also involved, such as the UN Environment Program (UNEP), the UN Development Program (UNDP), and the UN Statistical Commission, are participating partners.

In addition, a [World Bank report](#) documents 24 nations that are deploying some form of natural capital accounting in economic decision-making processes. Advocates assert that this approach provides policy makers with more accurate information about national wealth.

In 2013, activity exploring natural capital accounting expanded on the African continent. For example, 8 of the 10 countries that are signatories to the Gaborone Declaration have [agreed to establish an interim secretariat](#) in Botswana that would provide technical and financial support to countries willing to undertake natural capital accounting in Africa. These countries include Botswana, Gabon, Ghana, Kenya, Liberia, Madagascar, Mozambique, Namibia, Rwanda, South Africa, and Tanzania.

Overall, public sector uptake of natural capital measurement continues to expand. For example, in Costa Rica, a [draft law on natural capital](#) was introduced, though not yet passed. The draft law, which is titled “Valuation of Natural Capital and Integration of Green Accounting in Planning for Development,” proposes that the country require environmental impact assessments (EIAs) to incorporate an economic valuation of the impacts that new infrastructure or economic development projects would have on natural capital.

Looking forward, public sector work on natural capital is likely to both expand in geographic scope and deepen in areas where it is already under way, particularly in light of the work of the [Natural Capital Declaration](#), which is supported by the 41 financial institutions and 23 NGOs that are [signatories](#).

shed Services Incubator

In 2012, the Peruvian Ministry of Environment and NGO Forest Trends launched the [Watershed Services Incubator](#), which is intended to help Peruvian cities develop financing mechanisms for watershed protection. This work may also provide a template for use in other countries.

Note: For details, see [“Can Peru’s Swiss-Style Finance Model Erase the Global Water Crisis?”](#) in *Forbes* and the [Ecosystem Marketplace coverage of this effort](#), as well as **many** other payments for watershed services in their “State of Watershed Markets” report.

Policy on Payment for Forest Environmental Services

“This Decree provides for the policy on payment for forest environment services in Vietnam . . . Forest environment has use values to meet social and human needs, referred to as use values of the forest environment, including soil protection, water source regulation, headwater protection, coastal protection, natural disaster prevention and combat, biodiversity, carbon sequestration and retention, tourism, habitat and spawning ground of organisms, timber, and other forest products . . . Beneficiaries of forest environment services shall pay for these services to owners of forests providing such services.”

Source: [Decree 99](#), Minister of Agriculture and Rural Development, Vietnam, 2010. (http://vietnam-redd.org/Upload/Download/File/99-2010-ND-CP_EN_2332.pdf)

2. Governments around the world are showing interest in incentivizing investment in ecosystem services, such as through payments for ecosystem services (PES) and eco-compensation mechanisms.

Several Asian nations have created PES programs as they transform ideas around restoring ecosystems into practice. For example, in China, the first [state-level transprovincial eco-compensation program](#) saw its first transfer payment in April 2013. Henan Province sent 4 million yuan (US\$648,824) to neighboring Anhui Province for remediation, after polluted water from Anhui reached the downstream city of Bozhou. This cross-provincial transfer payment may offer a new avenue for addressing widely dispersed environmental problems in other parts of China.

Further illustrating the potential of PES to raise funds for ecological restoration work, Vietnam announced that the country [earned US\\$58 million from the collection of PES](#) in 2012. The payments were collected from hydroelectric plants and water supply plants. Putting this figure in context underscores this approach’s promise, since the amount raised was the equivalent of the national budget allocation for the forestry sector. Given these positive results, Vietnam’s agriculture ministry is exploring the possibility of expanding the program to include other industries, such as ecotourism.

In Latin America, the countries of Brazil, Costa Rica, and Peru continued to explore financial incentives for investing in the restoration and maintenance of ecosystem services. For example, in 2012, the Peruvian Ministry of Environment and NGO Forest Trends launched a [Watershed Services Incubator](#) to help Peruvian cities develop financing mechanisms for watershed protection. They are establishing a new watershed-services investment approach that can be applied both in Peru as well as in other countries. In Brazil, the States of Acre and Amazonas have passed laws to establish a legal framework for measuring and valuing ecosystem services so that they can implement PES programs.

In 2013, in Colombia, the Ministry of Environment established [new PES regulations](#). The ministry took this action to authorize payments to individuals who own land in key areas for watershed protection, based on the opportunity cost of ceasing to grow crops or using the land for grazing. The money for these payments will come from municipal and departmental entities, which have to spend at least 1 percent of their income to acquire land for water conservation purposes or for PES.

In Africa, the decentralization of political power in Kenya to its 47 counties spurred federal ministries (of water, agriculture, environment, forestry, and regional development) [to cooperate around establishing policies, including PES](#), which seek to ensure that the counties manage their natural resources effectively.

PES activity also continued in Europe. For example, in 2013, the U.K. government’s Department of Environment, Food, and Rural Affairs (Defra) released a [“Payments for Ecosystem Services: Best Practice Guide.”](#) as well as an action plan. The action plan covers capacity building and funding for pilots and research. It also summarizes best practices, and recommends specific opportunities for impact, such as green infrastructure and incentive-based agri-environmental payments.

3. Public sector-funded research on ecosystem services is on the rise.

Europe, the United States, and China continue to offer a wide array of government-supported research and voluntary initiatives related to ecosystem services. For example, in China, the government has initiated academic research on ecosystem services assessments. This research will likely inform the analytical approaches used in crafting eco-compensation mechanisms and, perhaps ultimately, broader policies.

The European Environment Agency (EEA) released its [Annual Management Plan 2013](#), which outlines its accomplishments in 2012 and describes plans for 2013. In 2012, the EEA finalized its road map for the implementation of ecosystem services assessment and natural capital accounting under the [Biodiversity 2020 strategy](#). In 2013, the EEA implemented ecosystem assessments, including biophysical baseline mapping and a review of the current status of major ecosystems and their services, at the European level. The EEA plans to extend ecosystem accounts to cover a broader range of natural capital and services.

Looking forward in Europe, 2013 saw the launch of [OpenNESS \(Operationalisation of Natural Capital and Ecosystem Services\)](#). This new initiative, which will run through 2016, is intended to translate the concepts of natural capital and ecosystem services into operational frameworks that can provide tested and practical solutions for integrating ecosystem services into land, water, and urban management as well as decision-making. It will examine how the concepts of natural capital and ecosystem services support wider EU economic, social, and environmental policy initiatives and will also scrutinize their potential as well as limitations.

4. Engagement between the private and public sectors on ecosystem services grows each year.

Perhaps partially due to the public sector's wide and expanding set of exploratory activities on ecosystem services, more companies than ever before flag ecosystem services as an issue that they are tracking. We anticipate that this trend will continue in the years ahead, particularly within the extractives sector, given actions that took place in 2013 in South Africa and India, which may be a harbinger of changes to come.

Specifically, in 2013, South Africa's Ministry of Water and Environmental Affairs [published a guideline document for the mining sector](#) about how to avoid, limit, or remedy mining impacts, including those on biodiversity and ecosystem services (BES). In India, an arm of the Planning Commission has [recommended a sustainable-performance ranking system for mining companies](#) that assesses a variety of parameters, including BES.

In terms of private sector activity, eight multinationals are working together under the World Resource Institute's (WRI) [Brazilian Business and Ecosystem Services Partnership \(PESE\)](#) to explore how their businesses both impact and depend upon the environment. The participants span sectors as diverse as retail (Walmart), mining (Anglo American, Vale, and Votorantim), cosmetics (Natura), agribusiness (Andre Maggi Group), and food and beverage (Danone and PepsiCo). The effort includes a series of training workshops and guidance on implementing WRI's Corporate Ecosystem Services Review. In addition, a BSR report entitled ["Private Sector Uptake of Ecosystem Services Concepts and Frameworks"](#) lays out the activities of 35 companies related to ecosystem services.

Looking forward, activity may be on the rise in the private sector, as indicated by the corporate support for the [Natural Capital Declaration](#) (NCD), which was launched at the June 2012 Rio+20 meeting and continues to be open to new signatories. Ecosystem services are also included within the due diligence process of the International Finance Corporation (IFC) of the 79 Equator Banks. Both of these areas of work could spark more activity within companies, as well as across a greater number of businesses.

In addition, we anticipate that the private sector will become more and more engaged with ecosystem services as a result of the growing number of training initiatives that are focused on the sector. For example, current training initiatives include: the World Business Council on Sustainable Development's (WBCSD) [Business Ecosystems Training \(BET\)](#), the UNEP and Development Programme (UNEP-UNDP), and other partners' training on "[Valuing and Mainstreaming of Biodiversity and Ecosystem Services into Development Planning.](#)" as well as the Equator Banks' training for member-company analysts, which is driven by changes in due diligence protocols that now explicitly include ecosystem services.

Pathways Forward

Public sector engagement with ecosystem services around the world continues to accelerate and expand. Every year since we began to formally track uptake, we have seen more public sector activity.

Looking forward, the key question for companies is what is going on in the specific countries and regions where they have investments and/or significant supply chain partnerships.

In the coming years, public and private sector collaboration will likely be a key component in furthering work on ecosystem services. Private sector decision-makers will need to understand ecosystem services concepts and the state of emerging best practices for assessing ecosystem services impacts and dependencies. Public sector decision-makers will need to understand the range of corporate processes and the protocols that are in place to measure and manage environmental and social impacts. Some of these processes are regulated, but many are voluntary and have emerged from corporate history and culture, as well as industry best practices.

Ultimately, the private sector's implementation—of approaches to measure and address ecosystem services impacts and dependencies—will be contingent upon identifying the differences between current corporate processes and what is needed to integrate ecosystem services approaches. On a practical level, to adopt ecosystem services metrics, analytical tools, and management approaches, the private sector will likely have to adapt current processes and possibly develop new ones. Given the wide variety of ecosystems around the world, the details of this work may need to be calibrated for specific contexts. (For details on the tools for measuring ecosystem services impacts and dependencies, please see related reports from [BSR's Ecosystem Services Working Group](#), particularly our 2011 report comparing various tools and our 2013 [report on the state of play of the tool landscape](#).)

Effective public and private sector collaboration on *how* to operationalize and integrate ecosystem services concepts into both sectors' measurement and decision-making processes will likely move the domain forward and accelerate adoption.

We hope that this working paper offers both private and public sector representatives the rationale to engage with ecosystem services more fully.

Appendix: Detailed Uptake of Ecosystem Services by Year, Region, and Country

2013

AFRICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **Kenya:** As the country decentralizes political power to its 47 counties, federal ministries of water, agriculture, environment, forestry, and regional development are [cooperating to establish policies, including payments for ecosystem services \(PES\)](#), which seek to ensure that the counties manage their natural resources effectively.
 - » **South Africa:** The Ministry of Water and Environmental Affairs [publishes a guideline document for the mining sector](#) on how to avoid, limit, or remedy mining impacts, including those on biodiversity and ecosystem services (BES).
- » *Voluntary Government-Supported Initiatives*
 - » **Africa:** The majority of the are signatories of the Gaborone Declaration, including Botswana, Gabon, Ghana, Kenya, Liberia, Madagascar, Mozambique, Namibia, Rwanda, South Africa, and Tanzania, [agree to establish an interim secretariat](#) in Botswana that will provide technical and financial support to countries willing to undertake natural capital accounting in Africa.
 - » **Botswana:** The Wealth Accounting and the Valuation of Ecosystem Services (WAVES) project holds a [capacity-building workshop on utilizing natural capital accounts in development planning](#).
 - » **Kenya:** The [International Conference on Valuation and Accounting of Natural Capital for Green Economy](#) (VANTAGE) takes place in Nairobi. Under the VANTAGE program, a series of country-based pilot studies on ecosystem services assessment have been carried out by applying valuation and accounting methodologies to test scientific findings. The conference features successful efforts made to use valuation and accounting of natural capital to advance the green economy, as well as high-level political dialogues on promoting VANTAGE in Africa.
 - » **Liberia and Tanzania:** Five countries (Bhutan, Ecuador, Liberia, the Philippines, and Tanzania) [will be supported to undertake a TEEB \(The Economics of Ecosystems and Biodiversity\) study](#) under the umbrella project “Reflecting the Value of Ecosystems and Biodiversity in Policy-Making,” which is financially supported by the European Commission (EC).
 - » **Madagascar:** In collaboration with the WAVES project, Madagascar [starts to implement its work plan on natural capital accounting](#). A National Steering Committee was established in 2012 under the leadership of the Ministry of Economy and Industry, in collaboration with Conservation International. Natural capital accounts will be developed in the following sectors: mining, water resources, fisheries, and protected areas.

- » **The Middle East and North Africa:** A regional workshop on [natural capital accounting for green growth in the Middle East and North Africa](#) is held to discuss the rationale to better monitor and manage natural assets and provide hands-on training sessions in environmental accounting, ecosystem valuation, and development policy. Participants are from each of the [Center for Mediterranean Integration's](#) five partner countries: Egypt, Jordan, Lebanon, Morocco, and Tunisia. The workshop aims to establish a Mediterranean chapter of the WAVES Partnership.
- » **Rwanda:** The Ministry of Natural Resources (Minirena) and the World Bank complete an [agreement to begin natural capital accounting](#) in association with the WAVES Partnership.
- » *Government and Multilateral Reports*
 - » **South Africa:** The “Green Jobs Report,” a paper compiled jointly by the Industrial Development Corporation, the Development Bank of South Africa, and research body the Trade and Industrial Policy Strategies, [assesses the economic benefits of strategic investment into the country's ecological infrastructure](#), among other environmental measures.
- » *Voluntary Nongovernmental Initiatives*

ASIA AND AUSTRALIA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **China:** The first [state-level transprovincial eco-compensation program](#) sees its first transfer payment in April, when Henan Province sends 4 million yuan (US\$648,824) to neighboring Anhui Province for remediation after polluted water from Anhui reached the downstream city of Bozhou. Officials say that cross-provincial transfer payments offer a new avenue for addressing widely dispersed environmental problems.
 - » **India:** An arm of the Planning Commission [recommends a sustainable-performance ranking system for mining companies](#) that will assess a variety of parameters, including BES.
- » *Voluntary Government-Supported Initiatives*
 - » **Asia:** The UN Environment Programme (UNEP) and other agencies convene [an environmental accounting workshop](#). The meeting is attended by 80 delegates from Bangladesh, Bhutan, China, India, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, Pakistan, the Philippines, Sri Lanka, Thailand, and Vietnam, including academics and senior officials from statistics offices, as well as planning and environment ministries.
 - » **Asia:** The Asian Development Bank (ADB) holds the Second Asian Judges Symposium on Environment, with the theme of [natural capital and the rule of law](#). An [Asian Judges Network on Environment](#) is formally launched at the meeting.
 - » **Bhutan and the Philippines:** Five countries (Bhutan, Ecuador, Liberia, the Philippines, and Tanzania) [will be supported to undertake a TEEB study](#) under the umbrella project Reflecting the Value of Ecosystems and Biodiversity in Policy-Making, which is financially supported by the EC.

- » **China:** The UNEP and the Chinese Academy of Sciences [sign an agreement](#) to establish the International Ecosystem Management Partnership of UNEP (UNEP-IEMP), a global center located in Beijing and aimed at promoting ecosystem management in developing countries.
- » **China:** China launches a [pilot gross ecosystem product \(GEP\) evaluation system](#) in Inner Mongolia's Kubuqi Desert. Created and advocated by the International Union for Conservation of Nature (IUCN), the GEP is meant to be an accounts system that corresponds to the gross domestic product (GDP) and measures the status of an ecosystem.
- » **New Zealand:** The New Zealand government's Natural Resources Sector holds a [conference on valuing nature](#) in July, and the New Zealand Institute of Economic Research, with the support of the Department of Conservation, focused on [approaches to valuing natural assets](#) in the country.
- » **The Philippines:** [Public consultations and training workshops on ecosystem accounting are conducted](#) in the Philippines, marking the formal launch of the WAVES initiatives in that country.
- » **Southeast Asia:** The ASEAN (Association of Southeast Asian Nations) Centre for Biodiversity holds a [training workshop on integrating ecosystem services into development planning](#). The workshop aims to enhance the capacities of development planners and decision-makers in the ASEAN region on managing ecosystems and ecosystem services. Development planners from Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, and Vietnam attend the workshop.
- » **Vietnam:** The Ministry of Natural Resources and Environment organizes a forum titled "[Maintaining Ecosystem Services in the Mekong Delta Region.](#)" It is part of a project to integrate ecosystem-based approaches to climate change adaptation and to preserve biodiversity in Vietnam.
- » *Government and Multilateral Reports*
 - » **Australia:** The Bureau of Statistics (ABS) releases "[Information Paper: Towards the Australian Environmental-Economic Accounts.](#)" which responds to the growing demand for integrated environmental-economic information and reflects an emerging maturity within the bureau's environmental statistics program. The release uses a themes-based presentation to showcase the range of ABS environmental accounts, which include water, waste, energy, etc. The paper also explains environmental accounts and describes how they could inform environmental policy decisions. It is a prelude to the release of a new, more data-focused annual publication, "Australian Environmental-Economic Accounts," later in 2013.
 - » **India:** The Ministry of Statistics and Programme Implementation releases a report titled "[Green National Accounts in India A Framework—Report of the Expert Group.](#)" It outlines what would be needed for a comprehensive set of national accounts. [India's Green National Accounts Committee](#) developed the report.

- » **Vietnam:** The country announces that it [earned US\\$58 million from the collection of PES schemes](#) in 2012, the equivalent to the national budget allocation for the forestry sector. The PES program was put in place on a wide scale only a year before. In 2012, PES were collected from hydroelectric plants and water supply plants, and the agriculture ministry is working on other potential sources, including ecotourism.
- » *Voluntary Nongovernmental Initiatives*
 - » **Indonesia:** The Climate Policy Initiative (CPI) publishes a new report titled “[Using Data Tools to Optimize Indonesia’s Land Resources: An Overview of Natural Capital Assessment](#),” which includes assessment guidance and case studies.
 - » **Vietnam:** The Center for International Forestry Research (CIFOR) releases a [brief that provides recommendations on PES in Vietnam](#). The brief examines institutional arrangements, benefit sharing, and monitoring and evaluation based on a study of PES mechanisms undertaken since 2008.

CENTRAL AND SOUTH AMERICA

- » *Policy or Legislation*
 - » **Colombia:** The Ministry of Environment established [new PES regulations](#) to authorize payments to individuals who own land in key areas for watershed protection, based on the opportunity cost of ceasing to grow crops or using the land for grazing. The money for these payments will come from municipal and departmental entities, which have to spend at least 1 percent of their income to acquire land for water conservation purposes or PES.
 - » **Costa Rica:** A [draft law on natural capital](#) titled “Valuation of Natural Capital and Integration of Green Accounting in Planning for Development” is introduced (but not yet passed). It proposes the requirement of environmental impact assessments (EIAs) to incorporate an economic valuation of the impact of new infrastructure or economic development projects on natural capital in Costa Rica.
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **Ecuador:** Five countries (Bhutan, Ecuador, Liberia, the Philippines, and Tanzania) [will be supported to undertake a TEEB study](#) under the umbrella project Reflecting the Value of Ecosystems and Biodiversity in Policy-Making, which the EC financially supports.
 - » **Guatemala:** Along with Indonesia and Rwanda, Guatemala becomes one of three [new core implementing countries to the WAVES Partnership](#). Despite the progress made in developing methodologies for Natural Capital Accounting (NCA) in the country, NCA still faces challenges in permeating institutions and key stakeholders to ensure the accounts will be managed and used in a sustainable manner. The WAVES project will help the country ensure the data will inform dialogue and decision-making.

- » **Latin America:** The Inter-American Development Bank (IDB) [launches a Biodiversity and Ecosystems Services Program](#) to help Latin America and the Caribbean leverage their natural capital to achieve sustainable development. The program will support measures and projects that integrate the economic value of BES into key productive sectors and infrastructure, fill in knowledge gaps in priority ecosystems, identify new biodiversity-friendly business opportunities, and encourage the regions to exchange of knowledge and effective policies.
- » **Latin America:** The IDB launches an effort to [build capacity on the economics of BES](#) through a series of trainings, which target economists, water specialists, and transport specialists within the bank and representatives of the IDB's executing agencies in the water and transport sectors. This targeted capacity building is expected to generate demand for new investment products from the bank, including in areas such as green transport infrastructure and ecosystem-based water and sanitation systems.
- » **Mexico:** The National Commission of Natural Protected Areas organizes a [seminar on valuing ecosystem services in natural protected areas of Mexico](#), focusing on ecosystem services valuation and related public policy mechanisms.
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*
 - » **Brazil:** A group of eight multinationals are working together under the World Resource Institute's [Brazilian Business and Ecosystem Services Partnership \(PESE\)](#) to explore how their businesses both impact and depend upon the environment. The participants span sectors as diverse as retail (Walmart), mining (Anglo American, Vale, and Votorantim), cosmetics (Natura), agribusiness (Andre Maggi Group) and food and beverage (Danone and PepsiCo). The effort includes a series of training workshops and guidance on implementing WRI's Corporate Ecosystem Services Review. GreenBiz [considers how companies are addressing growth given sustainability](#) .

EUROPE

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **Europe:** The European Environment Agency (EEA) releases its [Annual Management Plan 2013](#), which outlines its accomplishments in 2012 and plans for 2013. In 2012, the EEA finalized its road map for the implementation of ecosystem and ecosystem services assessment and natural capital accounting under the [Biodiversity 2020 strategy](#). In 2013, the EEA plans to implement ecosystem assessments at the European level, including biophysical baseline mapping and an assessment of the state of major ecosystems and their services. It also plans to extend ecosystem accounts to cover a broader range of natural capital and services.
 - » **Europe:** Scientists from the Institute for Environment and Sustainability, a joint research center of the EC, [coauthor a discussion paper](#) of an analytical framework for ecosystem assessment under the EU [Biodiversity 2020 strategy](#). The report is published by the Working Group on Mapping and Assessment of Ecosystems and Their Services (MAES), which aims to help member states identify national priorities using a common typology, in order

to maintain coherence and comparability of results. The report proposes the [Common International Classification of Ecosystem Services](#) (CICES) framework for integrating the economics of ecosystem services into EU and member state accounting and reporting systems. In a next step, the working group is testing the framework through a number of pilot studies that will identify the information needs for national and cross-European ecosystem assessments of forests, cropland and grasslands, and freshwater and marine ecosystems.

- » **Europe:** The EC announces an [ambitious new strategy for green infrastructure](#), which aims to better integrate the array of EU policy areas (like regional development, climate adaptation, agriculture, and waste and sanitation) to find opportunities to choose “green” over “grey” infrastructure. The commission also aims to establish a new financing facility by 2014 for investing in green infrastructure and biodiversity projects.
- » **U.K.:** Members of Parliament debate the concepts of natural capital and the benefits of valuing nature in both the [House of Commons](#) and [House of Lords](#), following up on the Natural Capital Committee’s findings. The Environment Minister has [pledged to act on recommendations made by the committee](#).
- » *Voluntary Government-Supported Initiatives*
 - » **Europe:** [OpenNESS \(Operationalisation of Natural Capital and Ecosystem Services\)](#) is launched; it is a 2013 to 2016 initiative to translate the concepts of natural capital and ecosystem services into operational frameworks that provide tested, practical solutions for integrating ecosystem services into land, water, and urban management and decision-making. It will examine how the concepts of natural capital and ecosystem services support wider EU economic, social, and environmental policy initiatives and will scrutinize their potential and limitations.
 - » **Europe:** Representatives of the governments of eight countries (Albania, Bosnia and Herzegovina, Croatia, Kosovo*, Macedonia, Montenegro, Serbia, and Slovenia) endorse an [agreement for the protection of the environment in the Adria region](#) in southeastern Europe. These countries have committed to assess the economic value of their natural capital, while integrating nature conservation goals into economic development plans for fisheries, forestry, agriculture, energy, spatial planning, and cross-sectoral cooperation.
 - » **Finland:** [TEEB Finland](#) is launched with a target completion date in 2014.
 - » **Nordic countries:** The Nordic Council of Ministers publishes [“Socio-economic Importance of Ecosystem Services in the Nordic Countries.”](#) a TEEB assessment for Denmark, Finland, Iceland, Norway, and Sweden.
 - » **Norway:** An expert commission appointed by the Norwegian government [releases their report on valuing ecosystem services in Norway](#). The government will now undertake a public consultation of the commission’s findings and consider how it could follow up with policy changes.
 - » **Sweden:** The Swedish government [appoints a commission](#), led by the [Stockholm Resilience Centre \(SRC\)](#), to suggest ways to better value ecosystem services and increase Sweden’s knowledge about them. The country adds making ecosystem services commonly known and incorporating them in economic, political, and societal decisions as a milestone to the environmental goals it aims to achieve by 2018.

- » **Sweden:** The [Swedish Environmental Protection Agency produces a report inspired by the TEEB approach](#) that compiles information on the country's ecosystem services. A summary of the report is available in English and is titled "Making the Value of Ecosystem Services Visible."
- » **Switzerland:** The government of Switzerland [becomes the newest donor to the WAVES global partnership](#), contributing US\$5 million over a three-year period, half to the World Bank's WAVES Partnership and half to the International Finance Corporation (IFC). The IFC will use the funds to help companies in key economic sectors identify how to use natural resources in the most efficient and sustainable manner. Other donors to WAVES include Australia, Canada, Denmark, the EC, France, Germany, the Netherlands, Norway, and the U.K.
- » **U.K.:** In May, Defra releases "[Payments for Ecosystem Services: Best Practice Guide](#)" and "[Developing the Potential for Payments for Ecosystem Services: An Action Plan.](#)" The action plan identifies the next steps as capacity building and continuing funding for pilots and research, disseminating best practices, and focusing on specific opportunities for impact, such as green infrastructure and incentive-based agri-environmental payments.
- » *Government and Multilateral Reports*
 - » **Europe:** A new report "[A Synthesis of Approaches to Assess and Value Ecosystem Services in the EU in the Context of TEEB](#)" is released. The report aims to: (1) synthesize and evaluate approaches for accounting and reporting BES values and assess the scope for integrating these initiatives at the EU level; (2) formulate steps for ecosystem services assessment and valuation into a coherent framework that can be applied by member states; and (3) assess different approaches for upscaling and combining ecosystem services values into an EU-level assessment.
 - » **Georgia:** The plan for a [TEEB Scoping Study for Georgia](#) is presented; the scoping study will identify policy priorities, which will, in turn, form the basis of a TEEB country study for Georgia.
 - » **The Netherlands:** A new report outlines the economic importance of nature and water in the urban environment; the report is the national TEEB Netherlands program. A number of Dutch local authorities, along with the Dutch Ministry of Economic Affairs and the Ministry of Infrastructure and the Environment, have been participating in TEEB City since 2011.
 - » **Nordic countries:** The Nordic Council of Ministers Working Group on Environment and Economy and Terrestrial Ecosystem Group release a report titled "[Natural Capital in a Nordic Context](#)" that reviews different international approaches for natural capital accounting and its current state in the Nordic countries.
 - » **U.K.:** The Natural Capital Committee publishes its first annual "[State of Natural Capital Report](#)" Defra publishes a [summary of it](#), which includes four key findings: (1) Natural capital assets are in decline, and these trends should be measured; (2) Changes in natural capital should be properly included in national and corporate accounts; (3) changes in natural capital should be properly valued, and those values should be more effectively included in decision-making processes; and (4) Stewardship of natural capital is good for growth.
 - » **U.K.:** Defra's Ecosystems Markets Task Force [publishes its final report](#), which presents the business case for why nature matters and provides practical recommendations for both government and business on how to create and develop new ecosystem markets.

- » *Voluntary Nongovernmental Initiatives*
 - » **Europe:** The European Forest Institute launches its 2012-2016 work plan, “[Ecosystem Services Provided by Forests Serving Urbanised Forestry in Northern Europe.](#)”
 - » **Europe:** The European Centre for Ecotoxicology and Toxicology of Chemicals (ECETOC), an industry association, launches a new [task force on chemical risk assessment and ecosystem services](#), with the aim of identifying which ecosystem services might be affected by chemicals, setting protection goals, and then assessing relevant risk assessment schemes.
 - » **Scotland:** The [Scottish Forum on Natural Capital](#) is launched; the organization is a public-private partnership focused on the development and adoption of the natural capital framework and methodologies throughout Scottish society.

NORTH AMERICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **Canada:** Environment Canada is developing a new strategy, in the midst of multimillion-dollar cuts, to expand its capacity to evaluate the economic value of natural ecosystems, parks, and wildlife, according to internal documents obtained by a Canadian media outlet.
 - » **United States:** The U.S. Forest Service (USFS) is seeking public comment on the [2012 Planning Rule Proposed Directives](#). The directives are a key set of agency guidance documents that, once finalized, direct the implementation of the 2012 Planning Rule. The first implemented revision of planning guidance since 1982, this rule includes ecosystem services as one of the multiple uses that planning must account for.
 - » **United States:** The White House releases new guidelines for evaluating federal water resources investments. The “[Principles and Guidelines for Water and Land Related Resources and Implementation Studies](#)” apply to a broad range of federal projects that, either directly or indirectly, affect water quality or water quantity, including ecosystem restoration or land management activities. The updated version includes an ecosystem services approach to the evaluation process; previous guidelines focused almost exclusively on economic factors. The guidelines apply to investment decisions made by wide range of agencies, including the Environmental Protection Agency (EPA) and the Departments of Agriculture, Commerce, and the Interior.
 - » **United States:** The U.S. Army Corps of Engineers (ACE) releases two reports. The first, “[Incorporating Ecosystem Goods and Services in Environmental Planning—Definitions, Classification, and Operational Approaches](#),” outlines a framework that the ACE can use to incorporate consideration of ecosystem services in water resource project planning and management. The second, “[Using Information on Ecosystem Goods and Services in Corps Planning: An Examination of Authorities, Policies, Guidance, and Practices](#),” examines existing authorities, policy, and guidance that would influence the use of ecosystem goods and services in ACE planning processes.
 - » **United States:** The Bureau of Land Management (BLM) issue “[Guidance on Estimating Nonmarket Environmental Values](#),” which describes when and how to consider nonmarket environmental

values when preparing National Environmental Policy Act (NEPA) analyses for the BLM's resource management planning and other decision-making.

» *Voluntary Government-Supported Initiatives*

- » **United States:** The National Academy of Sciences organizes a workshop titled [Urban Forestry: Toward an Ecosystem Services Research Agenda](#).
- » **United States:** The [USFS continues its ecosystem services program](#), which includes mapping the link between forests and watersheds, as well as efforts to advance markets and PES.
- » **United States:** The [California Department of Food and Agriculture \(CDFA\) launches the Ecosystem Services Database](#), which allows users to access a database of nearly 400 farms and ranches in California and to peruse their environmental stewardship and conservation practices.
- » **United States:** The EPA Office of Research and Development is working with the agency's Office of Water and its Office of Air and Radiation to [incorporate final ecosystem goods and services \(FEGS\) into cost-benefit analyses](#). This is part of the development of a National Ecosystem Services Classification System (NESCS).
- » **United States:** The Texas A&M Forest Service [releases the "Texas Statewide Assessment of Forest Ecosystem Services,"](#) a compilation of the environmental benefits provided by Texas's more than 60 million acres of forestland and their monetary value. It also offers a feature that [landowners can use to map their property](#).

» *Government and Multilateral Reports*

- » **United States:** The National Research Council releases "[Approach to Assessing the Impacts of the Deepwater Horizon Oil Spill in the Gulf of Mexico](#)," which indicates that the full value of losses resulting from the spill cannot be captured without considering the changes it has caused and will cause in ecosystem services.

» *Voluntary Nongovernmental Initiatives*

- » **United States:** Duke University launches a project ([Incorporating Values and Assessing Social and Environmental Trade-Offs in Managing for Ecosystem Services](#)) to develop standard approaches for: a) incorporating social values into management and policy decisions and b) evaluating ecological versus social trade-offs of these decisions. Project leads will convene a working group to address this issue, and the results will be synthesized into a set of best practices guidelines that will be made available to governmental and nongovernmental agencies.
- » **United States:** The National Center for Ecological Analysis and Synthesis (NCEAS) at the University of California, Santa Barbara is coordinating an initiative to [align assessment frameworks for ecosystem services](#) and develop consistent methods and metrics for measuring the quantity and relative value of ecosystem services. A series of workshops will be convened in partnership with the National Socio-Environmental Synthesis Center (SESYNC) and the National Ecosystem Services Partnership (NESP).
- » **United States:** NatLab, a cross-sector partnership among the Nature Conservancy, the Natural Resources Defense Council (NRDC), and EKO Asset Management Partners, releases a [guide seeking to stimulate private investment in natural infrastructure](#) in the United States. It focuses on Philadelphia's innovative Green City, Clean Waters program as a model for stimulating investment in natural infrastructure. It demonstrates how local municipalities and

state government could drive private investors to invest billions of dollars into modernizing stormwater systems and keeping stormwater pollution out of waterways.

- » **United States:** In May, [COMPASS](#), a nonprofit organization that focuses on science-based communication, convenes two panels for federal policy makers on opportunities for incorporating ecosystem services approaches into decision-making. They release a [summary document on ecosystem services frameworks in federal decision-making](#).
- » **United States:** The NESP, under the [Federal Resource Management and Ecosystem Services \(FRMES\)](#) project, is working with federal agencies to develop guidance on how ecosystem services can be integrated into the agencies' planning and management processes.
- » **United States:** The NESP publishes a set of case examples describing the decision-making context within which several federal agencies are considering or testing ecosystem services. The white papers also describe the approaches and innovations agencies are using to incorporate ecosystem services assessments into their planning and decision-making processes.

GLOBAL

» *Decisions of International Bodies*

- » The first session of the [Plenary of the Intergovernmental Platform on Biodiversity and Ecosystem Services \(IPBES-1\)](#) takes place in January in Bonn, Germany. More than 500 participants, representing IPBES member and nonmember governments, UN organizations and conventions, intergovernmental organizations, NGOs, and various stakeholder groups, attend the meeting. Concrete achievements include the election of the IPBES chair, bureau, and multidisciplinary expert panel (which will ensure the scientific credibility and independence of the platform's work), the adoption of an initial budget, and agreement on steps toward the development of an initial IPBES work program. M. Zakri, science advisor to the prime minister of Malaysia, is elected as the first chair. Some issues, such as rules of procedure on the admission of observers, are not resolved; participants request that the platform develop a stakeholder engagement strategy. IPBES was established in April 2012 and currently has 105 member states.
- » The [first IPBES bureau and multidisciplinary expert panel meetings](#) take place in June; they focus on continuing to lay the groundwork. Topics addressed include the work program and procedures for scoping and assessment reports.
- » An [informal consultation on IPBES and capacity building](#) takes place in November in Malaysia; it found that most of the world's nations are unable to measure and assess their genetic and biological resources and the value of the key ecosystem services nature provides them. The meeting looks at how best to help countries develop relevant expertise across a span of disciplines, including taxonomy, economics, and social science.
- » The [second session of the IPBES plenary \(IPBES-2\)](#) concludes with the adoption of the Antalya Consensus, a set of decisions detailing the platform's work program, operating procedures, and its relationship with the UN. IPBES agrees to develop a set of assessments on pollination and food production, land degradation, and invasive species meant to support the science behind policy making.

- » *Voluntary Multilateral-Supported Initiatives*
 - » The Natural Capital Declaration (NCD) Roadmap and Business Plan [will be launched soon](#), marking the start of Phase II of the initiative managed by the [UNEP Finance Initiative](#) and the [Global Canopy Programme](#) (GCP). Four working groups have been formed to design methodologies to implement the four core commitments of the NCD: (1) **Understand**: Build an understanding of the dependencies and impacts of natural capital within a financial institution's operations, risk profile, etc.; (2) **Embed**: Integrate natural capital considerations into financial products and services, including loans, investments, and insurance policies; (3) **Account**: Work toward building a global consensus for integrating natural capital into private sector accounting and decision-making; and (4) **Disclose and report**: Work toward a global consensus around the development of integrated reporting, which includes natural capital.
 - » An initial version of the [TEEB for Oceans and Coasts knowledge portal](#) is released. The portal is a web-based platform that aims to monitor the long-term changes in the value of ocean and coastal ecosystem services around the world. It will also promote information and knowledge sharing, assist capacity-building facilitation, and provide a platform for continued knowledge development.
 - » The [third annual WAVES Partnership meeting](#) brings together more than 100 experts in natural capital accounting to share on-the-ground experience, progress with implementation, technical skills, and communications strategies.
 - » A [High-Level Ministerial Dialogue on Natural Capital Accounting](#) is held by the World Bank and International Monetary Fund (IMF). More than 25 ministers and vice ministers of finance, development, and environment attend.
 - » The WAVES Policy and Technical Experts Committee (PTEC) is [conducting three pilot tests](#) for the [UN Statistical Commission's Framework of Experimental Ecosystem Accounts](#): 1) a Peru case study led by Conservation International; 2) Indonesia, Norway, the Netherlands, and Benin case studies led by the University of Wageningen through the EcoSpace project, and 3) an India case study (State of Himachal Pradesh) led by the Natural Capital Group at Stanford University. Over the next year the PTEC Committee expects to draft guidelines for WAVES countries on how to design pilots for ecosystem accounting. The committee will share preliminary results from the test sites at the annual PTEC meeting in fall 2013.
 - » The Global Legislators Organisation (GLOBE) holds its first [Natural Capital Summit](#), releases a [Summit Communiqué](#) calling on governments to fully incorporate the value of natural capital into national accounting frameworks by 2020, and publishes the [GLOBE Natural Capital Legislation Study](#), which assesses national capacities and policies for natural capital accounting in eight countries: Botswana, Colombia, Costa Rica, Georgia, Germany, Peru, the Philippines, and the U.K. The [GLOBE Natural Capital Initiative](#) provides a platform for legislators to discuss the challenges and opportunities associated with integrating natural capital into national accounting and policy-making processes. GLOBE has archived the [presentations from the summit](#).
 - » The James Hutton Institute, in collaboration with the UN Educational, Scientific, and Cultural Organization (UNESCO), initiates a [Global Dialogue on Water Ecosystem Services](#). This initiative is aimed at establishing a worldwide engagement among policy makers, academics, international organizations, NGOs, and society about

- how the ecosystem services approach can help address major global water challenges and the UN Millennium Development Goals (MDGs). The initiative's goals include the establishment of a virtual global dialogue on the topic, a report synthesizing current practices, and a series of scientific publications and policy documents.
- » The University of Maryland's National Socio-Environmental Synthesis Center is convening a process for [integrating BES into sustainable global climate mitigation scenarios](#), with the aim of informing the Intergovernmental Panel on Climate Change (IPCC) and the IPBES.
 - » The TEEB for Business Coalition and the IFC [launch a project to develop and pilot test a harmonized framework for valuing natural capital in business decision-making](#) (e.g., supply chain management, financial accounting, and corporate reporting and disclosure). The project will build on existing methods, fill the gaps, and enable a period of experimentation in the market via different sectors and geographies.
 - » The UNEP and other agencies [launch the International Water Quality Guidelines for Ecosystems \(IWQGES\) project](#). According to UNEP, international guidelines exist for drinking water, recreational use, irrigation, livestock, and water reuse, among others, but no comparable international water quality standards exist for ecosystems, despite the fact that declining quality and quantity of water threaten the health of ecosystems. The IWQGES project aims to develop a set of science-based policy and technical guidelines enabling regional, national, and local authorities to improve their frameworks for sustainable management of their water resources and aquatic ecosystems.
 - » A [TEEB for Agriculture and Food study](#) is proposed to address a number of pressing research questions, particularly the agricultural sector's impacts and dependencies on BES. A scoping workshop is organized for January 2014 to convene relevant partners and experts.
 - » *Government and Multilateral Reports*
 - » A new TEEB report ("[The Economics of Ecosystem and Biodiversity for Water and Wetlands](#)") highlights the ecosystem services provided by wetlands. The report was released in preparation for World Wetlands Day.
 - » The World Agroforestry Centre (ICRAF) has released a working paper titled "[Payments for Ecosystem Services Schemes: Project-Level Insights on Benefits for Ecosystems and the Rural Poor](#)." The paper examines 36 PES projects in which beneficiaries of ecosystem services make direct financial transfers to landowners and users in order to secure management practices that will conserve the identified services. It reveals that the biggest challenge faced by PES projects is financial, resulting from the low values placed on ecosystem services.
 - » The Global Environmental Facility (GEF) releases a study titled "[Two Decades of Experience: Investing in Ecosystem Services and Adaptation for Food Security](#)," which provides an overview of the GEF's investments in ecosystem services and improved food security system from 1991 through 2011. The study's objective is to show how investments in ecosystem services promote synergy between agriculture and environment in order to support food security.
 - » UNEP and its partners launch the "[Guidance Manual for TEEB Country Studies](#)" during the Trondheim Conference on Biodiversity

on May 28. The manual provides technical and operational guidance on how countries could conduct a TEEB country study. In addition, a workshop on TEEB country studies, [Learning from Experience and How to Utilize TEEB Results](#), is held in Germany.

- » The Nature Conservancy publishes [“The Case for Green Infrastructure,”](#) featuring case studies and lessons learned from the Dow Chemical Company, Shell, Swiss Re, and Unilever, among others.
- » UNEP-WCMC, the Institute for European Environmental Policy (IEEP), and Defra publish two documents examining the lessons learned from incorporating BES values into national biodiversity strategies and action plans (NBSAPs). The [“Road Map for Incorporating BES Values into NBSAPs”](#) provides succinct information about how values can be incorporated, the entry points at the different stages of the NBSAP updating process, and the different approaches to support incorporation of the values. [“Guidance for Incorporating Biodiversity and Ecosystem Services Values into NBSAPs”](#) complements the road map, providing detailed examples and lessons learned from national case studies, as well as further technical information on process and approaches.
- » The 2013 edition of the [World Bank’s “Little Green Data Book”](#) includes, for the first time, [an adjusted net savings indicator for more than 200 countries](#). Adjusted net savings measures the difference between production and consumption, taking into account investments in human capital, depreciation of fixed capital, depletion of natural resources, and damages caused by pollution. It monitors whether investment in other assets, such as human capital or infrastructure, compensates for depletion of natural capital, such as minerals or forests, and is significantly emphasized in this year’s data book.
- » The [UN Sustainable Development Solutions Network \(SDSN\) launches reports from 7 of its 12 thematic groups, to help inform the post-2015 development agenda](#). Prepared by a panel of experts and academics, the reports focus on: forests, oceans, biodiversity, and ecosystems; human rights and gender equality; good governance of extractive resources; sustainable urban development; education; health; and sustainable agriculture.
- » An assessment, titled [“Cities and Biodiversity Outlook,”](#) underscores the need and opportunity for cities to take ownership of critical ecosystem services to enhance biodiversity conservation and food security, in addition to reducing the overall ecological footprint of urban areas. The assessment is developed by the SRC with the secretariat of the CBD, in partnership with UN-Habitat and ICLEI—Local Governments for Sustainability.
- » The UNEP, UN Economic Commission for Europe (UNECE), and the Food and Agriculture Organization (FAO) release a joint report titled [“The Value of Forests: Payment for Ecosystem Services in a Green Economy,”](#) calling for PES to be used as a tool to complement government measures to manage Europe’s forest ecosystems.
- » *Voluntary Nongovernmental Initiatives*
 - » Netherlands-based nonprofit organization [True Price](#) aims to launch the multistakeholder True Price Platform, which will develop and pilot a methodology for the valuation of environmental and social impacts and their integration into product prices.
 - » A TEEB for Business report focuses on the growing business case for natural capital management. The report titled [“Organisational Change for Natural Capital Management: Strategy and](#)

[Implementation](#)” highlights the activities, barriers, and challenges businesses face in natural capital management.

- » Ecosystem Marketplace releases a [“State of Watershed Payments 2012”](#) report, tracking investments in watersheds around the world. The report counts at least 205 PES programs—up from 103 in 2008—that in 2011 collectively generated US\$8.17 billion in investments, an increase of nearly \$2 billion above 2008 levels.
- » The IUCN launches an [Ecosystems Protecting Infrastructure and Communities](#) project in six countries (Burkina Faso, Chile, China, Nepal, Senegal, and Thailand). Its goal is to document evidence that highlights the need for promoting and conserving ecosystem services for both climate change adaptation and in planning for disaster risk reduction.
- » The TEEB for Business Coalition releases [“Natural Capital at Risk: The Top 100 Externalities of Business,”](#) which identifies the world’s largest natural capital risks and opportunities for business and their investors. The report, authored by Trucost, quantifies environmental externalities, such as damages from climate change, pollution, land conversion, and depletion of natural resources, across business sectors and at a regional level. The report is cited widely in the sustainability media with headlines like [“\\$4.7 Trillion: The Environmental Cost of Business.”](#)
- » The World Business Council for Sustainable Development (WBCSD) releases [“Eco4Biz—Ecosystem Services and Biodiversity Tools to Support Business Decision-Making,”](#) a resource kit to help environmental managers and companies navigate and choose from a range of BES tools.
- » Corporate Knights [identifies the world’s “natural capital superpowers”](#) using data compiled as part of the [“Inclusive Wealth Report 2012,”](#) a joint initiative of the UNEP and the International Human Dimensions Programme (IHDP). Only 10 countries are included in the Trillionaire’s Club, which requires that the values attributed to agricultural land, forests, fisheries, fossil fuels, and minerals add up to more than US\$1 trillion. Corporate Knights also releases an [article on the history of the concept of natural capital](#).
- » Alliance Trust Investments, Newton Investment Management, and Schroders [release a report](#) on how the chief economists of some of the world’s largest investment banks are integrating changes to ecosystem services into their economic forecasts. The report (titled [“Broken Models? Economics and Ecosystem Services”](#)) is a follow-up to Schroders’ 2011 report [“Ecosystem Services: Where’s the Discussion?”](#)
- » Sir Richard Branson and Jochen Zeitz, former chief executive of Puma and current director of Kering, [formally launch the B Team](#). The group will focus on three initial challenges, all of which seek to move away from a business focus on short-term incentives: the future of leadership, the future bottom line, and the future of incentives. The [initial group of B Team leaders](#) includes Shari Arison (Arison Group), Kathy Calvin (UN Foundation), Arianna Huffington (The Huffington Post Media Group), Mo Ibrahim (Celtel), Guilherme Leal (Natura), Strive Masiyiwa (Econet Wireless), Dr. Ngozi Okonjo-Iweala (government of Nigeria), François-Henri Pinault (Kering), Paul Polman (Unilever), Ratan Tata (Tata Group), Zhang Yue (Broad Group), Professor Muhammad Yunus (Yunus Centre), Dr. Gro Harlem Brundtland (The Elders), and Mary Robinson (The Elders and Mary Robinson Foundation).

- » The inaugural [World Forum on Natural Capital](#) takes place in November in Edinburgh. The event is organized by the Scottish Wildlife Trust, in association with the UNEP, IUCN, WBCSD, TEEB for Business Coalition, and The Wildlife Trusts.
- » The Natural Capital Declaration, launched at Rio+20 and signed by 41 financial institution CEOs, celebrates its one-year anniversary and formally [begins its implementation phase](#). It focuses on embedding natural capital into finance.
- » IUCN Netherlands, as part of its Leaders for Nature program, signs a letter of intent with several companies (including DSM, Philips, ARCADIS, and Cofely GDF Suez), the Dutch government, and NGOs, stating that they want to include externalities in annual reports, business decisions, and government accounts. A two-year joint vision and action plan for this [Transparency on Natural Capital initiative](#) will be developed over the next six months.
- » The Carbon Disclosure Project (CDP), the Climate Disclosure Standards Board (CDSB), and the International Integrated Reporting Council (IIRC) form an alliance to [increase reporting on use and depreciation of natural capital](#). As part of this collaboration, the CDSB Technical Working Group is [expanding its reporting framework to include water and forest reporting](#).
- » Trucost and GreenBiz publish the methodology for their forthcoming Natural Capital Leaders Index, to be released in January, seeking broad feedback. They previously [announced that they would publish this index](#) in the January 2014 edition of GreenBiz Group's "[State of Green Business](#)" report. The index will name sector leaders for companies both in the United States and globally.
- » The Rockefeller Foundation, WRI, and *Economist* Intelligence Unit held a conference called "[Revaluating Ecosystems](#)" as part of the *Economist's* Visionaries Unbound event series. The series aims to spark new ideas and action by cross-pollinating expert insight. At events focusing on cities, ecosystems, healthcare, and livelihoods, more than 20 business, government, academic, and nongovernmental leaders use microscenarios to identify and explore innovative solutions for a more resilient, equitable, and socially inclusive world. As a result of the conference, *The Economist* published a special issue focused on valuing ecosystems.
- » The WRI publishes "[Weaving Ecosystem Services into Impact Assessment: A Step-by-Step Method](#)," an abbreviated version of a longer report that provides detailed, technical instructions for ESIA practitioners, building on the ecosystem services review for impact assessment. This condensed version is tailored to a broader audience, including project developers who do not conduct ESIA themselves, but nevertheless need to understand the process.
- » The Gold Standard Foundation and Forest Stewardship Council (FSC) are working with Fairtrade International to explore the challenges of [certifying forest ecosystem services](#). FSC is developing indicators to provide specific requirements related to ecosystem services, and the Gold Standard Foundation has published its [Land Use and Forests Framework](#). Aligned with this, FSC and the Center for International Forestry Research (CIFOR) are working to measure the impact of certification over time, looking particularly at biodiversity, carbon, and social impacts. This project will include tests on how to measure the impact of management on specific ecosystem services in 10 pilot sites in four countries.
- » ACCA, KPMG, and Fauna and Flora International publish "[Identifying Natural Capital Risk and Materiality](#)," which includes

guidance for discerning when natural capital might be a material issue for business.

2012

AFRICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **Africa:** Ten African countries endorse the [Gaborone Declaration](#), a set of principles and goals that bring natural capital accounting into development planning. Signatories include the countries of Botswana, Gabon, Ghana, Kenya, Liberia, Mozambique, Namibia, Rwanda, South Africa, and Tanzania.
 - » **Eastern Africa:** A [workshop](#) (the first in a series) on the economic valuation of land and ecosystem services in Eastern Africa is held in Rwanda. It is organized by the [Offering Sustainable Land-Use Options \(OSLO\) Consortium](#). Outcomes are anticipated to include plans for collaboration with the government of Rwanda on integrating ecosystem services valuation into national valuation strategies. Officials from the governments of Burundi, Comoros, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Seychelles, South Sudan, Tanzania, and Uganda are starting to look at managing natural capital as tangible and intangible assets and reducing its depreciation as much as possible.
- » *Government and Multilateral Reports*
 - » **Africa:** A UN study on the [environmental and social impacts of biofuel production and use in Africa](#) employs the ecosystem services framework developed during the Millennium Ecosystem Assessment (MEA).
 - » **Israel:** The Milken Institute and the Israeli government convene a [Financial Innovations Lab](#) to evaluate financial mechanisms for valuing the country's biodiversity.
 - » **Kenya:** The Kenya Forest Service and UN Environment Programme (UNEP) issue a report on the [contribution of mountain forests to the Kenyan economy](#).
 - » **Kenya:** The International Livestock Research Institute (ILRI) completes a report entitled "[Mapping and Valuing Ecosystem Services in the Ewaso Ng'iro Watershed in Kenya.](#)"
- » *Voluntary Nongovernmental Initiatives*

ASIA AND AUSTRALIA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **China:** The Chinese government [signals its support](#) for a future national study on the value of the country's ecosystems and biodiversity, based on TEEB (The Economics of Ecosystems and Biodiversity).
 - » **Georgia:** The Secretariat of the Convention on Biological Diversity (CBD) holds a [workshop on valuation and incentive measures](#) for Eastern Europe and Central Asia with the aim of supporting countries in implementing TEEB methodologies and findings.

- » **India:** The Indian Ministry of Environment and Forests initiates an [Indian TEEB study](#) to assess the value of natural resources and biodiversity in India.
- » **Southeast Asia:** The ASEAN (Association of Southeast Asian Nations) Centre for Biodiversity presents the results of its [TEEB Scoping Study](#) at the World Biodiversity Congress. The study gathered and reviewed the existing evidence of the value of ecosystem services and identified key critical ecosystems and services in Southeast Asia.
- » **Southeast Asia:** The ASEAN Centre for Biodiversity holds a [training workshop on the economics of ecosystems and biodiversity in Vietnam](#). The workshop aims to raise the awareness and build the capacity of technical level officials from the ASEAN member states who are implementing programs and policies related to biodiversity and ecosystem services (BES).
- » **Vietnam:** The Vietnam [Forest and Deltas Program](#) is created, with a focus on adopting land use practices to address deforestation and degradation of forests and other landscapes and to increase the resilience of people, places, and livelihoods in delta areas through assistance for adaptation and disaster risk management. It will be implemented in cooperation with the Ministries of Agriculture and Rural Development and Natural Resources and Environment and other relevant government agencies.
- » *Government and Multilateral Reports*
 - » **Australia:** The Department of Agriculture, Fisheries, and Forestry commissions [Australia 21](#) to produce a report on how ecosystem services concepts are evolving and their relevance to policy development for the Australian government and other sectors of society, with a particular focus on their application to agricultural lands. The report titled “[Discussion Paper on Ecosystem Services for the Department of Agriculture, Fisheries, and Forestry](#)” concluded that one of the greatest benefits of the adoption of an ecosystem services approach would be its value in facilitating dialogue between parties on complex major policy challenges facing Australia.
 - » **Nepal:** Bird Conservation Nepal, in collaboration with the Nepalese Department of National Parks and Wildlife Conservation, issues a report with the results of a [three-year study](#) of a new toolkit for assessing ecosystem services at a site scale, which was piloted at 27 important bird areas across the country. The data could contribute to the revision of Nepal’s National Biodiversity Strategic Action Plan.
- » *Voluntary Nongovernmental Initiatives*

CENTRAL AND SOUTH AMERICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **Peru:** The Ministry of Environment, in collaboration with NGO Forest Trends, launches a [Watershed Services Incubator](#) to help Peruvian cities develop financing mechanisms that would alleviate pressure on the watershed. The incubator also aims to create a formal template for other projects in other countries.
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*

EUROPE

» *Policy or Legislation*

» *Administrative Government Decisions*

- » **Europe:** To support [Target 2](#) of the European Commission's (EC's) ambitious biodiversity strategy, which sets the following goal: "by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 percent of degraded ecosystems." The [commission establishes two working groups on ecosystem services](#). The working group on [Mapping and Assessment of Ecosystems and Their Services \(MAES\)](#) will support the goal of mapping and assessing the state of ecosystems and services in Europe by 2014, and the working group on [No Net Loss of Ecosystems and their Services](#) will help the EC develop a strategy by 2015 for no net loss of BES.
- » **Sweden:** The Swedish government approves specifications and new milestone targets related to ecosystem services within the Swedish system of environmental objectives. It establishes a [milestone target](#), which entails that, by 2018, the importance of biodiversity and the value of ecosystem services are to be generally known and integrated into economic positions, political considerations, and other decisions in society where such factors are relevant and reasonable.
- » **U.K.:** The Office for National Statistics undertakes a [consultation on accounting for the value of nature in the U.K.](#), a step toward integrating the value of natural capital into the U.K. Environmental Accounts by 2020.

» *Voluntary Government-Supported Initiatives*

- » **Germany:** [TEEB for Germany](#) officially launches in October.

» *Government and Multilateral Reports*

- » **EU:** The [PEER \(Partnership for Environmental Research\) Research on EcoSystem Services \(PRESS\) initiative](#) describes how different EU policies can help to increase the services and benefits provided by ecosystems. Their fourth report, "[A Spatial Assessment of Ecosystem Services in Europe: Methods, Case Studies, and Policy Analysis—Phase 2](#)," analyzes several policy measures using scenarios of land use change.
- » **EU:** "Science for Environment Policy," a newsletter of the EC's directorate-general for the environment, focuses its [March 2012 issue](#) on payments for ecosystem services (PES), in order to provide an in-depth look at a key area of environmental research with policy relevance and provide a guide to the latest research in the field.
- » **Serbia:** According to a new WWF report "[Analysis of PES Needs and Feasibility in Serbia](#)," recent laws in Serbia make possible the use of some basic PES mechanisms.
- » **U.K.:** A team commissioned by Defra develops a draft "[Best Practice Guide for PES](#)" and a set of supporting PES case studies.
- » **U.K.:** Defra's Ecosystem Markets Task Force publishes its [Interim Report](#), which sets out the task force's aims, its emerging thinking on why nature should matter to business, and the opportunities business may derive from valuing nature correctly.

» *Voluntary Nongovernmental Initiatives*

NORTH AMERICA

» *Policy or Legislation*

» *Administrative Government Decisions*

- » **United States:** The [Science Advisory Board review](#) of the Environmental Protection Agency (EPA) Risk Assessment Forum's (RAF) Ecological Assessment Action Plan becomes available online. The plan sets forth proposed science policy and technical practice initiatives aimed at improving the quality, scope, and application of the EPA's ecological assessments. Its policy initiatives include incorporating ecosystem services into ecological risk assessment.
- » **United States:** The Department of Agriculture (USDA) signs the final [National Forest System Land Management Planning Rule](#), a statutory requirement that outlines the procedures to amend, revise, and develop land management plans, as well as establish minimum content requirements for these plans. The new rule requires the National Forest System to provide for ecosystem services; protect cultural and historic resources, wilderness areas, and wild and scenic rivers; and appropriately manage other designated areas and areas of tribal importance.
- » **United States:** The U.S. Forest Service releases its [2012 rule for land management planning](#), the first implemented revision of planning guidance since 1982. Under the 2012 rule, plans will include direction to contribute to social and economic sustainability and provide for management of the multiple uses, including ecosystem services, of the National Forest System.
- » *Voluntary Government-Supported Initiatives*
 - » **United States:** In May, the National Ecosystem Services Partnership ([NESP](#)) and A Community on Ecosystem Services (ACES) host an invitation-only policy forum, [Advancing Ecosystem Services in Federal Resource Management Decisions](#), which explores approaches that agencies are currently testing for incorporating the value of the goods and services that nature provides into federal-resource management planning and decision-making.
- » *Government and Multilateral Reports*
 - » **United States:** The Global Change Research Act requires the preparation of a report for the president and the Congress every four years that integrates, evaluates, and interprets the findings of the U.S. Global Change Research Program. The 2012 report, "[Impacts of Climate Change on Biodiversity, Ecosystems, and Ecosystem Services.](#)" is one of the technical inputs for the 2013 National Climate Assessment that synthesizes scientific understanding of the way climate change is affecting biodiversity, ecosystems, and ecosystem services, as well as what strategies might be employed to decrease current and future risks.
 - » **United States:** The EPA's Ecosystem Services Research Program publishes an [inventory of federal agency activity on ecosystem services](#). The resulting database includes work being conducted within the EPA, USDA, Department of the Interior (DOI), National Oceanic and Atmospheric Administration (NOAA), Department of Defense (DOD), Department of Transportation (DOT), National Aeronautics and Space Administration (NASA), and the Department of Energy (DOE).
- » *Voluntary Nongovernmental Initiatives*
 - » **United States:** A two-year study called the [Stewardship Ecosystem Services Survey Project](#) in Florida estimates that the value of ecosystem services from Florida's forests can exceed US\$5,000 per acre over 20 years. The study focused on four key ecosystem services: water quality, carbon storage, timber production, and wildlife conservation.

GLOBAL

» *Decisions of International Bodies*

- » The [governments of Colombia and Guatemala](#) propose the creation of Sustainable Development Goals (SDGs) as part of the results of Rio+20, in order to measure success in balancing socioeconomic growth with sustainable use of natural resources and conservation of ecosystem services. The SDGs would build upon the Millennium Development Goals (MDGs), which expire in 2015. At the event, member states decide to [launch a process](#) to develop the SDGs.
- » The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), a global science-policy interface, is [officially established](#) after several years of discussion. It seeks to be an all-encompassing clearinghouse on BES information. Bonn, Germany, is selected for the location of the secretariat.
- » “[The Future We Want](#),” the outcome document adopted at Rio+20, states the need for the sustainable use of natural resources and ecosystems and for broader measures of progress to complement gross domestic product (GDP).
- » The International Finance Corporation (IFC) begins requiring client projects to “maintain the benefits from ecosystem services” under its revised [Sustainability Framework](#). Ecosystem services are integrated throughout the revised [Performance Standards](#).

» *Voluntary Multilateral-Supported Initiatives*

- » The UNEP-World Conservation Monitoring Centre (WCMC) and the Institute for European Environmental Policy [launch a survey](#) on the incorporation of BES values into national biodiversity strategies and action plans (NBSAPs), which is expected to support implementation of Aichi Targets 1 and 2 of the Strategic Plan for Biodiversity 2011-2020.
- » Researchers, policy makers, economists, and practitioners from more than 35 countries attend the first [TEEB conference](#) in Leipzig, Germany. One of the most significant outcomes is the confirmation that TEEB is now being implemented around the world at regional, national, and subnational levels. Sessions highlighted various TEEB-related initiatives taking place in Belgium, Brazil, Germany, the Netherlands, New Zealand, Portugal, and the U.K.
- » A project sponsored by Global Environment Fund (GEF) entitled the [Project for Ecosystem Services](#) (ProEcoServ) begins to operate in Chile, Lesotho, South Africa, Trinidad and Tobago, and Vietnam, with the objectives of: developing support tools for bundling ecosystem services into decision-making, seeking to integrate ecosystem services into policy, and creating forums to link scientists and policy makers.
- » A revised version of the “[System of Environmental-Economic Accounting](#)” (SEEA) is completed, under the guidance of the UN Statistical Commission. It contains the internationally agreed-upon standard concepts, definitions, classifications, and accounting rules and tables for producing internationally comparable statistics on the environment and its relationship with the economy. The adoption of the SEEA has eliminated a major barrier to the adoption of natural capital accounting. The revised SEEA consists of three parts: the [Central Framework](#), which the UN Statistical Commission adopted as the first international standard for environmental-economic accounting; Experimental Ecosystem Accounting; and Applications and Extensions of the SEEA. Subsystems of the SEEA framework

- elaborate on specific resources or sectors, including: energy, water, fisheries, land and ecosystems, and agriculture. [Global consultation and implementation meetings are held](#) throughout the world.
- » UNEP, GRID-Arendal, and Duke University release a discussion paper (titled [“Why Value the Oceans?”](#)) to explore the potential for a TEEB oceans study. The paper identifies the types of marine-management issues and policy that require better information on the economics of marine ecosystems and biodiversity.
 - » The World Bank Group launches the [50:50 campaign](#), an initiative to promote the inclusion of natural capital in economic decisions and business operations. The organization aims to connect 50 governments and 50 corporations supportive of working toward natural capital accounting.
 - » A [Policy and Technical Expert Committee \(PTEC\)](#) set up under the WAVES (Wealth Accounting and the Valuation of Ecosystem Services) partnership has started work on a methodology for measuring the ecosystem services provided by forests, wetlands, marine, and coastal ecosystems and integrating them into national accounting frameworks. The first meeting of the PTEC took place in Washington, D.C., in November 2012. The results of this work will feed into the UN Statistical Commission’s work on the next phase of the SEEA, which will deal with ecosystem accounts.
 - » The [Global Legislators’ Organisation \(GLOBE\)](#), which supports national parliamentarians to develop and agree about common legislative responses to sustainable development challenges, has launched the [GLOBE Natural Capital Initiative \(GNCI\)](#), which will work with legislators in a group of seven countries (Botswana, Colombia, Costa Rica, Germany, Peru, the Philippines, and the U.K.) to increase awareness and support for ecosystem valuation and to establish an international process for legislators to support the natural capital approach. The first phase started in September 2012 and will conclude in June 2013. GLOBE has also published the [GLOBE Natural Capital Action Plan](#), which makes recommendations on the role of governments, legislators, and national audit offices.
 - » At the Rio+20 Earth Summit, 37 financial institutions sign the [Natural Capital Declaration](#), indicating that they will work toward integrating natural capital considerations into their products and services. The declaration is an initiative of the [UNEP Finance Initiative](#), the [Global Canopy Programme](#) (GCP), and the [Getulio Vargas Foundation](#) (FGV).
- » *Government and Multilateral Reports*
- » The UN Global Compact releases a report entitled [“A Framework for Corporate Action on Biodiversity and Ecosystem Services,”](#) which provides a high-level framework for developing, implementing, and disclosing policies, as well as integrating BES practices into corporate sustainability strategies.
 - » The Stockholm Environment Institute and UNEP issue [“Releasing the Pressure: Water Resource Efficiencies and Gains for Ecosystem Services,”](#) which urges policy makers and resource managers to shift from their traditional focus on “more crop per drop” to a broader view including ecosystem services, which would take into account water regulation and purification, pollination, erosion control, and other ecosystem services performed by wetlands and forests.
 - » The second chapter of UNEP’s 2012 *Year Book*, [“The Benefits of Soil Carbon,”](#) links certain soil management approaches to the provision of multiple ecosystem services. The authors provide insights into the measurement and monitoring of soil carbon and

conclude with an analysis of policy options, including incentives for protection of the ecosystem services provided by soil.

- » *Voluntary Nongovernmental Initiatives*
 - » The [TEEB for Business Coalition is launched](#) in Singapore in November, with the goal of studying and standardizing methods for natural capital accounting to enable its valuation and reporting in business.
 - » Scientists issue the first [“State of the Planet” declaration](#) in advance of Rio+20, which includes a call for regular global sustainability analyses, building on the foundations of the Intergovernmental Panel on Climate Change (IPCC), IPBES, and other ongoing efforts.
 - » ACCA, KPMG, and Fauna and Flora International publish a report titled [“Is Natural Capital a Material issue?”](#) based on a survey of ACCA members. It investigates the concept of materiality, how it is used to identify issues for management and disclosure, and the extent to which it currently reflects the significance of natural capital as a business issue. The report highlights how companies rarely consider the benefits they derive from biodiversity and ecosystems (and the risk of their loss) to be material.

2011

AFRICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
- » *Government and Multilateral Reports*
 - » **South Africa:** A World Resources Institute [case study](#) traces South Africa’s efforts to incorporate biodiversity information into spatial and development planning and create a national strategy for expanding protected areas to conserve biodiversity and promote ecosystem resilience.
- » *Voluntary Nongovernmental Initiatives*

ASIA AND AUSTRALIA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **Vietnam:** The [Forest Certification for Ecosystem Services \(ForCES\)](#) project contributes to the overall goal that forest biodiversity is conserved through a process where voluntary Forest Stewardship Council (FSC) certification incorporates expanded and enhanced global and national forest management standards, which are applied to emerging markets for biodiversity conservation and other ecosystems services.
- » *Government and Multilateral Reports*
 - » **China:** [“Buyer, Regulator, Enabler: The Government’s Role in Ecosystem Services Markets”](#) provides insights for policy makers in China on the development of a national eco-compensation policy framework and discusses the public sector’s role in payments for ecosystem services (PES) internationally.

- » **China:** The Asian Development Bank (ABD) releases a report titled [“Eco-Compensation for Watershed Services in the People’s Republic of China”](#) as China seeks new approaches to water management.
- » *Voluntary Nongovernmental Initiatives*

CENTRAL AND SOUTH AMERICA

- » *Policy or Legislation*
 - » **Brazil:** The State of Amazonas [drafts a policy](#) to implement PES programs. The initial draft includes language on “the establishment of an infrastructure and the adoption of collection, analysis, measurement, validation, verification, and valuation systems and instruments for environmental services and products of the State of Amazonas.”
- » *Administrative Government Decisions*
 - » **Colombia:** The [National Policy for the Integrated Management of Biodiversity and Ecosystem Services](#), a revision and update of the current National Biodiversity Policy, is instated to act as the main framework for all environmental policies, programs, plans, projects, or strategies that Colombia develops over the next few decades. Also, the World Bank chooses Colombia as one of the pilot countries to implement the Wealth Accounting and the Valuation of Ecosystem Services (WAVES) project.
- » *Voluntary Government-Supported Initiatives*
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*
 - » **Chile and Peru:** These two countries develop an ecosystem-based management of the Humboldt Current Large Marine Ecosystem. A [Global Environment Facility-funded project](#) sets up a [program focused on transboundary and ecosystem-based diagnoses](#) that is intended to lead to an ecosystem-based approach.

EUROPE

- » *Policy or Legislation*
 - » **EU:** The European Union’s [Biodiversity 2020 strategy](#) includes an initiative on “no-net-loss of ecosystems and their services.”
- » *Administrative Government Decisions*
 - » **EU:** The Environment Council meets to [discuss the protection of water resources and integrated sustainable water management](#) in the EU and adopt conclusions, including a section on ecosystems and ecosystem services.
 - » **Spain:** Valencia’s regional government releases the [first draft of its forest action plan](#). Among its measurement highlights is an environmental services payment mechanism, the first official one in Spain.
- » *Voluntary Government-Supported Initiatives*
 - » **EU:** The European Commission (EC) develops [the Voluntary Scheme for Biodiversity and Ecosystem Services in Territories of European Overseas](#) for conservation and sustainable use of biodiversity and ecosystem services (BES) in its Outermost Regions and Overseas Countries and Territories.
 - » **U.K.:** The Valuing Nature Network, in partnership with the National Environment Research Council (NERC), presents a [draft research](#)

- » [agenda](#) based on workshops focused on valuing biodiversity, ecosystem services, and natural resource use.
- » **U.K.:** Reporting to Defra, the business-led [Ecosystem Markets Task Force](#) launches with a mission of reviewing opportunities for U.K. businesses to improve and protect natural capital.
- » *Government and Multilateral Reports*
 - » **EU:** The European Environment Agency (EEA) publishes a report titled [“An Experimental Framework for Ecosystem Capital Accounting in Europe”](#) that highlights accounting balances and relationships between accounting tables and systems, as well as key indicators and aggregates that describe economy-ecosystem interactions.
 - » **U.K.:** A [Defra report](#) sets out the economic framework and key design principles for PES.
 - » **U.K.:** The UN releases its [“National Ecosystem Assessment,”](#) the first analysis of the U.K.’s natural environment in terms of the benefits it provides to society and future economic prosperity.
 - » **U.K.:** Defra releases a white paper titled [“The Natural Choice,”](#) which is directly linked to the National Ecosystem Assessment. It catalyzes a Natural Capital Committee and business-led task force.
- » *Voluntary Nongovernmental Initiatives*

NORTH AMERICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **United States:** The U.S. Geological Society (USGS) launches the [Science and Decisions Center](#), “an interdisciplinary center for applications and research in decision science, ecosystem services, and resilience.”
- » *Voluntary Government-Supported Initiatives*
 - » **United States:** The National Oceanic and Atmospheric Administration (NOAA), the Gulf of Mexico Sea Grant Programs, and the U.S. Environmental Protection Agency (EPA) Gulf of Mexico Program sponsor an [Ecosystem Services Valuation Priorities](#) grant request.
- » *Government and Multilateral Reports*
 - » **United States:** A report titled [“Sustaining Environmental Capital: Protecting Society and the Economy”](#) recommends that the U.S. government launch a series of efforts to thoroughly assess the condition of U.S. ecosystems and the social and economic value of the services they provide.
- » *Voluntary Nongovernmental Initiatives*
 - » **United States:** Following the Annual Ecosystem Markets Conference in Madison, Wisconsin, the [Ecosystem Commons](#), a virtual community and collaborative workspace, is designed for the ecosystem services community of professionals to advance science and practice.

GLOBAL

- » *Decisions of International Bodies*
- » *Voluntary Multilateral-Supported Initiatives*
 - » The UN Environment Programme (UNEP) Finance Initiative and Hypovereins Bank conduct a workshop titled [Towards a](#)

[Collaborative Effort by Financial Institutions to Integrate Biodiversity and Ecosystem Services into Business](#). A key outcome is an agreement to develop a Natural Capital Statement to further embed BES into the finance sector.

- » The International Tropical Timber Organization (ITTO) releases a [call for proposals](#) for its Thematic Program on Reducing Deforestation and Forest Degradation and Enhancing Environmental Services (REDDES). The call for proposals from member countries notes that priority will be given to projects that address the fundamental drivers of deforestation and forest degradation that enhance environmental services.
- » *Government and Multilateral Reports*
 - » [A UNEP and International Water Management Institute \(IWMI\) report](#) titled “An Ecosystem Services Approach to Water and Food Security” recommends that policy makers consider farmland, fisheries, and other agricultural areas as “agro-ecosystems,” which provide food and perform such diverse ecosystem services as water purification and flood regulation.
- » *Voluntary Nongovernmental Initiatives*
 - » The [Natural Value Initiative \(NVI\) report](#) titled “Biodiversity and Ecosystem Services Risk and Opportunity Management within Extractive Industry” reviews 30 companies in the mining and oil and gas sectors and assesses emerging efforts on ecosystem services and corporate systems to manage risk and realize opportunity associated with BES.

2010

AFRICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*

ASIA AND AUSTRALIA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **Japan:** The country adopts a new [national strategy](#) to conserve and improve biodiversity, which sets specific targets to be implemented by 2020 and 2050. By 2050, Tokyo is required under the strategy to expand the benefits of ecosystem services for human beings in a sustainable manner by promoting the coexistence of people and nature.
- » *Voluntary Government-Supported Initiatives*
 - » **China:** The Ministry of Environmental Conservation forms the [China Biodiversity Partnership Framework](#) (CBPF) with national and international governments, NGOs, and businesses to increase the number of protected areas, improve biodiversity measurements, and export conservation learning.
- » *Government and Multilateral Reports*

- » **Japan:** The Ecosystem Assessment, which had been developing the [Japan Satoyama Satoumi Assessment](#) since 2006, releases its findings in a series of [six reports](#).
- » *Voluntary Nongovernmental Initiatives*

CENTRAL AND SOUTH AMERICA

- » *Policy or Legislation*
 - » **Brazil:** The Acre state legislature establishes the [System of Incentives for Environmental Services](#), an institutional and legal framework for Acre to measure and value its environmental services.
- » *Administrative Government Decisions*
 - » **Brazil:** The [Governors' Climate and Forests Task Force](#), a collaboration of 14 states and provinces in Brazil, Indonesia, Mexico, Nigeria, and the United States, signs a memorandum of understanding to make recommendations to the California Air Resources Board on how California can link its emerging carbon market to the REDD program in the Brazilian State of Acre, Mexican State of Chiapas, and possibly other states or provinces.
- » *Voluntary Government-Supported Initiatives*
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*

EUROPE

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **EU:** The European Environment Agency (EEA) and European Commission (EC) present the [first outline](#) of the EU [biodiversity baseline](#) and propose the development of Biodiversity Information System for Europe (BISE), which would be both an information and technology tool, as well as a network for building a shared knowledge base for biodiversity policies and targets across Europe.
- » *Voluntary Government-Supported Initiatives*
- » *Government and Multilateral Reports*
 - » **France:** A report commissioned by the government titled "[An Economic Approach to Biodiversity and Ecosystems Services Contribution to Public Decision-Making](#)" calculates reference values for French ecosystems.
- » *Voluntary Nongovernmental Initiatives*

NORTH AMERICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
 - » **United States:** The Council on Environmental Quality (CEQ) issues its [Proposed National Objectives, Principles, and Standards for Water and Related Resources Implementation Studies](#), which call for a systematic approach to measuring nonmonetary values (such as ecosystem values) when considering dams, levees, canals, and other projects.
 - » **United States:** The [Interagency Ocean Policy Task Force Interim Report](#) provides a [strategy for oceans, coasts, and the Great Lakes](#), which prioritizes nine categories for action, including ecosystem-

- based management, regional ecosystem protection and restoration, and strengthened and integrated observation systems.
- » **United States:** The government develops a [federal strategy for Chesapeake Bay](#). A National Oceanic and Atmospheric Administration (NOAA) administrator notes, “Ecosystem-based approaches to management will enable progress toward a healthy, sustainable Chesapeake ecosystem”
 - » **United States:** The Department of Agriculture (USDA) develops its [“Strategic Plan”](#) for 2010 to 2015, which states (under Pillar 4 within Goal 1) the intent to: “Capitalize on opportunities presented by the nation’s efforts to develop markets for ecosystem services and mitigate climate change.”
 - » *Voluntary Government-Supported Initiatives*
 - » **United States:** Various conservation organizations and government agencies, including the U.S. Environmental Protection Agency (EPA) and U.S. Forest Service (USFS), collaborate to develop [LandServer](#), a web-based tool that provides farmers and woodland owners a way to assess their natural resources and evaluate their property’s potential to earn money if they implement conservation actions.
 - » **United States:** The Department of Defense (DOD) [Environmental Security Technology Certification Program](#) seeks proposals for demonstrations of ecosystem services methodologies and tools for DOD installations.
 - » **United States:** The EPA’s [Future Midwestern Landscapes Environmental Decision Tool Kit \(FML-EDT\)](#) is a study of biofuels and ecosystem services in the midwestern United States with a key outcome to develop a tool to ensure that biofuels policy and land use decisions are made in ways that recognize implications for ecosystem services.
 - » **United States:** The Keystone Alliance for Sustainable Agriculture’s Field to Market collaboration develops the [Fieldprint Calculator](#), a tool designed to look at how crop production operations affect the sustainability of farms. Future versions will include modules that factor in effects on biodiversity.
 - » *Government and Multilateral Reports*
 - » **Canada:** The Ontario Biodiversity Council issues a report titled [“State of Ontario’s Biodiversity, 2010,”](#) which summarizes the state of biodiversity in Ontario based on 29 different indicators.
 - » **United States:** The NOAA Ocean Studies Board [calls for a report](#) to evaluate the loss of ecosystem services in the Gulf of Mexico Large Marine Ecosystem resulting from the *Deepwater Horizon* oil spill. (Note: Report available [online](#).)
 - » *Voluntary Nongovernmental Initiatives*
 - » **United States:** The Aspen Institute’s [Energy and Environment Program](#) discusses accelerating the integration of ecosystem services principles within the human development paradigm, including regulatory regimes and traditional market and financial mechanisms.

GLOBAL

- » *Decisions of International Bodies*
 - » The [Intergovernmental Platform on Biodiversity and Ecosystem Services \(IPBES\)](#) and UN Environment Programme (UNEP) develop an international mechanism for scientific expertise on biodiversity

and the global strategy on Millennium Ecosystem Assessment (MEA) follow-up, which reflects a general agreement on the need for an intergovernmental science-policy platform on biodiversity and ecosystem services (BES).

- » Revisions to the [International Finance Corporation's \(IFC\) Policy and Performance Standards on Social and Environmental Sustainability](#) focus on ensuring the “continuous benefits arising from ecosystem services” and assessing impacts and dependencies on BES.
- » *Voluntary Multilateral-Supported Initiatives*
 - » The UNEP launches an [electronic series](#) on policy issues related to ecosystem management.
 - » The World Bank launches a partnership on [Wealth Accounting and the Valuation of Ecosystem Services \(WAVES\)](#) to give developing countries the tools they need to integrate the economic benefits of ecosystems (e.g., forests, wetlands, and coral reefs) into national accounting systems.
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*
 - » The Ecosystem Services for Poverty Alleviation Program launches a [two-year project](#) (scheduled for October 2010 to September 2012) to develop a conceptual framework that describes how changes in global values of ecosystem services affect equity at the local levels.

2009

AFRICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
- » *Government and Multilateral Reports*
 - » **Tanzania:** The 2006 government paper “[Integrated Ecosystems Assessment in Tanzania](#)” identifies concrete ways in which ecosystem management can contribute to poverty-reduction goals.
- » *Voluntary Nongovernmental Initiatives*
 - » **East Africa s Eastern Arc Mountains:** Experts from seven countries launch the application of the InVEST (Integrated Valuation of Environmental Services and Tradeoffs) tool in the Eastern Arc Mountains, with a focus on analyzing the mountains’ water supply, carbon storage and sequestration, ecotourism, nontimber, and timber products.

ASIA AND AUSTRALIA

- » *Policy or Legislation*
 - » **Vietnam:** [Decision 380](#) sets up a pilot policy for payments for forest environmental services, which enables the collection of money from entities who benefit from ecosystem services provided by healthy forests.
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **China:** The NGO Forest Trends studies and documents [eco-compensation and ecosystem services](#), including the Conversion of

Cropland to Forests and Grasslands Program and the Forest Ecosystem Compensation Fund.

- » **Japan:** [The Japan Long-Term Ecological Research \(JaLTER\) network](#) offers [scientific data and information](#) and predictive understanding of ecological processes for the scientific community and policy makers.
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*
 - » **Asia:** The [Ecosystem Services Management in Asia project](#) aims to improve understanding of the effects of land management on ecosystem services that are provided by upper tributary watersheds in China, Indonesia, and Thailand.

CENTRAL AND SOUTH AMERICA

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **Colombia:** [The Natural Capital Project](#) (NatCap) establishes a three-year agreement with the Ministry of Environment to provide a tool to support decisions on locations of natural capital.
 - » **Costa Rica:** The country's [Environmental Services Payment Program](#) grants financial recognition to forest and plantation owners for the environmental services that they maintain through management practices.
 - » **Ecuador:** NatCap is working with the country's national planning agency to manage biodiversity impacts of infrastructure. [InVEST](#) maps provide an ecosystem services data layer.
- » *Government and Multilateral Reports*
- » *Voluntary Nongovernmental Initiatives*
 - » **Brazil:** The [Agroambiente Project](#) works to maintain the highest level of environmental services in agricultural landscapes and ecosystems.
 - » **Colombia, Costa Rica, Ecuador, the southern tip of Nicaragua, Panama, Peru, and Venezuela:** The [Natural Capital Project](#) is mapping ecosystem services to generate information that can guide and inform decision-making. **Colombia, Costa Rica, and Nicaragua:** The World Bank's [Integrated Silvopastoral Approaches to Ecosystem Management Project](#) monitors multiple ecosystem services.
 - » **Costa Rica:** Osa Conservation Area [evaluates the cost-efficiency](#) of payments for ecosystem services (PES) to private landowners.

EUROPE

- » *Policy or Legislation*
- » *Administrative Government Decisions*
- » *Voluntary Government-Supported Initiatives*
 - » **U.K.:** The Department for International Development and the National Environment Research Council's (NERC) [Ecosystem Services for Poverty Alleviation \(ESPA\) Program](#) begin to gather data on ecosystem services, their full value, and links to sustainable poverty reduction.
 - » **U.K.:** The [Department for Food, Environment, and Rural Affairs \(Defra\) research project](#) aims to establish the basis for an

ecosystems approach and how it might be used to effectively assess the benefits that the natural environment provides.

- » *Government and Multilateral Reports*
 - » **EU:** The European Academies Science Advisory Council (EASAC) issues a policy report titled "[Ecosystem Services and Biodiversity in Europe.](#)"
 - » **Finland:** The Finnish Environment Institute (SYKE) issues a report titled "[Vulnerability Assessment of Ecosystem Services for Climate Change Impacts and Adaptation.](#)"
- » *Voluntary Nongovernmental Initiatives*

NORTH AMERICA

- » *Policy or Legislation*
 - » **United States:** The [Food, Conservation, and Energy Act of 2008 \(Farm Bill\)](#) establishes technical guidelines that measure the environmental service benefits from conservation and land management activities.
 - » **United States:** The [Oregon Senate Bill 513](#) creates an Ecosystem Services Market Working Group to advance policy recommendations for creating a framework of integrated ecosystem services markets in Oregon that produce positive ecological and economic outcomes.
- » *Administrative Government Decisions*
 - » **United States:** The Department of Agriculture (USDA) creates the [Office of Environmental Markets](#).
 - » **United States:** The Environmental Protection Agency's (EPA) Office of Research and Development focuses on [ecosystem services research](#).
 - » **United States:** The U.S. Army Corps of Engineers and the U.S. EPA begin implementing the 2008 [regulations on compensatory mitigation](#) of impacts to aquatic resources under Section 404 of the Clean Water Act (CWA). These regulations introduce ecosystem services into the mitigation decision-making standards.
- » *Voluntary Government-Supported Initiatives*
 - » **United States:** The [Virginia Department of Forestry Ecosystem Services Initiative](#) creates an ecosystem services portfolio.
 - » **United States:** The EPA Agriculture and Food Research Initiative conducts [research on ecosystem services](#) in agricultural settings.
 - » **United States:** The USDA's Natural Resource Conservation Service [grant program](#) supports the conservation of ecosystem services provided by forests in two watersheds.
 - » **United States:** The EPA establishes the [Ecological Services Research Program](#), and Duke University's Nicholas Institute establishes the National Ecosystem Services Partnership ([NESP](#)).
- » *Government and Multilateral Reports*
 - » **United States:** The EPA Science Advisory Board issues a report titled "[Valuing the Protection of Ecological Systems and Services: A Report of the EPA Science Advisory Board.](#)"
 - » **United States:** The EPA Office of Research and Development partners with the University of Vermont's Gund Institute to [study the plains](#) in the upper Midwest, Oregon's Willamette River Valley, coastal areas of North and South Carolina, and Tampa Bay in Florida.

- » **United States:** The U.S. Forest Service (USFS) [quantifies local urban forest composition](#) and its associated ecosystem services and values to improve urban forest planning.
- » *Voluntary Nongovernmental Initiatives*
 - » **United States:** [Ecotrust Forests LLC](#) shows competitive returns for investors through the production of high-quality timber and pulp combined with the monetization of ecosystem services, including carbon storage, habitat, and water quality.
 - » **United States:** The [American Farmland Trust](#) begins to pay farmers for providing such environmental benefits as clean water, carbon sequestration, and wildlife habitat.
 - » **United States:** The [Willamette Partnership](#) creates and pilots a shared accounting system for quantifying impacts and benefits to ecosystem services for application to ecosystem markets and beyond.
 - » **United States:** The [conservation of red wolf habitat](#) in North Carolina quantifies the economic value of selected ecosystem services benefits associated with such conservation.

GLOBAL

- » *Decisions of International Bodies*
- » *Voluntary Multilateral-Supported Initiatives*
 - » An [Ecosystem Services Assessment](#), conducted jointly by the UN University and the Institute of Advanced Studies (IAS), analyzes the links between human well-being and ecosystem services in addressing the environment and development issues associated with achieving the Millennium Development Goals (MDGs).
 - » The [UN Environment Programme \(UNEP\) Ecosystem Management Program](#) aims to transform sector-based environmental management into an ecosystem-based approach that integrates forests, land, freshwater, and coastal ecosystems where they affect the overall delivery of ecosystem services.
 - » UNEP organizes the [Jakarta Business and Biodiversity meeting](#), during which participants draft the Jakarta Charter on Business and Biodiversity. The charter emphasizes the value of biodiversity and proposes that economic models and policies need to more accurately reflect ecosystem services. This work highlights the importance of biodiversity and ecosystem services (BES) as a source for future business operations, as well as a condition for new business opportunities and markets.
- » *Government and Multilateral Reports*
 - » UNEP in collaboration with the International Union for Conservation of Nature (IUCN) and other partners issues “The Economics of Ecosystems and Biodiversity” ([TEEB](#)) [report](#).
 - » A [UN Framework Convention on Climate Change \(UNFCCC\) white paper](#) on climate change adaptation takes an ecosystem-based approach to adaptation.