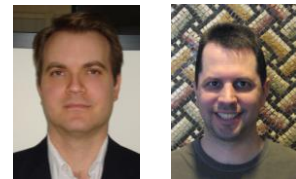


New Approach for Integrating Biodiversity and Business Performance



Craig Hanson and Charles Iceland
WORLD RESOURCES INSTITUTE

Global warming may dominate headlines today. Ecosystem degradation will do so tomorrow.

To prepare businesses for this new landscape, the World Resources Institute (WRI) in collaboration with the Meridian Institute and World Business Council for Sustainable Development (WBCSD) launched the Corporate Ecosystem Services Review (ESR) in March of this year. The ESR is a set of guidelines designed to help companies proactively develop strategies to manage the risks and opportunities arising from ecosystem degradation.

The business case for considering ecosystem services

Ecosystems provide not only a home for the world's biodiversity, but also numerous benefits or "ecosystem services" for the world's businesses. Forests supply timber and wood fiber, purify water, regulate climate, and yield genetic resources. River systems provide freshwater, power, and recreation. Coastal wetlands filter waste, mitigate floods, and serve as nurseries for commercial fisheries.

However, human activities are rapidly degrading

these and other ecosystems. The Millennium Ecosystem Assessment—a United Nations-led audit of the condition and trends in the world's ecosystems—found that ecosystems have declined more rapidly and extensively over the past 50 years than at any other comparable time in human history. In fact, 15 of the 24 ecosystem services evaluated have degraded over the past half century. The Assessment projected further declines over coming decades, particularly in light of population growth, economic expansion, and global climate change. Left unchecked, this degradation could jeopardize future economic well-being, creating new winners and losers within the business community.

The degradation of ecosystems and the services they provide is highly relevant to business because companies not only impact ecosystems but also depend on them. Ecosystem degradation, therefore, can pose a number of risks to corporate performance as well as create new business opportunities. Types of risks and opportunities include:

- Operational
 - Risks such as higher costs for freshwater due to scarcity, lower output for hydroelectric facilities due to siltation, or disruptions to coastal businesses due to flooding

- Opportunities such as increasing water-use efficiency or building an on-site wetland to circumvent the need for new water treatment infrastructure
- Regulatory and legal
 - Risks such as new fines, new user fees, government regulations, or lawsuits by local communities that lose ecosystem services due to corporate activities
 - Opportunities such as engaging governments to develop policies and incentives to protect or restore ecosystems that provide services a company needs
- Reputational
 - Risks such as retail companies being targeted by nongovernmental organization campaigns for purchasing wood or paper from sensitive forests or banks facing similar protests due to investments that degrade pristine ecosystems
 - Opportunities such as implementing and communicating sustainable purchasing, operational, or investment practices in order to differentiate corporate brands
- Market and product
 - Risks such as customers switching to other suppliers that offer products with lower ecosystem impacts or governments implementing new sustainable procurement policies
 - Opportunities such as launching new products and services that reduce customer impacts on ecosystems, participating in emerging markets for carbon sequestration and watershed protection, capturing new revenue streams from company-owned natural assets, and offering eco-labeled wood, seafood, produce, and other products
- Financing
 - Risks such as banks implementing more rigorous lending requirements for corporate loans
 - Opportunities such as banks offering more favorable loan terms or investors taking positions in companies supplying products and services that improve resource-use efficiency or restore degraded ecosystems.

Introducing the Corporate Ecosystem Services Review

Unfortunately, companies often fail to make the connection between the health of ecosystems and the business bottom line. Many companies are not fully aware of the extent of their dependence and impact on ecosystems and the possible ramifications. Likewise, environmental management systems and environmental due diligence tools are often not fully attuned to the risks and opportunities arising from the degradation and use of ecosystem services. For instance, many tools are more suited to handle “traditional” issues of pollution and natural resource consumption. Most focus on environmental impacts, not dependence. Furthermore, they typically focus on risks, not business opportunities. As a result, companies may be caught unprepared or miss new sources of revenue associated with ecosystem change.

The Corporate Ecosystem Services Review (ESR) is designed to address these gaps. It consists of a five-step methodology (Figure 1) that helps managers proactively develop strategies to manage business risks and opportunities arising from their company’s dependence and impact on ecosystems. It is a tool for strategy development, not just for environmental assessment. Businesses can either conduct an Ecosystem Services Review as a stand-alone process or integrate it into their existing environmental management systems. In both cases, the methodology can complement and augment the environmental due diligence tools companies already use.

The ESR can provide value to businesses in industries that directly interact with ecosystems such as agriculture, beverages, water services, forestry, electricity, oil, gas, mining, and tourism. It is also relevant to sectors such as general retail, healthcare, consulting, financial services, and others to the degree that their suppliers or customers interact directly with ecosystems. General retailers, for example, may face reputational or market risks if some of their suppliers are responsible for degrading ecosystems and the services they provide.

Many companies have found it difficult to make a connection between preserving biodiversity and improving the bottom line. The ESR can help make this link. This is possible because biodiversity underpins the supply of ecosystem services. In addition, maintaining ecosystems so that they provide a healthy range of services will, on average, protect biodiversity.

Corporate experience

Five WBCSD members—Akzo Nobel, BC Hydro, Mondi, Rio Tinto, and Syngenta—road tested the methodology and provided input to its design. Some road-test companies, such as Mondi and BC Hydro, used the ESR to gain insight into the direct implications that trends in ecosystem services pose for them. Other road test companies, such as Akzo Nobel and Syngenta, applied the methodology to understand risks faced by selected customer segments due to ecosystem degradation and, in turn, discovered opportunities for new products or services that address these risks.

"The methodology helped us identify and rank emerging problems, and provided us with a framework for turning risks into opportunities," said Peter Gardiner, natural resources manager at Mondi, a leading international paper and packaging manufacturer.

Mondi's newfound strategies include a number of operational changes that will increase the company's efficiency in using freshwater—a scarce ecosystem service where the company has its plantations—and lead to new markets for the company's byproducts.

"The ESR helped us to better understand how a number of emerging environmental changes are likely to affect our business and how our company might best position itself to respond to these changes," said Steve Hunt, senior vice president, Asia-Pacific, Eka Chemicals, a division of chemical giant Akzo Nobel.

"We're going to be hearing a lot about the Corporate Ecosystem Services Review. A couple dozen more

WBCSD members are already taking it up this year," said Björn Stigson, president of the WBCSD. "Leading companies realize that they need to be prepared for the business challenges posed by ecosystem decline."

A Japanese version of the ESR will be available at www.wri.org/ecosystems/esr in early May 2008.

Craig Hanson is the Deputy Director and Charles Iceland, CFA is an Associate with the People & Ecosystems Program at the World Resources Institute (WRI).

Figure 1. Corporate Ecosystem Services Review: Summary of Methodology

Step		1. Select the scope	2. Identify priority ecosystem services	3. Analyze trends in priority services	4. Identify business risks and opportunities	5. Develop strategies
Activity		Choose boundary within which to conduct the ESR (a specific business unit, product, market, landholdings, major customer, supplier, etc.)	Systematically evaluate degree of company’s dependence and impact on more than 20 ecosystem services. Determine highest “priority” ecosystem services—those most relevant to business performance	Research and evaluate conditions and trends in the priority ecosystem services, as well as the drivers of these trends	Identify and evaluate business risks and opportunities that might arise due to the trends in priority ecosystem services	Outline and prioritize strategies for managing the risks and opportunities
Who is involved	<ul style="list-style-type: none"> · Executive managers · Manager(s) from selected scope · Analysts · Consultants (<i>optional</i>) 	<ul style="list-style-type: none"> √ √ 	<ul style="list-style-type: none"> √ √ √ 	<ul style="list-style-type: none"> √ √ 	<ul style="list-style-type: none"> √ √ √ 	<ul style="list-style-type: none"> √ √ √
Sources of input and information	<ul style="list-style-type: none"> · In-house business managers and analysts · Existing and new in-house analyses · Local stakeholders · Experts from universities and research institutions · Millennium Ecosystem Assessment publications and experts · Non-governmental organizations · Industry associations · Published research · Other resources and tools 		<ul style="list-style-type: none"> √ √ √ 	<ul style="list-style-type: none"> √ √ √ √ 	<ul style="list-style-type: none"> √ √ 	<ul style="list-style-type: none"> √ √
End product		Boundary for ESR analysis	List of 5-7 “priority” ecosystem services	Short paper or set of data that summarizes trends for each priority ecosystem service	List and description of possible business risks and opportunities	Prioritized set of strategies
Estimated time*		1-2 weeks	2-3 weeks	4-6 weeks	1-2 weeks	2-3 weeks

* Estimates based on road tests and reflect one full-time equivalent. Time required to conduct an ESR will vary based on factors including the scope selected, availability of information, and number of staff allocated to gather information and conduct research and interviews.

Craig Hanson

Craig Hanson is Deputy Director of WRI's People & Ecosystems Program. In addition, he leads WRI's new Mainstreaming Ecosystem Services Initiative, which seeks to reduce ecosystem degradation by helping governments, businesses, and multilateral development banks integrate ecosystem service considerations into their decisions. He is the lead author of the Corporate Ecosystem Service Review (ESR), a systematic set of guidelines and methodology that helps corporate managers proactively respond to business risks and opportunities arising from ecosystem degradation.

Prior to becoming Deputy Director, Craig managed the Green Power Market Development Group-US and launched the Green Power Market Development Group-Europe. Prior to joining WRI, he was a management consultant with McKinsey & Company for five years. Craig earned an MSc in Environmental Change & Management from Oxford University where he also earned an MA in Philosophy, Politics, & Economics with an emphasis on environmental economics as a Rhodes Scholar. He has a BA from Georgetown University.

Charles Iceland

Charles Iceland, CFA is an Associate with WRI's People & Ecosystems Program. He recently completed work with several major multinational corporations to develop, road test, and apply the Corporate Ecosystem Services Review methodology. He is author or contributing author of several publications including The Corporate Ecosystem Services Review, Ecosystem Services: A Guide for Decision Makers, and Reciprocity and Retaliation in US Trade Policy. Charles previously worked at the World Environment Center, where he developed innovative supply chain environmental management pilot programs for Alcoa, Johnson & Johnson, and Dow Chemical. Prior to this, he worked at the Office of the United States Trade Representative, the United States House of Representatives, and the Institute for International Economics. He also worked in the banking and finance sector for several years and is a Chartered Financial Analyst (CFA). He earned his undergraduate degree from Yale University and a master's degree in international affairs from Columbia University. He lives in Bethesda with his wife Debbie and sons Matthew and Josh.

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The World Resources Institute is an environmental think tank that goes beyond research to create practical ways to protect the Earth and improve people's lives. Our mission is to move human society to live in ways that protect Earth's environment for current and future generations. Our program meets global challenges by using knowledge to catalyze public and private action to:

- *Reverse damage to ecosystems.* We protect the capacity of ecosystems to sustain life and prosperity.
- *Expand participation in environmental decisions.* We collaborate with partners worldwide to increase people's access to information and influence over decisions about natural resources.
- *Avert dangerous climate change.* We promote public and private action to ensure a safe climate and sound world economy.
- *Increase prosperity while improving the environment.* We engage the private sector to grow while improving environmental and community well-being.

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