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BUSINESS & BIODIVERSITY

Secretariat of the Convention on Biological Diversity

SPECIAL FOCUS ON THE STRATEGIC PLAN

HSBC Insurance

PROTECTING ECOSYSTEMS IN BRAZIL

Chesapeake Fund

**REDUCING THE COSTS OF WATER
QUALITY THROUGH NUTRIENTS TRADING**

Regulation of genetic resources

**LESSONS FROM THE NORWEGIAN
NATURE DIVERSITY ACT**

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Preface

by **Ahmed Djoghla** ● Executive Secretary of the Convention on Biological Diversity

Business interest in biodiversity and ecosystem services has been growing since a clear decision was taken to engage business at the eighth meeting of the Conference of Parties to the Convention on Biological Diversity (CBD) in 2006 in Curitiba, Brazil.

A recent global survey by McKinsey and Company found that 59 per cent of executives consider biodiversity as more of an opportunity than a risk for their companies. This positive outlook on biodiversity is in stark contrast to executives' views on climate change in late 2007, when only 29 per cent saw the issue as more of an opportunity than a threat.

sector – the new strategic plan is expected to be finalized this October at the tenth meeting of the Conference of the Parties to the Convention in Nagoya, Japan.

Environment officials from 192 countries with involvement of the business community are expected to take part in the discussions towards a new (revised) Strategic Plan for the Convention, to cover the period 2011-2020. This will provide a framework for the establishment of national and regional targets and for enhancing coherence in the implementation of the Convention's three objectives. Partnership with the business sector is highlighted as important for the implementation of the plan.

Work to date on the new strategic plan has attempted to improve on the previous plan in two key ways. The first way is by providing a mission and targets for 2020 that are both achievable and more measurable, and with a clear underlying logic consistent with the available scientific evidence, including the scientific review of biodiversity projections prepared for Global Biodiversity Outlook 3. These will be the so-called SMART targets—goals that are at once strategic, measurable, ambitious yet realistic and time-bound.

The second way is by providing a more effective framework for national implementation of the three objectives of the Convention. This framework is expected to include national targets, appropriate support mechanisms and a more robust approach to monitoring and review at both national and global levels, as well as an enhanced role for the Conference of the Parties in reviewing implementation and learning from past experience.

In sum, the new strategic plan is being devised with the realization that in order to achieve sustainable development, the preservation of our biological resources and ecosystems must be mainstreamed into society at large, including our economic systems and markets.

The Governments recognising that such ambitious targets cannot be achieved without mobilising the enterprise of the business community are therefore considering policies that can best attract private investment in its efforts.

This edition of the 2010 business newsletter is dedicated to businesses that are already contributing to the strategic plan or initiatives that are relevant to the business sector. The strategic plan will be the basis for future laws and regulation for the business sector and companies taking leadership today will help themselves and nature.



The strategic plan will be the basis for future laws and regulation for the business sector and companies taking leadership today will help themselves and nature.

It is evident that there are serious risks as well as considerable business opportunities associated with biodiversity and ecosystem degradation. We therefore need to navigate wisely as the engagement of CBD grows with the business community. This edition of Business.2010 newsletter provides an opportunity to highlight how business can play an enlightened role in supporting the implementation of the beyond-2010 strategic plan of CBD.

Over the first half of this year a series of consultations and meetings have taken place with the aim of revising and updating the strategic plan of the Convention, culminating work that began several years ago. May 2010 in Nairobi, the third meeting of the Working Group on Review of Implementation of the Convention produced a draft agreement on the new strategic plan and on mobilizing financial resources. With the participation of a broad range of stakeholders – including the business

Proposed strategic goals and 2020 targets

THE VISION OF THE STRATEGIC PLAN IS A WORLD OF “LIVING IN HARMONY WITH NATURE.”

The third meeting of the Ad Hoc Open-ended Working Group on Review of Implementation of the Convention (WGRI3) was held from 24-28 May 2010 in Nairobi and the parties suggested the following strategic plan for consideration in Nagoya, Japan October 2010.

The Strategic Plan includes 20 headline targets for 2020, organized under five strategic goals. The goals and targets comprise both: (i) aspirations for achievement at the global level; and (ii) a flexible framework for the establishment of national or regional targets. Parties are invited to set their own targets within this flexible framework, taking into account national needs and priorities, while also bearing in mind national contributions to the achievement of the global targets.

Not all countries necessarily need to develop a national target for each and every global target. For some countries, the global threshold set through certain targets may already have been achieved. Others targets may not be relevant in the country context.

STRATEGIC GOAL A.

Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Target 1: By 2020, at the latest, all people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

Target 2: By 2020, at the latest, the values of biodiversity are integrated into [national accounts], national and local development and poverty reduction strategies and planning processes.

Target 3: By 2020, at the latest, incentives[, including subsidies,] harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts [and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, [consistent with relevant international obligations]], taking into account national socio-economic conditions.

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

STRATEGIC GOAL B.

Reduce the direct pressures on biodiversity and promote sustainable use

Target 5: By 2020, the rate of loss and degradation, and fragmentation, of natural habitats, [including forests], is [at least halved] [brought close to zero].

Target 6: [By 2020, overfishing is ended, destructive fishing practices are eliminated, and all fisheries are managed sustainably.] or [By 2020, all exploited fish stocks and other living marine and aquatic resources are harvested sustainably [and restored], and the impact of fisheries on threatened species and vulnerable ecosystems are within safe ecological limits].

Target 7: By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Target 9: By 2020, invasive alien species are identified, prioritized and controlled or eradicated and measures are in place to control pathways for the introduction and establishment of invasive alien species.

Target 10: By [2020][2015], to have minimized the multiple pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification, so as to maintain their integrity and functioning.

STRATEGIC GOAL C.

To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Target 11: By 2020, at least [15%][20%] of terrestrial, inland water and [X%] of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through comprehensive, ecologically representative and well-connected systems of effectively managed protected areas and other means, and integrated into the wider land- and seascape.

Target 12: By 2020 the extinction and decline of known threatened species has been prevented and improvement in the conservation status [for at least 10% of them] has been achieved.

Target 13: By 2020, the loss of genetic diversity of cultivated plants and domestic farm animals in agricultural ecosystems and of wild relatives is halted and strategies have been developed and imple-

THE STRATEGIC PLAN—Continued from previous page.

mented for safeguarding the genetic diversity of other priority socio-economically valuable species as well as selected wild species of plants and animals.

STRATEGIC GOAL D.

Enhance the benefits to all from biodiversity and ecosystem services

Target 14: By 2020 ecosystems that provide essential services and contribute to health, livelihoods and well-being, are safeguarded and/or restored and equitable access to ecosystem services is ensured for all, taking into account the needs of women, indigenous and local communities and the poor and vulnerable.

Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Target 16: By 2020, access to genetic resources is [promoted] [facilitated] [enhanced], and benefits are shared consistent with national legislation [and the international [regime][protocol] on access and benefit-sharing, and the regime is in force and operational [and an access and benefit-sharing fund providing timely, adequate and predictable funds to developing countries, in particular the least developed among them, small island developing States and countries with economies in transition as a precondition for the fulfilment of their commitments under the protocol]].¹

STRATEGIC GOAL E.

Enhance implementation through participatory planning, knowledge management and capacity-building

Target 17: By 2020, each Party has developed, adopted as a policy instrument, and implemented, an effective, participatory and updated national biodiversity strategy and action plan.

Target 18: By [2020], [[have [sui generis legal] systems in place to protect] traditional knowledge, innovations and practices of indigenous and local communities that are relevant to biodiversity and their customary sustainable use of biodiversity are respected, preserved and maintained, and their contribution to the conservation and sustainable use of biodiversity is recognized and enhanced.] [The traditional knowledge and customary sustainable

use relevant to biodiversity of indigenous and local communities are fully recognized and mainstreamed in the implementation of the Convention on Biological Diversity, its programmes of work and cross-cutting issues, at all levels.]

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

IMPLEMENTATION, MONITORING, REVIEW AND EVALUATION

Means for implementation. The Strategic Plan will be implemented primarily through activities at the national or sub-national level, with supporting action at the regional and global levels. The Strategic Plan provides a flexible framework for the establishment of national and regional targets. National Biodiversity Strategies and Action Plans are key instruments for translating the Strategic Plan to national circumstances, including through the national targets, and for integrating biodiversity across all sectors of government and society. The participation of all relevant stakeholders should be promoted and facilitated at all levels of implementation.

Decision WGR1 on business engagement. The WGR13 decision on business engagement highlights the importance of the Strategic plan and engagement of the business sector. (UNEP/CBD/COP/10/4) The WGR13 invites parties to:

- To promote a public policy environment that enables private sector engagement and the mainstreaming of biodiversity into corporate strategies and decision-making in a manner that contributes to the achievement of the three objectives of the Convention;
- And encourages businesses and the private sector to: To contribute to the implementation of the Convention as well as its Strategic Plan 2011-2020 and its targets, and refer to it, as appropriate, for defining concrete and measurable biodiversity targets for their operations;
- And to engage wider efforts to promote business engagement in the achievement of the three objectives of the Convention and its new Strategic Plan, such as the Business and Biodiversity Initiative initiated at the ninth meeting of the Conference of the Parties, and the Jakarta Charter, as a step to highlight their commitment to the three objectives of the Convention on Biological Diversity.

¹ Final formulation of this target is pending final agreement on the international regime at COP-10, noting that there is consensus that the Strategic Plan will include a target on access and benefit-sharing.

HSBC Insurance protecting ecosystems in Brazil

A PIONEERING INITIATIVE BY HSBC INSURANCE IS HELPING TO EFFECTIVELY CONSERVE BIODIVERSITY AND PROTECT OVER 3,000 HECTARES OF PRISTINE ARAUCARIA FORESTS IN BRAZIL.

by **Ariel Scheffer da Silva** ●

Sustainability Manager – Environment focus, HSBC Bank Brazil

The HSBC Group has a long history of commitment to sustainability, promoting internal and external actions to promote sustainability throughout its employees, customers, communities and its own businesses. Since 2007, through the Brazilian operations of HSBC Insurance, a pioneering initiative has helped to effectively conserve biological diversity and protect over 3,000 hectares of pristine Araucaria forests, which corresponds to approximately five per cent of remaining Araucaria forest ecosystem in State of Parana. This ecoregion of the Atlantic Forest biome is considered one of the most endangered ecosystems in Brazil and has high ecological, cultural and historic relevance for the Brazilians, both for its wildlife and for the environmental services it provides to the people of the region.

Through an alliance with Brazilian NGO 'Sociedade de Pesquisa em Vida Selvagem e Educação Ambiental (SPVS - Society of Wildlife Research and Environmental Education), HSBC Insurance

has developed a new strategy to offer car and home insurance to its customers. For every insurance product sold, HSBC donates a percentage of the sale to help protecting native forest, by adopting well preserved these areas. HSBC Insurance neutralizes the CO2 emissions of its clients and show to clients where the neutralization is being done through an internet site that shows adopted areas.

Through this initiative, Araucaria Forest areas are adopted, protected and managed as a way to help the maintenance of it ecosystems services and clients are more engaged with HSBC insurance products.

All the adopted areas belong to small farmers that managed to resist pressure for suppression of natural habitats for livestock and agriculture activities - the main cause of the native forests disappearance.

The Mechanisms of the project: HSBC Insurance establishes a partnership with SPVS, which manages the financial resources, identifies and selects areas of conservation for adoption. Then the area owners receive SPVS financial and technical support for environmental inventories and forest conservation, including elaboration and implementation of management plans.

The environmental benefits are of utmost relevance. By conserving natural areas, all biodiversity and ecosystems environmental services remain. More than simply preventing flora and fauna species extinction, the maintenance of biodiversity is directly related to the maintenance of benefits such as air and water purification, forest products and traditional foods such Araucaria pine seed (pinhão) supply, and others. Moreover, natural forests help to minimize climate change effects, fixing carbon in their biomass.

Thanks to this work, in addition to environmental benefits, Araucaria Forest conservation has significant social results, with significant social impact for the properties owners committed to the forest conservation on their areas.

During the adoption term, the area owners receive financial resources to assist them in the forests conservation and to carry out improvements on their properties, also helping on their income increase.

Currently, the HSBC intends to implement a next step - to engage business partners and customers to adopt important areas for conservation.

Thus, the replication potential of this initiative in other biomes in Brazil and around the world could be an important tool for maintaining high biodiversity in "hotspots" such as the Mata Atlantica, the Brazilian Cerrado and the Amazon biome.



ISTOCKPHOTO

The WRI Water Risk Index

THE WORLD RESOURCES INSTITUTE (WRI) – WITH SUPPORT FROM GOLDMAN SACHS AND GENERAL ELECTRIC HAVE DEVELOPED A WATER RISK INDEX.

by **Piet Klop**, Senior Fellow; **Jeff Rodgers**, Associate and **Charles Iceland**, Associate; Markets & Enterprise Program, World Resources Institute

Clean freshwater is necessary for human consumption and human hygiene, for producing food and energy, for industrial production, and for ensuring healthy and vibrant ecosystems and the biodiversity they support. The number of people facing water scarcity or stress is projected to increase from one billion in 2005 to over five billion by 2050.

Compounding the problem of freshwater scarcity is the fact that water quality is declining in many regions. In China, for example, about 90% of the aquifers supplying cities are polluted. “As a result, nearly 700 million people drink water contaminated with animal and human waste.” The situation is equally dire in India, where a recent article noted that “fully 80 percent of urban waste in India ends up in the country’s rivers, and unchecked urban growth across the country combined with poor government oversight means the problem is only getting worse.”

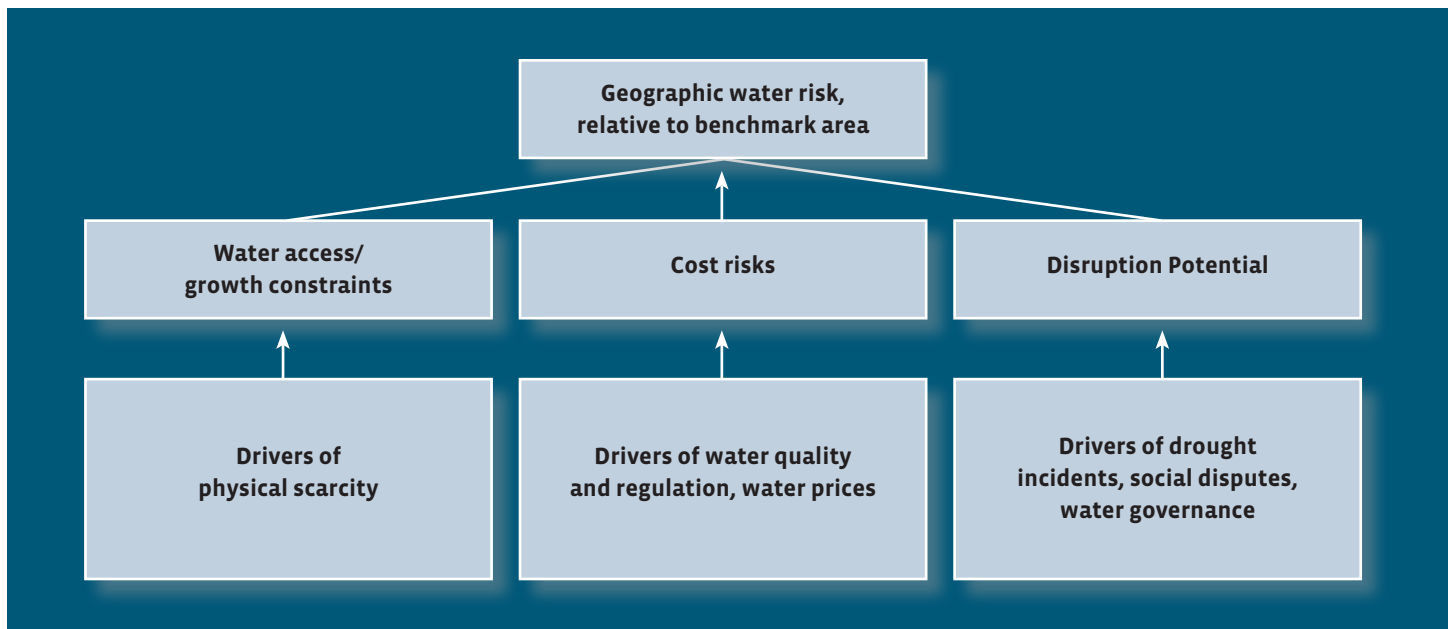
The Water Risk Index project seeks to alleviate water stress and pollution in areas where those threats are having the greatest impacts on businesses, communities, and governments. Specifically,

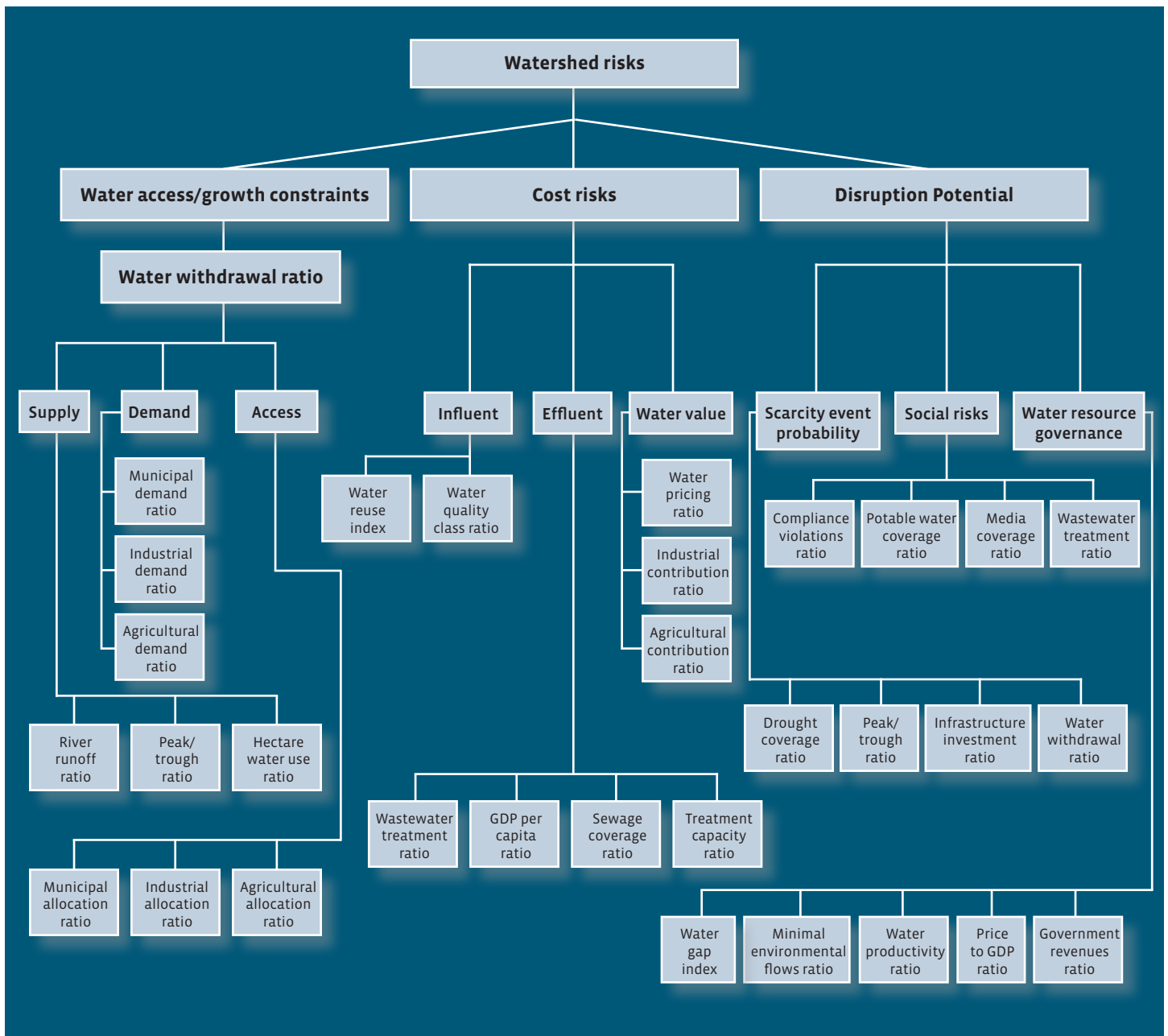
the project will help private and public sector stakeholders identify, measure, and map areas in need of solutions for growing water risk. The Water Risk Index quantifies multiple drivers of water risk that can be easily and transparently aggregated and disaggregated. A standalone tool, the Index identifies “hotspots” of water risk that can constrain access to water, increase its costs or disrupt its operations (Figure 1).

Since August 2009, the World Resources Institute (WRI) – with support from Goldman Sachs and General Electric – has successfully developed a prototype Water Risk Index for the Yellow River Basin in China (Phase I of the project). This pilot project has quantified, aggregated, and mapped a variety of physical, regulatory and socio-economic drivers of water risk. The prototype is transparent, replicable and built to provide water risk information at geographically relevant scales. When overlaid with the locations of a company’s production facilities and/or key suppliers, the maps can highlight corporate water risk exposure and pinpoint the geographic areas where solutions may be required.

The anticipated benefits of the index include:

- Helping companies better anticipate and plan for water risk. Better understanding of these risks will help companies prioritize their water efficiency investments and make more intelligent siting and sourcing decisions.
- Catalyzing meaningful and consistent company disclosure of water risk. Once local context (i.e. water risk) complements companies’ disclosure of their “water footprint”, investors will have actionable information to help them steer capital towards more hydro-sustainable (i.e. less risky) technologies, companies and geographies.
- Providing a platform for government agencies and other





stakeholders to better manage water risks affecting water-stressed basins, through spatial analysis, policy reform, and targeted infrastructure investment.

Project partners are currently finalizing Phase I of the project (the Yellow River Basin prototype) and planning for a Phase II expansion of the project.

The Water Risk Index builds on the World Business Council for Sustainable Development's Global Water Tool by providing:

- Higher resolution (i.e. data and maps at the sub-basin level)
- Wider indicator coverage (it goes beyond physical water scarcity to also include regulatory and socio-economic risk drivers)

- Predictive capability (it tracks and projects trends for all risk indicators).

The Index is a structured set of 25 different indicators (Figure 3) that quantifies and maps geographically-defined water risks faced by companies and their investors. These indicators are aggregated into three broad risk categories, including:

1. Constraints on physical access to water
2. Increasing costs of water supply, water treatment, and water efficiency
3. Potential for disruption of company operations and/or supply chains.

Nutrient trading: A viable alternative?

MARKET MECHANISMS FOR NUTRIENTS TRADING CAN REDUCE THE COSTS OF ACHIEVING WATER QUALITY, RESTORATION AND PROTECTION OF ECOSYSTEMS.

by **Emily Clifton** ● The Chesapeake Fund at Forest Trends

While carbon trading in the United States experienced a huge setback last month when the U.S. Senate climate bill was jettisoned, another program that would allow farmers to participate in an interstate nutrient trading program designed to save the Chesapeake Bay estuary — is under consideration in Congress.

The emission of excess nutrients — primarily nitrogen and phosphorous — is one of the most pressing environmental problems of our time. The latest research indicates that there are more than 400 “dead zones” — or areas in the ocean with too little oxygen to survive — in the world. More startlingly, the number of dead zones increased by a third between 1995 and 2007.

Nowhere is the problem more acute or better studied than in the Chesapeake Bay, the largest estuary in the United States and the third largest in the world. Covering more than 64,000 square miles, the Chesapeake Bay watershed is a world-class natural resource that is home to more than 16.6 million people. Despite the Bay’s historically rich ecosystem, pollution flowing in from its vast watershed threatens its environmental and economic future. In 1985, 337.5 million pounds of nitrogen and 27.1 million pounds of phosphorous entered the Chesapeake Bay. By 2005, actions were in place to reduce nitrogen to 266 million pounds and phosphorus to 18.5 million pounds annually. However, scientists and experts estimate that in order for the Bay to thrive, the amount of nitrogen entering the Chesapeake must be reduced to 175 million pounds a year and phosphorus to 12.8 million pounds.

THE CHESAPEAKE FUND: A CASE STUDY

Whether or not the U.S.’s federal and state governments allow for an intrastate nutrient trading program remains to be seen, but a nonprofit case example has already emerged. In 2009, three nonprofits — Forest Trends, the Chesapeake Bay Foundation, and World Resources Institute — teamed together to start the Chesapeake Fund. Much like carbon markets which use carbon offsets as a financial instrument to represent reductions in greenhouse gases, the Chesapeake Fund’s goal is to push forward the idea of “nutrient credits” to advance improvements in the health of the Bay’s water.

The Chesapeake Fund was developed on the belief that reducing nitrogen pollution and protecting water quality will have real value in the future. The Fund’s goal is to accelerate water quality restoration efforts by demonstrating how market-like water qual-

ity policies, targeted performance-based investments in nitrogen-reduction practices, and innovative public/private partnerships can reduce the costs of achieving water quality restoration and protection. It was designed to meet the following objectives:

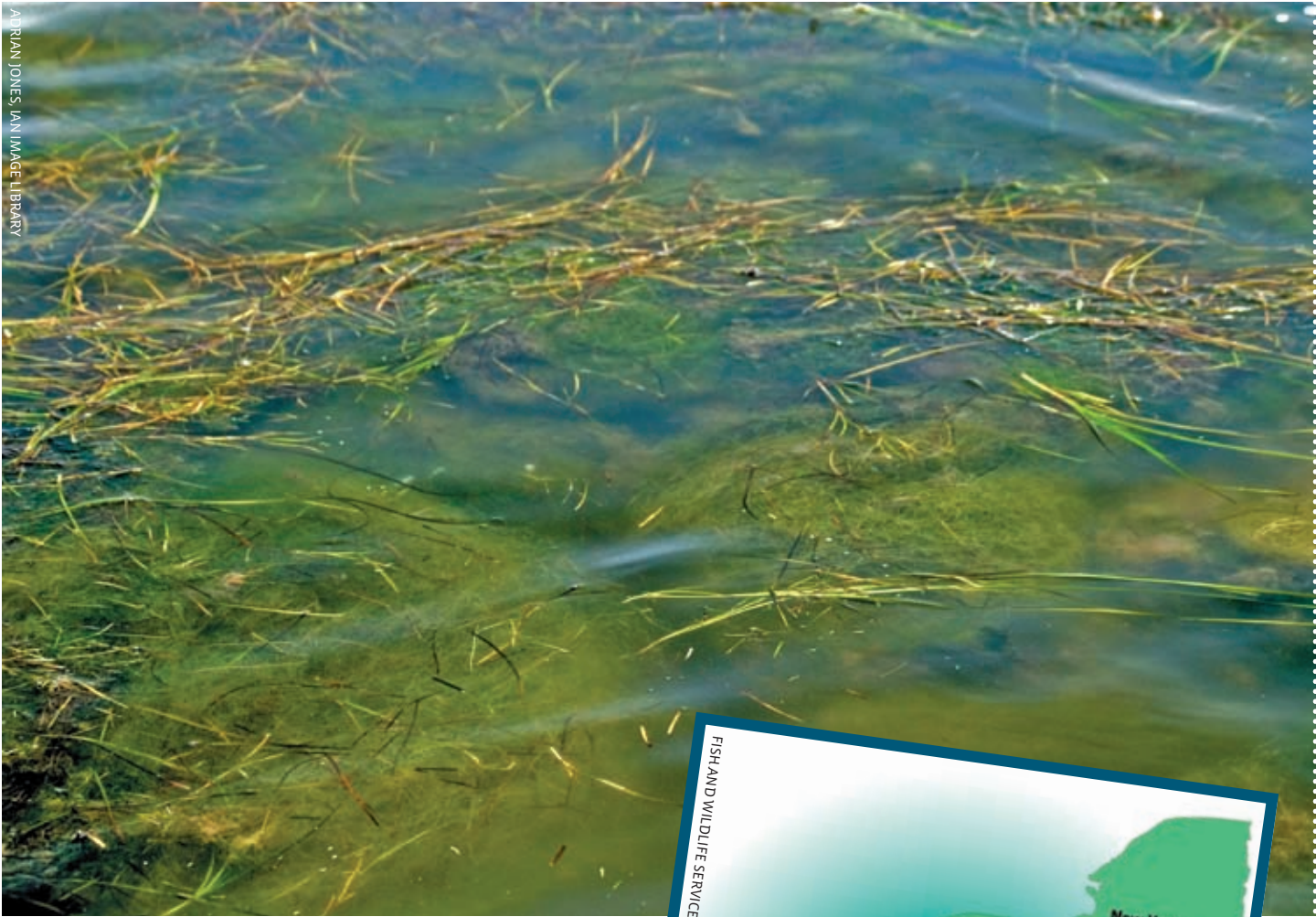
- **Accelerate Restoration Finance:** The Fund will demonstrate how accountability, transparency, performance, and efficiency can facilitate the development of a sustainable restoration financing system and can lower the costs of meeting the region’s water quality restoration goals
- **Knowledge Dissemination:** The Fund aims to provide its partners—investors, lawmakers, landowners, business leaders, lawmakers, and other interested parties—with an opportunity to “learn-by-doing” in the development of policies, rules, and processes necessary for the development of an accountable nitrogen market and water quality financing system
- **Public-Private Partnerships:** The Fund will demonstrate how the public and private sectors can create partnerships to mobilize capital and financial resources to jointly achieve water quality restoration goals.

“Given cost estimates for achieving the Chesapeake Bay watershed’s water quality restoration goals, the Bay community must look beyond traditional funding programs and tools toward effective, sustainable, business and performance-based financing strategies,” states Dan Nees, Director of the Chesapeake Fund partnership. The overriding objective of the Fund is to put the power of financing and accountability to work for restoring and protecting water resources across the Bay watershed.

TESTING THE WATERS

During 2009 and the beginning of 2010, the Chesapeake Fund focused its efforts primarily on establishing the processes, procedures, and protocols necessary to ensure that all nitrogen reductions and corresponding credits generated by the Fund are accurately calculated, verified and monitored, registered, and insured for performance. During that time, the Fund established the necessary institutional, governance, and legal structures; set up project selection and investment guidelines; developed systems for generating and calculating nitrogen reductions on agricultural lands and for verifying and monitoring the implementation of on-the-ground projects; and worked to ensure that a third-party system for registering nitrogen credits is developed. “In doing so,” states Mr. Nees, “we established a process by which we can effectively and confidently invest money in agricultural nitrogen hotspots within the watershed.”

Now in “Phase Two” of this project, the Fund is currently focused on implementing pilot restoration projects that will allow it to refine the marketplace tools developed in the first phase of the project and to demonstrate how government, through market-based financing structures, can work to attract capital and improve the efficiency and effectiveness of restoration financing



efforts. In particular, the Fund expects its pilot projects to help it hone in on price discovery; to refine and expand its nitrogen accounting tools; and to engage corporations and foundations in the effort. Currently, the Fund has about \$250,000 to spend on pilot projects. To truly be successful, the Fund anticipates that it will need to significantly increase the scale of its work.

A MATTER OF SCALE

But at what scale does the Fund need to be operating in order to truly have an impact? “The problem of cleaning up the Bay itself is a multi-billion dollar problem. With just \$20 million, however, we could really make a difference in identifying practices, innovations, and projects that are scalable and transformational in their ability to facilitate significant nitrogen reductions and capital flows. Even more ideal would be to have \$20 million through a federally backed credit guarantee program that would encourage credit generators and credit buyers to get involved at the market’s infancy.”

Is there a possibility to couple nutrient markets with carbon markets? “Absolutely,” states Mr. Nees, “and we want to figure out exactly how. It is important to understand, however, that addressing the issue of excess nitrogen will require a global strategy that is implemented at a watershed scale.”



TOP: Algal blooms in the Chesapeake Bay. Algal blooms fueled by excess nitrogen and phosphorous decrease light penetration in the Bay and, when they die off, result in oxygen depletion. **BELOW:** The Chesapeake Bay’s drainage basin covers 64,299 square miles (166,534 km²) in the District of Columbia and parts of six states: New York, Pennsylvania, Delaware, Maryland, Virginia, and West Virginia. More than 150 major rivers and streams drain into the Bay.

Coca-Cola partners with WWF to conserve water

UNITED NATIONS ESTIMATES SUGGEST THAT BY 2025 TWO-THIRDS OF THE WORLD'S POPULATION WILL LIVE IN WATER-STRESSED REGIONS AS A RESULT OF UNSUSTAINABLE WATER USE, POPULATION GROWTH AND CLIMATE CHANGE. SUCH LARGE-SCALE ISSUES REQUIRE THE COLLECTIVE ACTION OF GOVERNMENTS, NGOS, CORPORATIONS AND INDIVIDUALS. THE PARTNERSHIP BETWEEN WWF AND THE COCA-COLA COMPANY IS AN INNOVATIVE RESPONSE TO THIS GLOBAL CONCERN.

by **Suzanne Apple** ● Vice President, Business and Industry, WWF-US and **Jeff Seabright** ● Vice President for Environment and Water, The Coca-Cola Company

Fresh water. We rely on it for drinking water, agriculture, transportation, manufacturing and sanitation. Fresh water also provides habitats for a diverse range of plants and animals. Yet, experts warn that our freshwater resources are under threat. According to the United Nations, almost 900 million people worldwide do not have access to clean water. Additionally, freshwater species and habitats are among the world's most endangered. Critical to nature, communities and businesses, few issues demand more attention than freshwater conservation. Conserving the world's fresh water is vital to both World Wildlife Fund (WWF) and The Coca-Cola Company.

WWF's mission is the conservation of nature and the protection of natural resources for people and wildlife. For WWF, protecting freshwater ecosystems is a top priority. Beverages are The Coca-Cola Company's business. Water is the primary ingredient in every product the company makes, and vital to the health and well-being of the communities it serves. Recognizing a shared interest in taking action, The Coca-Cola Company and WWF announced a transformative partnership in June of 2007 to conserve the world's freshwater resources.

Seventy percent of the earth's surface is covered by water. Most of this water (about 97.5 percent) is salt water found in oceans, leaving only a small amount as fresh water. Of this fresh water, the majority is inaccessible, frozen in icecaps or deep underground. That leaves just 0.007 percent of the planet's water – the fresh water found in rivers, lakes, streams and wetlands – to fuel and feed the planet's 6.8 billion people, run global industry and support diverse ecosystems.

Water demand already exceeds supply in many parts of the world, and a growing population is creating increased com-

petition. To compound the issue, climate change will alter the amount of available fresh water, further impacting demand – for irrigation during prolonged dry periods, for industrial cooling in higher temperatures, and for household and hydration needs of people and animals. Ecosystems also will become more vulnerable, as increased temperatures and severe weather patterns diminish the ability of natural systems to filter water and create buffers to flooding and drought.

OPPORTUNITIES FROM CHALLENGES

WWF and The Coca-Cola Company are creating opportunities where these challenges exist. WWF has broad experience working with businesses and their supply chains to improve performance and influence change in the way global commodities are produced, processed and consumed worldwide. For WWF, The Coca-Cola Company is an ideal partner—a leading global company with the knowledge, buying power and influence to transform an entire industry. For The Coca-Cola Company, working with WWF is a strategic advantage—safeguarding freshwater supplies is essential to the sustainability of its business.

With the ambitious goal of inspiring a global movement to conserve water, the partnership is working across several fronts: within manufacturing plants to improve water efficiency and reduce climate impacts, throughout the company's supply chain to promote sustainable agriculture, and on the ground to conserve priority river basins.

After working together over the last three years, WWF and The Coca-Cola Company have seen impressive results. Within manufacturing plants, the partnership has helped integrate performance and water stewardship initiatives into Coca-Cola's operations. In addition to water used in beverages, water is used in manufacturing processes for rinsing, cleaning, heating and cooling. Working with WWF, Coca-Cola has improved water efficiency by 13 percent since 2004, well on its way toward reaching a 20 percent improvement goal by 2012. Additionally, the partnership has developed two system-wide targets to reduce climate-related emissions: stabilize emissions overall, and achieve a five percent reduction in developed countries. In 2009, emissions fell over eight percent in developed countries relative to 2004 levels.

Coca-Cola's water conservation commitment extends beyond plant walls. Agriculture uses approximately 70 percent of the world's fresh water, so sustainable crop production is fundamental to protecting freshwater resources. The partnership promotes sustainable agriculture in key areas of the company's supply chain, focusing on sugarcane, oranges and corn – three primary ingredients used in the company's beverages. In an Australian sugarcane pilot project, farmers have cumulatively improved the quality of 6.3 billion gallons of water runoff by eliminating significant amounts of agricultural sediments,



chemicals and pollutants. This is helping to improve water quality in the surrounding freshwater and marine ecosystems, including the Great Barrier Reef.

WETLAND RESTORATION IN THE MEKONG DELTA

More of the partnership's key successes can be seen in conservation initiatives taking place in seven of the world's most important river basins spanning Asia, Europe, Africa and the Americas. Projects range from policy reform and establishing protected areas to habitat restoration and the reintroduction of species. One of these sites is the Mekong Delta, a freshwater source for 60 million people and home to more fish species than any river other than the Amazon. Here, the partnership is working in Tram Chim National Park in Vietnam, one of the last natural wetlands of the once vast Plain of Reeds ecosystem.

For decades, this region has experienced serious damage, resulting in dwindling habitats and disappearing species. Factors like conflict with local populations and poor capacity of governments to manage wetlands have further exacerbated concerns. As a contributing factor, national parks in Vietnam were historically governed by a single management approach, with often dire consequences. Tram Chim, a lowland floodplain, was managed as an upland forest, leading to permanently flooded areas, eutrophic water conditions, and suffering habitats.

Working with local authorities, the Tram Chim team has made great strides to address these challenges through conservation measures that address effective management of a protected area. The team has implemented hydrology management to

mimic the historic flood pulse of the Mekong, removed 400 meters of internal dykes to improve river connectivity and flow, and established natural resource user groups to help alleviate conflicts over declining resources.

Significantly, the partnership team advocated for wetland policy reform and helped to pass a new statute that allows for park management in accordance with the particular wetland ecosystem. This first-of-its-kind statute is poised to change how wetlands are managed across the country. As a direct result of the statute and other partnership habitat restoration efforts in Tram Chim, bird numbers have increased dramatically. The number of endangered Sarus crane has stabilized, and the critically endangered Bengal florican was sighted for the first time in nearly a decade in 2009. This is just one example of the kind of impact WWF and Coca-Cola are having across the globe. There are dozens of stories like this one.

Awareness of the global importance of preserving our freshwater resources is building. While abstract concepts to many, water scarcity and climate change are already harsh realities for others. Without deliberate action, the UN estimates that by 2025 two-thirds of the world's population will live in water-stressed regions as a result of unsustainable water use, population growth and climate change. Such large-scale issues require the collective action of governments, NGOs, corporations and individuals. The partnership between WWF and The Coca-Cola Company is an innovative response to this global concern. To solve the world's most pressing challenges, it is going to take all of us working together.

Forest certification and supply chain management at Stora Enso Wood Supply

WE HAVE MANAGED AT STORA ENSO TO INCREASE THE SHARE OF CERTIFIED WOOD IN OUR WOOD SUPPLY FROM 49% IN 2005 TO 67% IN 2009.

by **Herbert Pircher** ●

Vice President, Wood Supply Sustainability, Stora Enso Wood Supply

SUSTAINABLE FOREST MANAGEMENT AND FOREST CERTIFICATION

The demand of customer groups for certified products in combination with occasionally better sales prices, the fulfillment of public procurement requirements (market access) and the conviction that sustainable forest management as part of responsible business behavior in general is crucial for the long term success of Stora Enso determines our sustainability work in wood procurement operations.

At Stora Enso we also believe that sustainable forest management, as defined by Forest Europe and other regional forestry initiatives (Montreal Process, ITTO) based on the Forest Principles adopted at the United Nations Conference on Environment and Development in 1992, contributes to the conservation of biodiversity, secures a sustainable raw material flow and supports the positive development of forest dependent communities.

On land owned or managed by Stora Enso we therefore practice sustainable forest and land management. The practical implementation of SFM includes, inter alia:

- Ecological landscape planning
- Identification and protection of key habitats
- Protection of rare, threatened and endangered species and their habitats
- Protection of water courses and riparian zones
- Fire management (where appropriate)
- Retention of trees and groups of trees on harvesting sites
- Protection of cultural sites
- Promotion of environmentally friendly non-chemical methods of pest management
- Avoidance of machine oil spills and waste disposal
- Natural regeneration of forests
- Use of exotic species to be carefully tested and monitored
- No commercial use of controversial genetic engineering techniques on trees.

The best independent proof of sustainable forest management is through impartial and credible third party accredited certification systems. Such systems have to take into consideration

national and regional characteristics, have to include social, economic and environmental aspects and should be formulated through open stakeholder dialogue. In the areas where Stora Enso is operating, FSC and PEFC are the most important forest certification systems.

By end of 2009 all owned (and partly owned) and leased areas supplying wood to own mills in Sweden, Finland, Russia and Brazil were certified by the Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC). Plantations in the establishment phase in Uruguay, Brazil and China are either partly certified or are preparing for certification in the coming years.

Beside the certification of our own forests and plantations we also promote forest and CoC certification of our suppliers and support especially small forest owners through FSC group forest certification in Sweden and Estonia. Hereby Stora Enso acts as the group manager and takes over the majority of certification work and hence cost for the forest owner. We also support major suppliers in Russia to become FSC certified as well as tree farmers in Brazil.

Globally about 360 million ha, or 9%, of the world's forests are certified according PEFC and FSC, with the majority of certified forests in the boreal and temperate zone of Europe (92 million ha) and North America (198 million ha). These two regions account for 80.5% of the total certified area.

Beside the limited availability of certified forests we have managed at Stora Enso to increase the share of certified wood in our wood supply from 49% in 2005 to 67% in 2009. Our target for 2010 is to further increase this share to 69%. Lacking consumer awareness, the very limited willingness to pay higher prices for certified products and the cost of forest management certification are the biggest challenges to boost the share of certified fiber.

TRACEABILITY AND CHAIN OF CUSTODY

The certification of forests is the starting point. Along the supply chain a third-party verified CoC system provides assurance mechanisms to demonstrate to consumers that the wood used in products comes from sustainably managed forests. Both major certification systems have their own CoC standard which demands that every link in the supply chain that takes ownership of the wood set up certain administrative procedures and undergo external certification.

Due to limited availability certified wood usually has to be mixed with uncertified deliveries. The vast majority of uncertified forests are managed in a sustainable way and are therefore an acceptable source of raw material. To avoid sourcing of wood from controversial sources (for example illegal harvesting), the

CoC standards of PEFC, FSC and especially the FSC Controlled Wood standard requires a risk assessment on national, regional or district level and depending on the outcome an evaluation on supplier level. We encourage our suppliers to become third-party CoC certified and where possible we give preference to CoC certified suppliers in our wood procurement operations.

Whether the wood we use comes from CoC certified suppliers and certified forests or not, we want our stakeholders to be able to trust that it originates from sustainable sources. Therefore we established our own traceability systems to check that all wood has been harvested in compliance with national legislation and according to our Wood Procurement Principles. The traceability systems involve wood purchasing contracts, registering data on the origin of the wood in an agreed format and time frame, and supplier and field audits conducted by Stora Enso.

To increase the credibility of our own traceability systems we also use third-party certification, either through ISO 14001, PEFC or FSC CoC by integrating the traceability system in the environmental management system or into the established procedures as required by the CoC standards of the certification systems. In 2009, 99% of our purchased wood and pulp was covered by third-party certified traceability systems and we are confident to reach 100% during 2010.

ABOUT STORA ENSO

Stora Enso is a global paper, packaging and wood products company with sales of EUR 8,9 billion in 2009 and approximately 27,000 employees in more than 35 countries worldwide. Wood is Stora Enso’s most important raw material. We procure the vast majority of our wood in Finland, Sweden, the Baltic Countries, Continental Europe and Russia. Some 7% of our wood is sourced from tree plantations in the Southern Hemisphere. In 2009, the total amount of wood delivered to our mills exceeded 30 million m³. Although currently only 7% of the wood we use comes from

tree plantations, these plantation sources have an increasingly important role for Stora Enso.

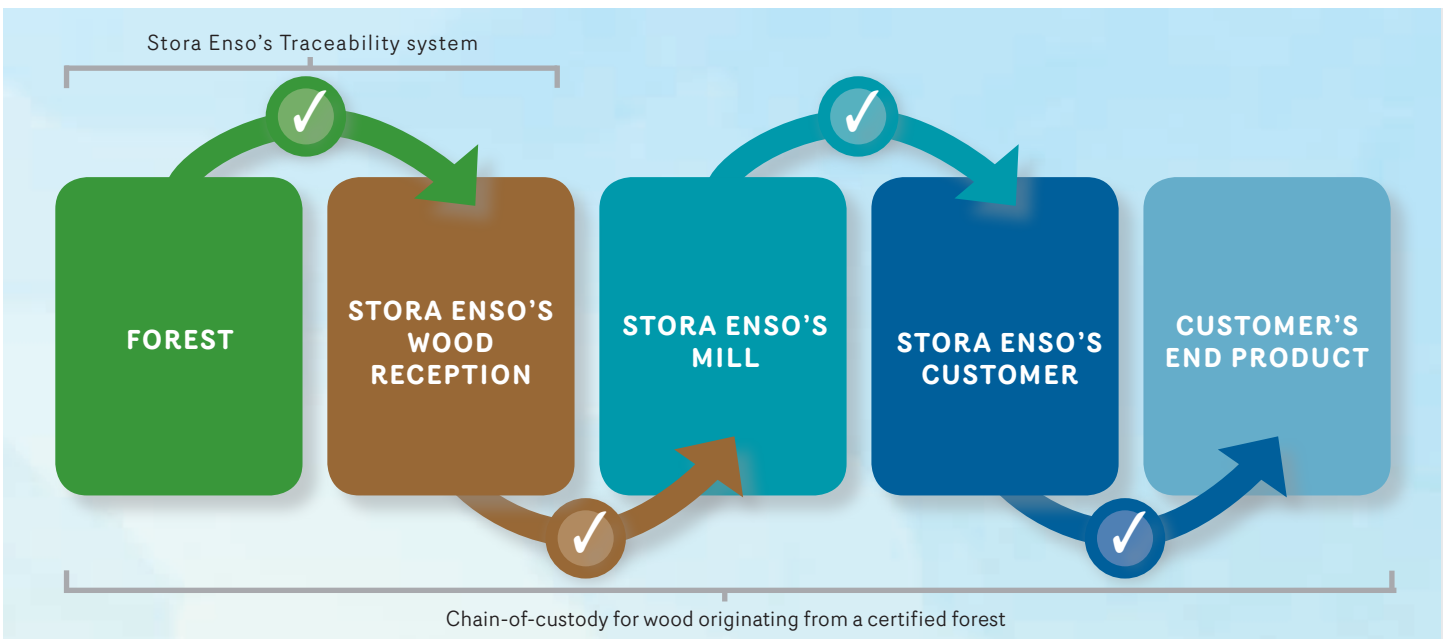
Stora Enso is committed to sustainable development and our sustainability policy forms the cornerstone for our social and environmental work and related principles guide our employees. The “Principles for Sustainable Wood and Fibre Procurement and Land Management” is one example, which sets out the framework for implementing, monitoring and improving environmental and social responsibility in wood and fibre procurement and forest management. Two important statements in these principles related to forest certification and supply chain management are:

- We support sustainable forest management and promote forest certification on all land used to supply us with wood and fibre
- We utilize traceability systems as the means to enable us to ensure all wood and fibre originate from legal sources and strive for third party verification of these systems through ISO, EMAS or Chain of Custody (CoC).

SUMMARY

At Stora Enso we believe that only sustainable managed forests and tree plantations secure and provide various ecosystem functions, contribute to the preservation of biodiversity and deliver valuable raw material.

Responsible wood procurement throughout the supply chain is crucial for securing the implementation of sustainable forest management. To make sure our wood comes always from sustainable sources we, (1) certify our own managed forests and plantations, (2) promote credible forest certification where possible and give preference to raw material from credible certified forests, (3) promote third party verified Chain of Custody certification along the supply chain, and (4) establish third party verified company own traceability systems.



Water funds attract investments

THE NATURE CONSERVANCY AND PARTNERS IN LATIN AMERICA ARE LEVERAGING THE VALUE OF WATER TO ENLIST CORPORATIONS TO PROTECT NATURE, BUSINESS.

by **Aurelio Ramos** ● Director of Conservation Programs in Latin America, The Nature Conservancy and **Rebecca Goldman** ● Senior Scientist, The Nature Conservancy

Nature captures water for us, stores it, cleans it and delivers it to us. Since just one percent of the water on Earth is available fresh water that we can use to meet our needs – drinking, cooking, irrigating crops, manufacturing goods and much more – we all have a profound stake in protecting natural areas that provide us with clean water.

When protective forests, grasslands and other native vegetation in a watershed are cleared away or degraded, our waterways lose natural filtration and regulation systems. Downstream, that means erratic water supply and higher treatment costs for water users who can afford it – and dirty water for those who cannot. These costs suggest untapped opportunities to engage the private sector in conservation.

An innovative solution forged in Latin America is providing an effective way for corporations to influence and invest in the protection of water sources that are critical for their operations.

AN INNOVATIVE SOLUTION

Quito, Ecuador, stretches through a long valley high in the Andes, flanked on the east by three protected areas that encompass nearly half a million hectares of forests and unique high altitude grasslands called paramo. The parks harbor a tremendous diversity of species, including orchids, the rare Andean condor, white-fronted spider monkey, mountain tapir and more species of hummingbirds—132—than is found in any other country.

However, the cost of adequately patrolling and managing these vast areas is much greater than available funding. Additionally, many people live in and around the parks. With few options for income in these remote areas, they have little choice but to convert habitat into small farms or rangeland for cattle to meet their livelihood needs.

In 2000, local Nature Conservancy staff struggling to bring more resources to the protected areas spotted an opportunity: rivers flowing from the parks provide more than 80 percent of the water supply for Quito's 1.6 million citizens.

The Conservancy teamed up with local group Fundación Antisana to create a way for public and private stakeholders in Quito to help reduce the potential for water shortages and higher treatment costs by proactively investing in the protection of nature upstream. The investments would be used to secure the protected areas, improve management of farms and ranches, and provide people living in key areas new sources of income that avoid damage to rivers and the lands that feed into them.

STABLE, INCLUSIVE AND TRANSPARENT

The simplicity of the concept belies the complexity of creating multi-stakeholder financial and institutional mechanisms for gathering, managing and disbursing investments to achieve multiple objectives across jurisdictional boundaries.

The partners designed an endowment for conservation: a water fund. Investors would capitalize the fund to a large sum, the capital would be invested and earnings would be used to protect the watershed, creating a self-sustaining funding source for conservation.

A board of directors made up of representatives of investors, local communities, indigenous groups and non-profits, including The Nature Conservancy, was created to oversee the fund and determine how to disburse earnings.

TURNING \$21,000 INTO \$8,000,000

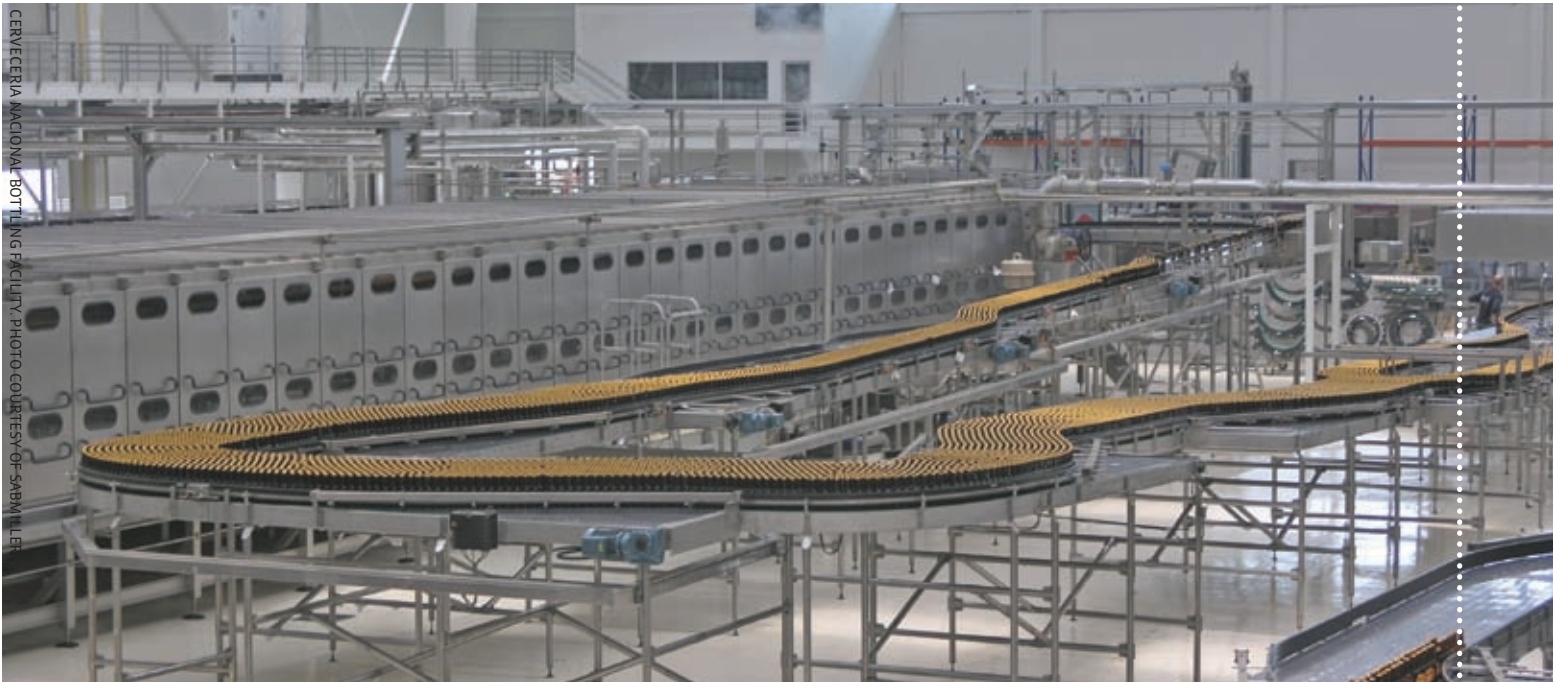
The Quito Water Fund—called Fondo para el Protección del Agua or FONAG—was seeded with \$1,000 from The Nature Conservancy and \$20,000 from Quito's public water authority. Quito's power authority joined the fund with the goal of keeping sufficient water—and less sediment—flowing into their hydropower grid.

A major turning point came when brewer Cervecería Nacional—a SABMiller subsidiary—became the first private contributor to the fund, seeing in it an opportunity to secure their access to clean water and keep business costs down. Water bottling company Tesalia Springs followed suit.

Investments have now grown the fund to nearly \$8 million. In 2008, earned interest allowed disbursements of \$800,000 for conservation. Conservancy scientists and partners are designing rigorous outcome-based measures to ensure that investments are achieving fund goals.

SEEDING SMALL BUSINESS

The Quito Water Fund has hired community-based park guards to patrol and maintain the protected areas and hires local people to plant trees, restore degraded river banks and build fences to keep cattle and crops a safe distance from streams and rivers.



To further ease land conversion pressure, the fund also helps local people, mainly women, start new businesses of their own choosing by providing small grants and supplies, such as sewing machines to make clothing to sell or an industrial oven for making dried medicinal herbs and fruit for local markets.

The fund also provides families with supplemental food sources, such as organic vegetable gardens, and expanded capacity for the production of goods, such as building a milk bottling plant in the community to reduce shipping costs and payments for outside bottling fees.

A REPLICABLE MODEL

There are now seven water funds in varying stages of operation in Ecuador and Colombia, helping protect over 1.6 million hectares of natural lands and sources of water for more than 11 million people. Combined capital stands at \$10.5 million currently with \$35 million projected within the next decade.

The water fund serves as a unique setting for the private sector, government and local communities to work together to make decisions about their resources. The endowment structure provides incentive for sustained engagement; even if one stakeholder stops collaborating, the revenue source for conservation still exists and work continues.

Tailored to local opportunities, needs and laws, the water funds vary from municipality to municipality and continue to evolve. For example, a new Bogotá Water Fund has adapted the model to disburse a set portion of the capital from early stages in order to more rapidly catalyze on-the-ground action.

Roughly half the investments are coming from public water and electric utilities and half from private corporations that are heavily dependent on a regular supply of clean water. Another SABMiller subsidiary, Bavaria, helped launch the Bogotá Water Fund. In the East Cauca valley of Colombia, a fund was created where the primary investor is the country's sugarcane growers association, ASOCAÑA.

Water funds have also helped attract funding from aid agencies and foundations that does not go towards populating the fund itself. For example, the United States Agency for International Development (USAID) has bolstered the success of the Quito and East Cauca Valley Water Funds by providing parallel funding for conservation and monitoring activities in the watershed.

Such funding is vital for actually setting up a water fund, a labor-intensive effort that typically spans two years and involves a range of behind-the-scenes costs, such as scientific analyses to guide prioritization, financial feasibility studies and extensive research to ensure legally-robust governance structures.

POTENTIAL FOR GLOBAL EXPORT

Six more water funds are currently in development, including one in Peru. The Conservancy's goal is to have 32 water funds in varying stages of growth in Colombia, Ecuador, Brazil, Peru and Mexico by 2015, an ambitious –and urgently needed – effort that has been bolstered by significant new funding from the Inter-American Development Bank (IDB) by way of the Global Environment Facility Earth-Fund. The Conservancy works in nearly 30 countries on four continents, so opportunities are being explored to export the model beyond Latin America.

Regulation of use of genetic resources in the Norwegian Nature Diversity Act

by **Morten Walløe Tvedt** • Senior Research Fellow
Fridtjof Nansen Institute (FNI), Oslo, Norway

One basic idea in the Convention on Biological Diversity (CBD) is that the ones drawing benefits from the use of genetic resources shall contribute to the conservation of biological diversity through the system which is called Access and Benefit Sharing (ABS). There is a growing recognition that sharing of benefits has not been a successful tool for contribution to conservation of biological diversity yet. This gives rise to the question of how this trend can be turned around so each user of genetic resources contributes to the long term maintenance of biological diversity. This is supposed to happen by each business actor entering into contracts with the providers either at point of time of access or when benefits are arising from the utilisation of genetic resources. To increase the incentives for business to do so, legislation in its home country could play a crucial role.

Article 15.7 of the CBD contains an obligation upon countries where genetic resources are being used to take 'policy, administrative and legislative measures' under its jurisdiction to promote the fair sharing of benefits arising from the utilisation of genetic resources.

The current discussions in the Working Group about a new Protocol on Access and Benefit Sharing is exploring how a supplementing system to the CBD could make the benefit sharing system more functional and to create stronger in-

centives for business to share a fair and equitable part of the benefits arising from the utilisation of genetic resources from another country.

Norway has, as one of the few typical user countries, implemented an obligation upon users of genetic resources from other countries which aims at creating incentives for business to share benefits with the providing country (Section 60 para 1 of its new Nature Diversity act of June 19, 2009), which reads as follows:

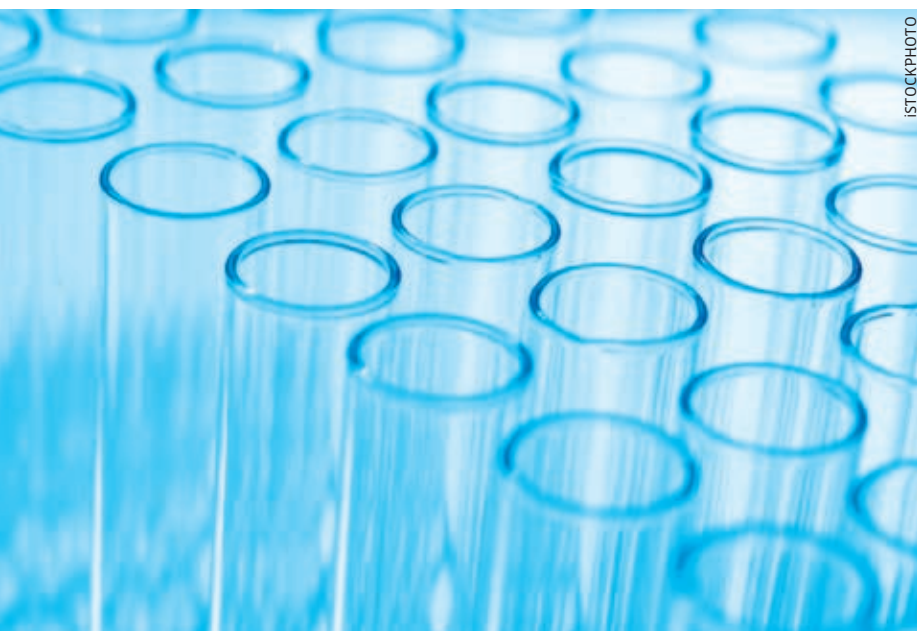
"The import for utilisation in Norway of genetic material from a state that requires consent for collection or export of such material may only take place in accordance with such consent. The person that has control of the material is bound by the conditions that have been set for consent. The state may enforce the conditions by bringing legal action on behalf of the person that set them."

This paragraph sets three important rules for business. It establishes that import of genetic material to Norway can only take place in accordance with prior informed consent. After the import, any possessor of the material is bound by the terms of prior informed consent. According to these provisions, Norwegian citizens or others operating under Norwegian jurisdiction, are bound by the conditions established by the provider, not merely by the contract or administrative decision from the providing country, but also based on the Norwegian act. Norway thus expects that its courts and agencies will directly apply the terms and conditions set by the provider country.

From a practical business perspective this means that everyone must seek prior informed consent from the country of origin before bringing genetic material into Norway. This can be said to establish a positive incentive for business to enter into agreements with the providers of genetic resources which is designated for use in Norway. One challenge for business is that the requirements in providing countries vary – with the consequence that one must adhere to different regulatory systems among countries.

Equally important for any business in Norway, is that any company is bound by the terms and conditions that were set by the providing country at the point of time of access. This extends the obligation to cover all users of foreign genetic resources in Norway, not limited to those companies and persons who imported the genetic resources.

In recognition of the difficulties for a provider to enforce a benefit sharing clause the act establishes procedural competence for Norwegian authorities to bring legal action on behalf of the





relevant person or institution. A provider of genetic materials who wants to benefit from Section 60 of the Nature Diversity Act would probably be best helped by contacting the Norwegian National Focal Point for Access and Benefit Sharing within the Ministry of the Environment.

It should be noted that the decision on whether to initiate a case on behalf of a provider would depend on the discretion of Norwegian authorities, and is not left with the provider-country authorities. According to Chapter IX of the Act, a user who is failing to comply with the requirements of Section 60 may be ordered to provide the information, and may, if failing to comply with the order, be subject to a coercive fine (Sections 69 and 73 respectively).

As the act has entered into force only a year ago, still no practical experiences from this obligation have been seen. Also such a system of enforcement would become stronger if more countries copied this incentive so business users of genetic resources world-wide become aware of their responsibility to contribute with a part to conservation of biological diversity.

From a practical business perspective this means that everyone must seek prior informed consent from the country of origin before bringing genetic material into Norway.

By being one of the very few countries having implemented such a rule, Norway exposes itself for establishing a less advantageous competition situation for local businesses using genetic resources. This disadvantage has been weight against the importance of creating incentives for business to contribute to the conservation of biological diversity. In a long term perspective, biological diversity is a prerequisite for lucrative commercial biotechnology so a benefit sharing system basically would secure the future research-base for business. As the negotiations are not yet finalised by the end of August 2010, much is at stake before the Conference of the Parties 10 in Nagoya. The conclusion of an ABS Protocol is also only one first step, as implementation into national legislation is needed for these conservation incentives to become in place.

Biodiversity: At Syngenta we mean business

OPERATION POLLINATOR: IMPROVING THE FORTUNES OF THE WORLD'S POLLINATORS, WHILST RETAINING FARM PROFITABILITY

by **Patrick Weiss**

Stewardship and Sustainable Agriculture Manager, Syngenta AG

One of our most important and successful biodiversity enhancement programs is Operation Pollinator, a global initiative that aims to boost the numbers of native pollinating insects such as wild bees, bumble bees, hoverflies and butterflies. The program enables growers to cultivate wild flora that are favoured by pollinating insects on the edges or near fields of commercial farms. Growers are provided with targeted seed mixes, along with innovative agronomic practices and advice.

Operation Pollinator is based on scientific research and has been presented in European Parliament as an example of a simple method for increasing biodiversity on farms and surrounding areas in the debate on managing public goods and the reform of European agriculture.

Pollinators are essential for food production, as they help over 80% of all agricultural crops flower and reproduce. They also have an intrinsic value in natural ecosystems by pollinating many wild plant species which help to provide the fruit and vegetables we eat every day. For example, without honeybees providing their honey our breakfast tables would be far poorer! No wonder then that the estimated value of the services pollinators provide us with is €150 billion per year.

Worryingly, the number of pollinators in Europe and the United States has been and is still declining at significant rates. This decline has been linked to habitat loss, disease and viruses, changes in agriculture practices, and urban sprawl, among other factors.

While many heavily managed farm landscapes often lack the diversity and abundance of flowers that pollinators require, recent research has shown this trend can be reversed. Requirements for supporting a pollinator community include diversity in foraging habitats, with diverse, rich nectar and pollen nutrition, as well as adequate nesting habitats. This is where Operation Pollinator comes in.

Operation Pollinator is supported by independent researchers who understand what is needed to increase numbers of pollinators in specific eco-regions around the world. Syngenta provides farmers with tools and practical solutions to attract pollinators back to their farm, including:

- Developing targeted local seed mixes to attract native pollinating insects, providing both nectar and pollen as food sources and also nesting sites
- Demonstrating best management practices for creating and managing high quality habitat, including innovative use of crop protection products and site selection (ideally about 1% of the total farm area)
- Measuring pollinator species before implementation and after (at various time points) to show increase in numbers and diversity
- Measuring crop yields in some project sites compared with controls to measure any changes.

The program involves collaboration with a wide range of partners including experts in biodiversity monitoring, national government bodies, research organisations, NGOs, food chain partners and, last but not least, farmer groups.

Operation Pollinator has been hugely successful and enthusiastically adopted by farmers across Europe, and is starting to take off in the United States. In the United Kingdom, where the project first started in 2003, over 1000 hectares of dedicated pollinator habitat have been created, with measured increases in bumble bee numbers of up to 600%. Other pollinators have also increased significantly and the rare bee *Bombus ruderals* has reappeared in many locations where it was not seen for many years.

In addition, there are measurable increases in other non-target species such as birds and small mammals. Furthermore, increasing numbers of native pollinators has been shown to increase yields and quality of some key European farm crops. On spring rapeseed for example a beneficial effect of pollinating insects on seed setting was proven for all cultivars. The highest increase was in the cultivar Margo where the rate of pod setting was 44% for free insect access and only as little as 18% for restricted insect access situation. Additionally the pods free for insect access contained up to 50% more seeds. In Europe the program has more recently been adopted in Germany, France, Italy, Spain, Portugal, Hungary, Greece, Sweden, Ireland, Belgium and Switzerland. Currently over 2000 farmers are engaged in growing pollinator strips on their farms, across 14 countries, representing over 2000 hectares of margins, and the numbers continue to increase.

Operation Pollinator has proven to help growers successfully establish and manage pollen and nectar-rich habitats on less productive areas around the farm—with dramatic recovery in the fortunes of pollinating insect populations. In addition, farmer yields are maintained and improved through adoption of these sustainable practices. Operation Pollinator clearly shows that biodiversity conservation and productive agriculture are not only compatible, but are beneficial for each other.



ABOUT SYNGENTA

At Syngenta—one of the world's leading agribusiness companies—biodiversity is also the support system of our business. Protecting biodiversity, as part of sustainable agriculture systems, drives our commercial success; loss of biodiversity represents a significant business risk.

Syngenta spends around \$1 billion annually on agriculture innovation and consequently recognise the importance of crop genetic diversity as the crucial 'raw material' to help seed breeders enhance crop productivity and respond to changing conditions such as new disease, pest pressures and climate change. For the same reason, Syngenta is a member of the Global Crop Diversity Trust, a foundation committed to conserving crop genetic diversity for global food security.

Diversity of wild species on the farm, like pollinating insects, birds and soil micro-organisms, is critically important to maintain healthy ecosystems that allow agriculture to be more productive. Syngenta products and technologies enable farmers to adopt sustainable practices that protect biodiversity on the farm, like no-till farming and Integrated Pest Management.

But we need to remember that habitat destruction is the biggest threat to biodiversity. The overall number of species is declining at a historically high rate as the world's population increases

Worryingly, the number of pollinators in Europe and the United States has been and is still declining at significant rates.

and land is converted for industrial, domestic or agricultural use. By helping farmers grow more on existing farmland, Syngenta helps meet rising global demands for food and feed without the need to encroach into new biodiversity-rich spaces.

We therefore have a deep understanding of the symbiotic relationship between agriculture and biodiversity. Without biodiversity, we cannot hope to produce the food we need, and without continuous increases in productivity of agriculture, we cannot conserve biodiversity. We are actively engaged in many aspects of promoting and helping to educate people about the importance of biodiversity in agriculture and how the two must go together to ensure food security.

Our field teams are working with farmers to promote 'biodiversity-friendly' farming through the provision of training and advice to farmers. We show how field margins can be used to improve the biodiversity of birds and encourage pollinating insect populations to thrive.

Making a profit for the good of the sea

SEACULT SEES BUSINESS OPPORTUNITIES IN SAVING AND REHABILITATING THE SEA

by **Sverre Meisingset** ● Manager, SeaCult

SeaCult is combining industrial development in the offshore sector with preservation of the marine environment. The company's business idea can be split into two categories: direct development of the offshore industry (SeaCult Offshore) and the rehabilitation category (SeaCultivation).

SeaCult Offshore focuses on the direct developments of offshore industry, primarily wind farms. Industrial development offshore implies a large impact on the seabed. Therefore, SeaCult Offshore provides solutions such as underwater cable protection and an offshore windmill anti-erosion system to minimize the environmental impact.

Offshore installations such as oil and gas platforms and wind farms are constantly looking for the optimal way of laying cables to connect it to the shoreline. Instead of trenching the seabed, which causes damage, the cheaper and less devastating way of laying the cables is laying them on top with a cable protection made out of partially recycled concrete.

Windmills standing on the seabed are at risk of becoming unstable because of erosion. The traditional way of countering the challenge of erosion around the windmill base is by laying gravel. In cooperation with SINTEF, SeaCult has developed devices that are placed in a circle around the base at a distance from the windmill to stop sea currents from causing erosion. The solutions would enable sea life to continue to grow. In cooperation with DONG in Denmark and other Scandinavian offshore industries, tests are currently underway at Horns Ræv, where a large offshore wind farm project is being developed.

In the next 10 to 20 years we will witness an explosion of offshore windmill farms providing electricity to millions of people worldwide.

SeaCultivation focuses on the rehabilitation of seabeds damaged by industrial development or natural disasters resulting in destruction of seagrass and coral. In Hammerfest and in Dubai, the habitat test programs are showing considerable positive results (For a report on this project, please see: www.seacult.com).

Going forward, SeaCult will soon release a product called "Ocean Habitat". In areas where the seabed is inhabitable, Ocean

Habitat will enable fish-fry to grow on floating devices mid-sea. Such a product is particularly useful around offshore installations. Buoyancy is achieved by air-filled pipes or buoys.

NEW MARKETS EMERGING

The world is in need of new energy. The demand for cheap, and preferably renewable energy, is on the rise. In the next 10 to 20 years we will witness an explosion of offshore windmill farms providing electricity to millions of people worldwide. The developers of these energy farms are looking for solutions that are cheap; and if these solutions are sustainable, it will be a major bonus for the companies.

Offshore windmills are new territory, but offshore installations have long been placed for other commercial uses, such as oil and gas exploration. A large number of old offshore installations are and will be removed in the coming years. These installations have in some cases caused great damage to the marine environment, and rehabilitation efforts are needed. Industry, governments and marine biologists all agree on the need for action. However, the responsibilities are not yet defined and new requirements may be needed.

MORE ON SEACULT

Five years ago, SeaCult, in cooperation with the Norwegian Institute for Water Research (NIVA), Statoil, and Hammerfest Municipality, started a test project laying down artificial reef habitats to try to reinvigorate sea tangle life and create fry and fish breeding. Today those artificial reefs have laid the groundwork for a flourishing fry around healthy aquatic vegetation. The design has also prevented sea-urchins from festering. The artificial reefs are only one of a series of uniquely designed solutions straddling the crossroads between environment protection and offshore industrial development.

Based in Tønsberg, Norway, it is ideally placed for offshore-related business development, but the company needed allies in developing its products. This came in the form of cooperation with Scandinavian offshore industry and research-communities. In particular, SINTEF, the largest independent research organization in Scandinavia, and NIVA, have both been working closely with SeaCult to help design sustainable offshore solutions for the energy industry, and also for rehabilitation projects.

SeaCult aims to ensure that offshore industries integrate their commercial and their environmental goals. The latter often comes at a cost for the first. By combining industrial needs with marine aquatic knowledge, SeaCult has carved out a new and important business niche for sustainable growth.

SeaCult is a business like any other—commercial success is key to its continued existence. The solutions that the company offers were developed with an industrial perspective. In other



words, the cheapest, most efficient way to achieve sustainable offshore development.

AN UPHILL STRUGGLE

As any emerging market, the commercial environment is challenging, and survival for any new company is on top of the agenda. A legal framework providing a sound industrial base and at the same time protecting precious sea life is essential for a sustainable future in the offshore sector. But such seabed legislation is still far off from being completed.

Despite varying legislative frameworks, being an entrepreneur in a new market provides for a large potential for success. But a small, new structure in a sector with typically large players used to being able to wait several years and

use millions of invested dollars before seeing returns, is not easy. However, with a novel idea and strategic alliances, a company such as SeaCult can go far.

FOR THE GOOD OF THE ECONOMY AND THE ENVIRONMENT

The renewables industry offers a good solution to the growing energy needs of our economies. But windmills need space and wind. The oceans provide that, but not without environmental costs.

SeaCult tries to provide for sustainable growth in sensitive habitats while ensuring earnings for a sector struggling against cheaper electricity sources. However, there is hope for the future when we see business opportunities in saving and rehabilitating the sea.

Protecting biodiversity through forest certification

FSC CERTIFICATION ENSURES THAT FOREST PRODUCTS MEET FSC'S STRICT STANDARDS FOR RESPONSIBLE FOREST MANAGEMENT AND CHAIN OF CUSTODY. THE FSC LABEL CREATES A LINK BETWEEN CONSUMER CHOICE AND IMPROVED FOREST MANAGEMENT WORLDWIDE.

by **Mr. Andre Giacini de Freitas** ●
Director General of the Forest Stewardship Council.

ENGAGING THE MARKET THROUGH CERTIFICATION

FSC uses certification to engage the market, driving recognition of the value of forests to improve social and environmental practices in forest management worldwide. FSC Forest Management (FM) certification has been growing year on year. In September 2009, FSC celebrated the 1,000th FM Certificate, issued to a small farmers association in Portugal. There are currently 1022 FM certificates and over 136 million hectares of forests certified to the FSC standards in more than 80 countries.

FSC's current growth is a response to market demand for FSC certified products and demonstrates a large political and economic force that is

endorsing and promoting the FSC system globally. The number of FSC Chain of Custody (CoC) certificates is growing steadily with over 18,500 certificates issued in more than 103 countries. Tracing FSC certified timber through the production chain, FSC CoC certification is for companies willing to demonstrate to their customers that they use responsibly harvested forest materials.

The growth in FSC certificates signals that more and more businesses and consumers are demanding forest products that benefit people and the environment. By facilitating this demand and creating incentives for forest managers, FSC certification empowers businesses to have a direct influence on the future of the world's forests. Through FSC certification, your procurement decisions can help ensure that biodiversity is valued, conserved, restored and used wisely to the benefit of present and future generations.

LINK WITH STRATEGIC PLAN

The new strategic plan of the Convention on Biological Diversity (CBD) envisions a world where biodiversity is conserved, restored and wisely used, ensuring that the planet is healthy and people have access to essential benefits. The CBD conveys values that are at the core of the Forest Stewardship Council's vision, a world where forests meet the social, ecological and economic rights and needs of the present generation without compromising those of future generations.

Forests only cover about 30% of the world's surface, yet they are home to about half of terrestrial biodiversity and millions of the poorest people. If managed responsibly, we can use forest resources and at the same time maintain forest areas for biodiversity, ecosystem services and benefits for local and global communities. Established in 1993 as a response to concerns over global deforestation, the Forest Stewardship Council (FSC) is a nongovernmental, non-profit organization that promotes the responsible management of the world's forests.

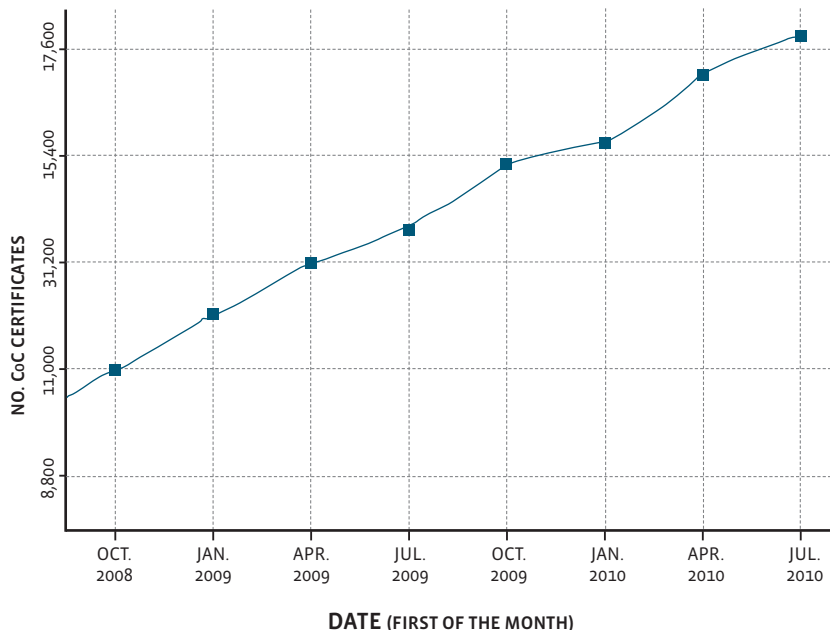
Biodiversity protection is enshrined in the FSC Principles and Criteria (P&C), a set of requirements that describe how forests have to be managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. When a forest manager decides to become FSC certified, their management and operations must conform to these requirements before earning FSC certification and the right to use the FSC label. This is how FSC has a direct and permanent positive impact on biodiversity in the world's forests.

CLEAR LINK BETWEEN CBD AND FSC

There is clear link between the strategic goals set by the CBD and the FSC P&C for responsible forest management. FSC Principle 6 mandates that forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes. The

FSC SUPPLY CHAIN GROWTH SINCE 2008 (CHAIN OF CUSTODY CERTIFICATES-CoC)

CoC OVER TIME





use of genetically modified organisms shall be prohibited and forest conversion to plantations or non-forest land uses shall not occur.

Principle 8 sets provisions for regular monitoring to assess the condition of the forest and their social and environmental impacts. FSC certification prioritizes the protection of especially valuable forest areas which includes both ecological and social values. To achieve this, FSC developed the concept of High Conservation Value Forest (HCVF).

HCVFs are forests of outstanding and critical importance. This could be due to the presence of endangered wildlife, or an unusually high number of rare plant species. Or it could be because the forest is of critical importance to local people, providing them with food, water, income or sites of cultural significance. Principle 9 of the FSC Principles and Criteria requires that forests with High Conservation Values (HCVs) increase or at the very least maintain these values.

FSC has a dedicated Monitoring and Evaluation Program that measures the impacts of certification on sustainable forest management. Research demonstrates that FSC certification is a catalyst for substantial improvements which reduce the direct pressure on biodiversity and en-

The growth in FSC certificates signals that more and more businesses and consumers are demanding forest products that benefit people and the environment.

sure that indigenous and local communities have access to ecosystem services. A noteworthy example is the WWF report “Great Apes & Logging” which concludes that FSC certification offers a good assurance for the preservation of great apes habitats.

Another well researched example is the Maya Biosphere Reserve, an area of tropical forest in Guatemala of which some areas are FSC certified. On behalf of the Rainforest Alliance, Hughell & Butterfield (2008) found that fire incidences in the FSC certified concessions decreased to 0.1% from 6.5% in 1998 when the first certificate was issued. FSC certified areas were also significantly more effective in preventing deforestation than protected areas where harvesting of wood and non-timber forest products is prohibited. Further examples and case studies including a review of more than 300 research papers are available in the resource center of FSC’s website www.fsc.org.

Farming First coalition builds consensus on sustainable agriculture priorities

FARMERS AROUND THE WORLD ARE FACING COMPETING PRESSURES TO GROW MORE FOOD WHILE PRESERVING THE WORLD'S ECOSYSTEMS.

by **Farming First** ● Farming First is a coalition of multi-stakeholder organisations that exists to articulate, endorse and promote practical, actionable programmes to further sustainable agricultural development worldwide. Farming First enjoys the support of 131 organisations representing the world's farmers, scientists, engineers and industry as well as agricultural development organisations. Farming First highlights the importance of improving farmers' livelihoods and agriculture's potential contribution to global issues such as food security, climate change, and biodiversity.

Farmers and others involved in agribusiness understand that a sustainable farm is a farm that supports decent livelihoods. To produce consistently high yields, farmers concern themselves with the quality of their soils and seeds as well as the accessibility of the most up-to-date tools and technologies to minimise their impacts while continuing to feed the global population. Giving farmers the incentives and innovations needed to safeguard biodiversity is an important aspect of this broader sustainability practice.

Farming First helps farmers and other agricultural organisations to share their priorities with global policymakers, to keep up to date with agricultural best practices and upcoming events through the Farming First website or to get more involved via their national associations (many of whom are supporters of the Farming First coalition).

Farming First was established as a call-to-action for policymakers to develop locally sustainable solutions for global agriculture. Farming First believes that policy-makers, regulators and the private sector can act together to secure biodiversity and the value it offers today and tomorrow. The coalition supports the following for protecting biodiversity through agriculture:

- Protect natural resources through sustainable agricultural practices such as sustainable use of land, water and energy resources, conservation agriculture, and through biodiversity-friendly practices, such as integrated pest management. The potential of existing biodiversity resources must be preserved through the development of seed banks and other approaches;
- Share knowledge of agriculture's role in preserving biodiversity through training programmes for all groups involved in farming and also higher up across the policy spectrum to generate government mechanisms for incentivizing biodiversity-friendly practices;
- Build local access to agricultural tools and infrastructure that help enhance biodiversity, for example multi-cropping systems or crop rotation, without jeopardizing agricultural production. Strategies should reflect local development priorities, including adapting farming approaches to local conditions, promoting local varieties and recognizing farmer's indigenous knowledge of local resource management;
- Protect harvests by building storage facilities and transport mechanisms, whilst providing support to farmers in managing weather variations and minimizing the amount of yield lost to prevent further expansion in land used for agriculture;
- Enable access to markets via recognition for ecosystem services, such as carbon sequestration, reforestation, measures against desertification and other sustainable land management practices as well as developing and supporting markets for underutilized local species which encourage local biodiversity;
- Prioritise research imperatives to create tools and techniques that increase the long-term potential of biodiversity while addressing our ever-increasing production needs. Research could also explore the use of technologies for instance satellite imagery and mapping, to improve habitat monitoring and enhance efficiency of ecosystem programmes.

SMALL EFFORT, BIG RESULT

Many farmers currently lack the technical and financial assets required for practising biodiversity-enhancing farming methods. However, some of the most effective actions are those that cost very little. Biodiversity corridors, for instance, involve growing hedges across the farm, providing habitat and shelter to wildlife, and help link separate habitats, allowing species to migrate between areas.

Promoting the importance of protecting biodiversity is especially important in developing countries where pressures on the land and strained natural resources mean that farmers have multiple demands upon them, undermining the country's development. Madagascar, for example, is a biodiversity hotspot, but land degradation and the effects of climate change are ravaging the nation's natural resources and it is estimated that 20 per cent of the island is already affected by desertification.

The government of Madagascar has launched several initiatives to rehabilitate the land. In the agricultural sector, where practices such as overgrazing are common, farmers are being encouraged to practice crop rotation to help regenerate soils in vital nutrients and minerals. Other practices such as installing windbreaks, using fertilizers, and planting trees have also

been introduced. This is just one example of simple yet effective methods that farmers can practice to safeguard biodiversity within agricultural land.

Policy makers need to recognise the natural and harmonious relationship between agriculture and biodiversity. What we need most is direction from the top to enable and encourage farmers to conserve biodiversity. Policy makers must develop and share best practice in biodiversity management, to produce effective techniques that can be promoted to farmers, under an incentivised scheme.

A fully comprehensive programme must be created, whereby policies take into account both production needs and environmental constraints. We must make use of the resources available, encouraging further development of locally adapted varieties; equally we should promote and invest in new biodiversity solutions and support the preservation of genetic resources to meet future human needs. Through identifying agricultural solutions to biodiversity loss, the world's farmers have a great potential to ensure that the world's biodiversity enjoys a sustainable future.

Along with the introduction of invasive alien species, overexploitation of natural resources, pollution, and climate change, the large-scale conversion of land to agriculture is one of the key threats to biodiversity. Clearing land destroys natural habitats and results in a loss of biodiversity, putting at risk those who depend on the natural resources and systems on that land.

Since agriculture uses nearly 30 percent of the Earth's surface, along with seven percent of global water resources, it is vital that farming practices reflect the need to safeguard biodiversity and maintain healthy ecosystems. The Convention on Biological Diversity's (CBD) new ten-year plan acknowledges this, proposing that by 2020, all agricultural land should be managed sustainably to ensure conservation of biodiversity. This needs to become a reality if we are to meet global biodiversity and development targets over the next decade.

A RECIPROCAL RELATIONSHIP

Agriculture is heavily reliant on a rich ecosystem to provide the essential natural resources for food production. Protecting biodiversity is critical to preserving the broad array of species and genotypes of plants and animals that make up our natural environment, preserving a diverse diet for future generations. Management of biodiversity plays an even more important role in maintaining the health of natural cycles that preserve soil fertility and water resources, and balance our carbon and oxygen levels. Conserving biodiversity is also essential for providing a range of ecosystem services we need directly for agriculture, such as flood prevention, natural pest control and crop fertilisa-



tion, and also those derived from agriculture, such as biodiversity corridors and landscape preservation.

Agriculture is faced with the double challenge of conserving ecosystems while ensuring future food security. This means that the role of the farmer is more crucial than ever. With a global population increase of 2.3 billion by 2050, food production must increase by 70 per cent, according to the Food and Agriculture Organization of the United Nations. This is a challenge exacerbated by a limited availability of natural resources, threats of climate change and changing global dietary requirements. Sustainable agricultural systems and techniques, that incorporate indigenous and modern knowledge, can help support biodiversity of genetic resources and protect habitats, while increasing food productivity. For this to work, these methods need to be supported by global and local policies.

PUTTING THE FARMER FIRST

Today's farmers are the true stewards of our global ecosystem. We must recognize the intrinsic contribution of farmers to biodiversity conservation, encourage the adoption of biodiversity-enhancing practices, and reward these stewardship activities. To empower farmers to safeguard the world's biodiversity, investment needs to be channelled into research programmes and agricultural innovation. Governments need to recognise how interconnected agriculture and biodiversity protection are, and subsequently strategies, policies and markets must reflect this.

Public-private partnerships are key to identifying and addressing innovation gaps as well as disseminating effective tool and technologies to farmers. The private sector, in particular, should focus on understanding and improving upon the economic benefits of natural resource management.

Identifying the critical areas in the open seas

IDENTIFYING ECOLOGICALLY AND BIOLOGICALLY IMPORTANT SITES IN THE OPEN-OCEANS AND DEEP SEAS ADVANCES STEWARDSHIP, SUSTAINABILITY, AND LONG-TERM VALUE OF FISHERIES AND OCEAN INDUSTRIES

by **Patrick N. Halpin** ●

Associate Professor of Marine Geospatial Ecology, Duke University Marine Laboratory. Professor Halpin a member of the Scientific Steering Committees of the Census of Marine Life and the Global Ocean Biodiversity Initiative

The ten-year Census of Marine Life (CoML) program (<http://coml.org>) representing more than 2000 scientists from more than 80 countries is completing its initial phase of discovery and the fruits of that ongoing effort are now becoming available for use in ocean research, policy and management.

The central data repository of the Census, the Ocean Biogeographic Information System (<http://iobis.org>) now makes publically available approximately 30 million records of marine biological data across all areas of the world's oceans and has now become a permanent datacenter under the Intergovernmental Oceanographic Commission (UNESCO- IOC / IODE).

These data are freely available to industries researchers, government and non-governmental agencies to provide objective information for planning and evaluating ocean industry management. In addition, a new consortium, the Global Ocean Biodiversity Initiative (<http://gobi.org>) has recently been formed specifically to address the needs for identifying critical areas especially in the open-oceans and deep seas beyond national jurisdiction.

An intended core legacy of the Census of Marine Life and OBIS is to make scientific data available to help ocean users better manage ocean resources sustainably into the future. A core priority of the newly formed Global Ocean Biodiversity Initiative (GOBI) is to help identify critical areas of importance in our ocean systems. Researchers from CoML and GOBI have been actively working with the Conference of the Parties (COP) to the CBD on the process of identifying ecologically or biologically significant areas (EBSAs) in our global oceans.

In 2008 the Conference of the Parties (COP) to the CBD adopted scientific criteria for identifying ecologically or biologically significant marine areas (EBSAs) in need of protection. CoML and GOBI participants have been involved in expert workshops to review and synthesize progress on the identification of areas beyond national jurisdiction which meet the adopted CBD scientific criteria.

These criteria are based on seven general areas of consideration:

- Uniqueness or rarity
- Special importance for life history of species
- Importance for threatened, endangered or declining species and/or habitats
- Vulnerability, fragility, sensitivity, slow recovery
- Biological productivity
- Biological diversity
- Naturalness

Defining standard and accepted methods for applying these criteria and developing initial maps of potential EBSA locations is a high priority at this time. The identification of a site as ecologically or biologically significant does not dictate a specific management response but will provide ocean users and ocean industries a more transparent and objective process for identifying areas of higher risk or potential conflict. The central benefit for ocean industries is to provide more predictability for long-term planning.

Ocean industries, governments and non-governmental organizations all require reliable information on the location and status of critical areas of ecological or biological importance in order to meet sustainable long-term planning goals. Consistent and objective definition of critical areas of the open ocean and deep seas is both good for sustainable commerce and good for sustainable conservation. Fisheries, shipping, oil and gas exploration, seabed mining and numerous other ocean industries need critical ocean biodiversity information in order to lower risk and meet sustainable management goals into the future.

Identification of critical areas is an especially critical step for global fisheries management. Areas of high ecological or biological value are not just areas for potential closure or avoidance, but are often areas of high value as the critical habitat, spawning areas or migratory corridors for commercially important species. Identification of the location and connectedness of these critical areas is a crucial step in sustainable fisheries management.

Until recently the open oceans and deep seas have been underrepresented in discussions of global biodiversity and ecosystem function. Contrary to some popular conceptions, the open oceans and deep seas are not uniform, barren and relatively lifeless regions of our planet. Rather, these areas contain some of the most productive ecosystems, unique habitats, and globally rare species yet discovered.

From highly productive seamounts to unique hydrothermal vent communities, to migratory pathways of endangered sea turtles, the remote oceans support an enormous wealth of eco-

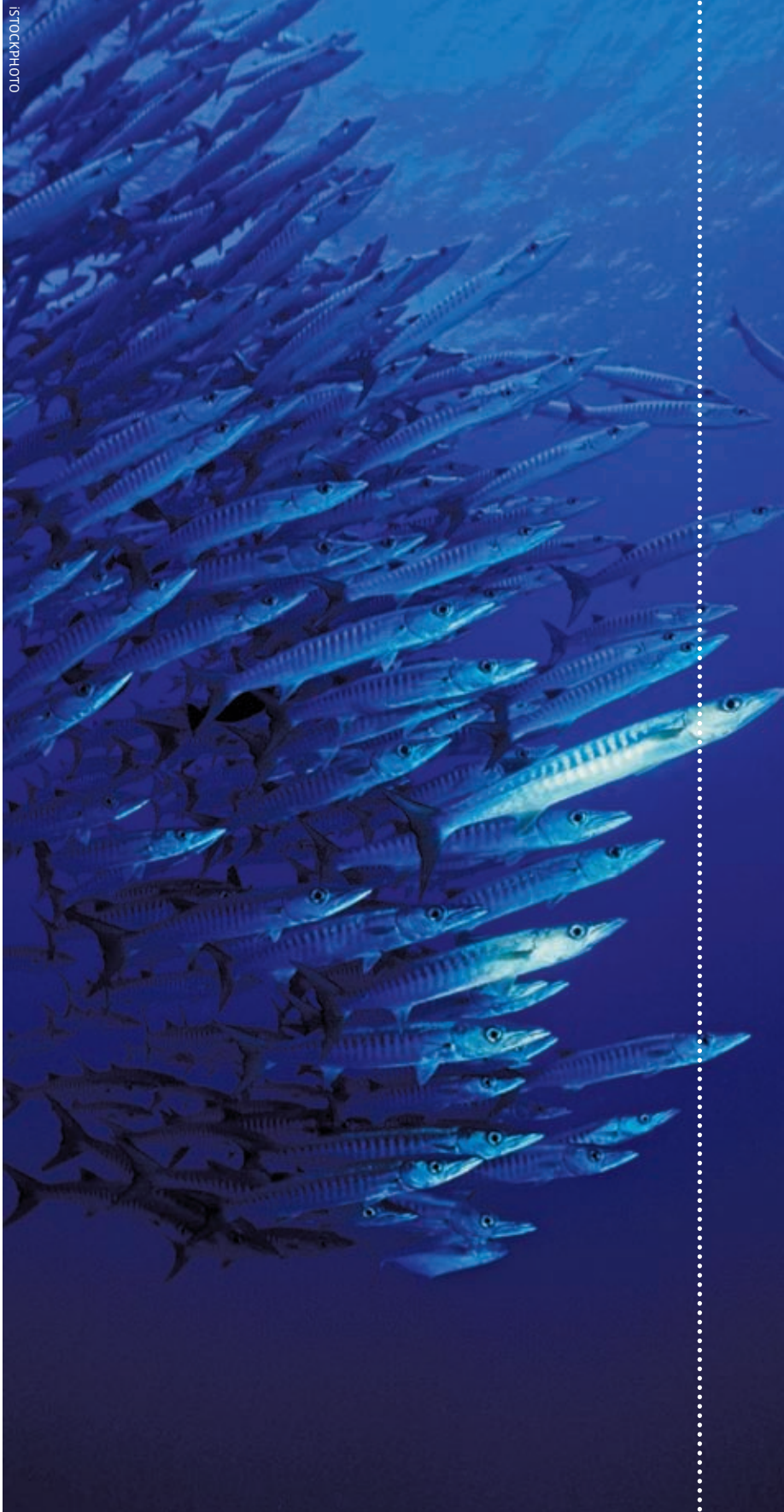
system productivity, specialized habitats and individual species supporting both critical ecosystem functions and critical examples of our shared biological heritage. The open oceans (pelagic) and deep seas (benthic) represent the largest biomes of our biosphere in both surface area and volume. The dominance of the open oceans is a defining global feature and the reason why Earth is viewed from space as the blue planet.

There are many historic and technical reasons why open ocean and deep sea ecosystems have been relatively underrepresented for their biological and ecological significance to date. Open oceans and deep sea areas are distant from human populations and are often inaccessible without significant technological intervention. However, the accumulated assembly of new technologies and new research findings are now helping to “illuminate” the deep ocean areas of our planet and are providing a significantly more detailed and comprehensive view of these regions and ecosystems. While much scientific discovery lies ahead, the characteristics and locations of oceanic features that are of particular importance, ecologically or biologically, are already emerging.

Because the open oceans and deep seas often fall outside of national jurisdictions, an international and cooperative approach is fundamental to the characterization, location and eventual prioritization of these important features for the protection of their critical roles in ecosystem processes. While much information and many scientific methods can be extended from national surveys, international cooperation will be critical in developing a common understanding in the application of scientific criteria. The ongoing international processes convened by the Convention on Biological Diversity (CBD) under the auspices of the United Nations Environment Program (UNEP) have been serving as a forum for the development of initial criteria to define important areas in the open oceans and deep seas.

Working with the CBP-COP process, the Census of Marine Life, OBIS and the GOBI consortium are each actively providing the data, scientific methods and initial case studies for EBSA identification. This process will benefit significantly from the active participation of ocean user communities in the development of best practices and standards for the designation of these critical ocean areas. Working specifically with the fisheries sector will be critical to the identification of critical areas and development of appropriate management practices.

Proactively identifying the ecologically and biologically significant sites in the open-oceans and deep seas will not only assist in the management of these specific areas but will advance our stewardship, sustainability and long-term value of fisheries resources and other ocean industries. Objective information on the locations of significant areas in the oceans will directly help industries avoid conflicts, conduct better long-term planning and reduce uncertainty.



Invasive alien species in ships' ballast water

BETTER PROTECTION OF THE MARINE ENVIRONMENT
ULTIMATELY CONTRIBUTES TO THE PRESERVATION
OF BIODIVERSITY.

by **Dandu Pughiuc** ● Head, Marine Biosafety Section,
Marine Environment Division, International Maritime Organization

Shipping moves over 80% of the world's commodities and transfers approximately three to five billion tonnes of ballast water internationally each year. Ballast water is absolutely essential to the safe and efficient operation of modern shipping, providing balance and stability to unladen ships. However, it may also pose a serious ecological, economic and health threat due to the transfer of harmful organisms and pathogens in ships' ballast water tanks. When all factors are favourable, the transferred species may survive to establish a reproductive population in the host environment and may even become invasive out-competing native species and multiplying into pest proportions.

The development of larger and faster ships completing their voyages in ever shorter times, combined with rapidly increasing international trade, meant that the natural barriers to the dispersal of species across the oceans were being reduced. The global economic impacts of invasive aquatic species (IAS) have not been thoroughly quantified but are likely to be in the region of tens of billions of US dollars per year or more. Human health impacts can also be caused by the transfer and spread of pathogens and toxic organisms such as harmful algae in ships' ballast water.

The International Maritime Organization (IMO) is the specialized agency of the United Nations through which member countries negotiate, develop, agree, adopt, ratify, enter into force and administer international Conventions as well as other legal instruments on maritime safety, maritime security and marine pollution. During the last two decades, the IMO has been working constantly to address, meet and respond to the challenges associated with ballast water management —initially, through the development of two sets of guidelines and, more recently, by devising a new legally binding international instrument, namely, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), adopted in February 2004.

The Convention aims to prevent, minimize and ultimately eliminate the risks to the environment, human health, property and resources arising from the transfer of harmful aquatic

organisms in ships' ballast water and is centred on the precautionary approach principle, giving due consideration to the environmental benefits, technological achievability and, most importantly, to global standardization.

This Convention will enter into force 12 months after the date on which not less than 30 States, the combined merchant fleets of which constitute not less than 35% of the gross tonnage of the world's merchant shipping have ratified it. As of July 2010, the BWM Convention has been ratified by 26 countries representing more than 24% of the world's merchant shipping capacity and it is widely expected to enter into force during the next two years. This, together with the international measures for minimizing the transfer of invasive species through bio fouling of ships, which is believed to be the other major pathway for invasions, will provide the much needed framework for developing an integrated approach to invasive aquatic species transferred by ships.

The importance of preventing the international movement of invasive species and coordinating a timely and effective response to invasions has also been captured in the UNEP/CBD Strategic Plan aimed at "living in harmony with nature" through its Target 9. IMO has been teaming up with other UN organizations to address the various pathways for aquatic invasions mentioned in Target 9 since the year 2000, when it joined forces with the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP) to create the GloBallast Programme. The Programme is now in its second phase and is hailed as a great success and a model for assisting developing countries to tackle global challenges.

The momentum precipitated by GloBallast and the growing interest of the private sector to play a role in this endeavour led to the establishment of the "Global Industry Alliance" (GIA). The GIA is a pioneering initiative of IMO, which brought together maritime industry leaders and the public sector working jointly to address ballast water management and marine biosafety issues. This partnership of public and private sector is an innovative approach aimed at addressing the ballast water problems and finding common solutions, including new technologies, training and capacity-building activities to benefit the participating private companies. The GIA will publicize the advances in technology development and will provide a global forum to share information and to facilitate communication between technology vendors, technology test facilities and ship owners being the end-users of the new technologies to manage ships' ballast water.

Through the GIA, the most proactive maritime industry leaders work together with the IMO to address global issues—benefitting from the Organization's regulatory expertise and



from private sector strengths that include R&D knowledge and practical experience. A GIA Fund has been established, which provides the necessary financial resources to implement selected projects through an annual membership contribution by the GIA partners. IMO acts as the Trustee of the GIA Fund and GloBallast is the executing body for the activities supported through the Fund. The current GIA members include four major companies with vested interests in shipping: APL, BP Shipping, Daewoo Shipbuilding & Marine Engineering Co., Ltd. and Vela Marine International. It is expected that new members will join the GIA to increase the representation from the various maritime sectors and contribute to the global endeavour to stem the tide of aquatic invasions.

Earlier this year, the Secretary-General of the United Nations indicated that “Our health, well being and sustainable future depend on biodiversity”. The former Director of UNEP warned about the impacts of invasive species as being one of the major threats to global biodiversity (K. Töpfer, 2002). Considering the enormous scientific and technological issues that have to be addressed and the highly complex and multi-disciplinary nature of the problem, a collaborative approach between governments, private sector and among the UN specialized agencies is essential. The BWM Convention addresses the problem at its origin by controlling the pathways for the introduction of invasive aquatic species.

During the last two decades, the IMO has been working constantly to address the challenges associated with ballast water management

Since the adoption of this far-reaching international treaty, the IMO Secretary-General has emphasized, on many occasions, the importance of its early entry into force and its effective and uniform implementation and enforcement throughout the world. Working together and sending a coordinated message to their Parties, the UN bodies involved in preservation of biodiversity can contribute to the wider ratification of the BWM Convention and its effective implementation. This, in turn, will ensure sustainable use of marine and coastal ecosystems, better protection of the marine environment and implicitly, will contribute to the preservation of biodiversity.

The international community needs vision, foresight, purpose and strength of will. All the stakeholders, including the private sector, need to act now, proactively, positively and with due sense of responsibility in preserving our planet for the future generations and the United Nations have a major role to play in leading the way forward.

Sustainable fisheries in Shiretoko, Japan

AT THE SHIRETOKO COASTAL AREAS FISHERIES, CO-MANAGEMENT WAS EXPANDED TO ECOSYSTEM-BASED MANAGEMENT BY SUPPLEMENTAL ENVIRONMENTAL MEASURES.

by **Yasunori Sakurai, Mitsutaku Makino** and **Hiroyuki Matsuda** ● The authors participate in the Marine Working Group of the Scientific Committee of the Shiretoko Natural World Heritage Site, Hokkaido, Japan and work on how to satisfy conservation of the marine ecosystem and stable fisheries through the sustainable use of marine living resources in the marine area of the heritage site, which is called “the Shiretoko Approach”.

Shiretoko is situated at the lowest latitude among the world's seasonal sea ice in the northern hemisphere, and has high coastal ecosystem productivity. This area is featured by the interactions between a terrestrial ecosystem and a contiguous marine ecosystem. A number of marine and terrestrial species, including several endangered species inhabit the area. Shiretoko is also a very famous fishery production region in Japan, where the fisheries sector has been the most important industry.

In order to pursue responsible fisheries local fishers have implemented a wide range of autonomous measures under the Japanese fisheries co-management framework. A network of coordinating organizations consisting of a wide range of sectors was established. The focus was on how to satisfy both of conservation of the marine ecosystem and stable fisheries through the sustainable use of marine living resources in the marine area of the heritage site, which is called “the Shiretoko Approach”. This approach shows how sustainable fisheries can be performed as mentioned in Target 6 of the strategic plan.

BACKGROUND ON THE REGISTRATION OF SHIRETOKO AS A WORLD NATURAL HERITAGE SITE

At a meeting of the UNESCO World Heritage Committee in South Africa on July 14th, 2005, the Shiretoko Peninsula and surrounding sea areas (up to 3km offshore) were registered as a World Natural Heritage Site. It was also the first to include areas where fisheries are practiced. The sea around Shiretoko is covered alternately with seasonal warm and cold currents and sea ice reaches the coast from winter to spring. The Nemuro Strait on the Rausu side, in particular, suddenly becomes shallow and its topography narrows from the tip of the peninsula towards the inside of the strait.

In view of this oceanic environment, a diversity of coastal and offshore fisheries (including set net, gill net and longline fisheries) are undertaken around the Shiretoko Peninsula as one of

Japan's most prominent fishing grounds. The annual value of fish catches in Shari and Rausu in 2008 was as high as around \$280 million. However, while these catches include stable resources of salmon, arabesque greenling and kelp (kombu) on the one hand, problems such as sharply declining catches of walleye pollock and unstable trends in Japanese common squid catches in Rausu have occurred since the 1990s.

All living species in marine ecosystems are impacted by global climate change and human activity, particularly fisheries. There is now an urgent need to understand changes in marine resources based on natural cycles, and to maintain the rich marine environment and ecosystems around Shiretoko while seeking fisheries that make sustainable use of resources. The Multiple Use Integrated Marine Management Plan to ensure the coexistence of marine ecosystem protection and sustainable fisheries in this heritage site was drawn up by the Marine Working Group in December 2007. This plan was submitted to UNESCO and IUCN in the spring of 2008.

AUTONOMOUS-MANAGED FISHERIES PRESENTED BY JAPAN

The management of fisheries in Japanese coastal areas currently consists mainly of TAC (total allowable catch) management based on scientific evaluation of resources, and autonomous fishery management by fishery cooperatives and fishers in coastal areas. Non-selective trawl fisheries are restricted in coastal areas, and a variety of selective fisheries (gill nets, longline, set nets, hoop nets, etc.) are mainly practiced. Also, fishing zones, seasons, methods and others are subject to regulation and adjustment under the Fisheries Law and the Fishery Resources Conservation Law, as well as independent agreements on fisheries management between fishery organizations.

Within Japan, there are outstanding precedents such as the ban on catches of sandfish in Akita, equivalent to a “Marine Protected Area” designed to recover exhausted resources and protect marine ecosystems, and the recovery of snow crab resources in Kyoto. The definition of a MPA includes “the coexistence of marine ecosystem protection based on autonomous management and sustainable fisheries”, and fishers in the Shiretoko area already practice autonomous management of fishing seasons, zones, and methods for salmon and walleye pollock fisheries.

ESTABLISHING ADAPTIVE MANAGEMENT BASED ON SUSTAINABLE FISHERY

The terrestrial and marine ecosystems that include the Shiretoko World Natural Heritage area are positioned as landscape level ecosystems. Even in such small-scale ecosystems, changes in the structure and functions of the oceanic environment and ecosystems can occur in conjunction with global climate change. Since the 1990s, the area of seasonal sea ice in the Okhotsk Sea has



decreased and the temperature of the water mass at intermediate depths (known as dichothermal water) has been rising. It has not been possible to predict the impact of any single one of these phenomena on marine ecosystems individually.

It is important that we acknowledge a degree of uncertainty in future forecasts. We need to protect and manage resources sustainably, based on adaptive management in which we constantly monitor the state of the environment and living species and respond flexibly to changes in these. In Shiretoko, there is a strong awareness among local residents and fishers, who seek the continued existence of fisheries. It is significant to establish adaptive management based on ecosystems and sustainable fishery resource management technology. To this end, we need to carry out the various different types of monitoring, feed the results back to adaptive resource management and establish accountability for this by forming a consensus with local residents.

In the Shiretoko World Natural Heritage Site, a scientific committee consisting of experts in both terrestrial and marine ecosystems is functioning as an advisory body for the first time in Japan.

There is now an urgent need to understand changes in marine resources based on natural cycles, and to maintain the rich marine ecosystems and environment.

This scientific committee has a crucial role to play in drawing up the sea area management plans. A system for seeking coexistence between natural conservation of the heritage area, local economies and industry over the long term has been put in place.

We need to scientifically investigate historical changes in marine and terrestrial ecosystems as affected by global climate change and human activity (including fisheries), and the patterns of fluctuation in the diverse living species that comprise these. We must also aim to protect ecosystems on a “landscape” level, and at the same time stabilize and revitalize local economies. We would see this as the way in which we can feel proud of Shiretoko as a World Natural Heritage Site.

The ornamental fish industry ready to help meet 2020 targets

THE ORNAMENTAL FISH INDUSTRY IS PART OF THE SOLUTION TO MEET THE 2020 BIODIVERSITY TARGETS

by **Keith Davenport** ●

Chief Executive, Ornamental Aquatic Trade Association (OATA) Ltd.

Achieving the 2020 biodiversity targets is vital to the planet's future and all who live on it. The ornamental fish industry, and the pet industry more widely, are already helping to meet the 2020 targets.

The ornamental fish industry stands ready to continue our constructive co-operation with national and international bodies, provide sustainable livelihoods, participate in practical projects and facilitate communication with the public. By doing so become a more active part of the solution to some of the problems identified in the targets.

Ornamental aquatic organisms are captured with the requirement that they are kept alive and healthy so they can be transported across the globe to discerning customers. This is in stark contrast to the majority of the world's food fisheries. The target species for ornamental fisheries are often very specific; taking only what can be sold with negligible by-catch. Furthermore, ornamental fisheries are not subsidised.

MARINE ORNAMENTALS

The ornamental fish industry has direct financial interests in protecting coral reefs and can thereby contribute to protect and use them sustainably.

1 kg of exported ornamental marine fish has been valued at US\$500, while the same weight of fish sold locally for food was worth \$6.

High value: Aquarium animals have been recognised as the highest value added product that can be harvested from a coral reef. In the Maldives, 1 kg of exported ornamental marine fish has been valued at US\$500, while the same weight of fish sold locally for food was worth \$6. Used as limestone for building, coral has been valued at just US\$60 per tonne – live coral for the ornamental industry is valued at US\$7,000 per tonne.

In Fiji, only just over 0.001% of the surface cover of corals is affected by coral collection. Live rock exported for the ornamental

trade has been valued at US\$2.2/kg to US\$4.4/kg while if used locally for building, it is valued at just US\$0.02. Furthermore, much of the coralline material collected from reefs for the ornamental industry is subject to CITES control and hence, formal government scientifically validated non-detriment findings before exports are permitted.

Low volume: In 2001, it was estimated that up to 30 million marine ornamental fish were traded annually. Most of these species are highly fecund pelagic spawners. Additionally, each individual fish weighs approximately 2-3g. This trade equates to 100 tonnes wet weight in total, and is spread across 1,500 species from an enormous geographic range (much of the Pacific Ocean, the Caribbean and smaller areas of the Atlantic). In most food fisheries, such volumes would not appear on error bars. The total trade in live corals weighs approximately 800 tonnes annually. It is estimated that 900 million tonnes of calcareous material is produced annually in coral reef areas.

Limited demand: Keeping ornamental marine organisms has a particularly high entry cost (aquariums and associated equipment), and as such, will always limit the number of participants in this hobby.

CONSERVING RAINFORESTS AND HELPING KEEP BILLIONS OF TONNES OF CARBON FIXED

Collection of many freshwater ornamental fish species relies on protecting and conserving pristine rainforest in which billions of tonnes of carbon are fixed.

Freshwater ornamental fish are collected extensively in a number of countries globally, but especially in the rain forest areas of South America. It is a source of significant direct employment in Brazil (8-10,000), Peru (14,000) and Colombia (5,000). Indirect employment would significantly increase this figure.

In the Brazilian state of Amazonas, the trade in ornamental fish provides a substantial proportion of income for the municipalities of Santa Isabel do Rio Negro and Barcelos (covering over 180,000 square kilometres). Socio-economists from Project Piaba estimate that 60% of all income in Barcelos is derived from the trade in wild caught fish. Local researchers have stated "In order for the ornamental fishery to thrive, the entire aquatic ecosystem must be intact and functional."

Alternative options in the area have been identified as:

- More extensive slash and burn agriculture
- Logging
- Ranching
- Gold panning with mercury
- Migration to conurbations

The Global Canopy Campaign reported that 67 billion tonnes of carbon are fixed in the forests of the state of Amazonas. It is probable that 8 billion tonnes of carbon, more than 10 years emissions from a country like the UK, are fixed in the areas of the state of Amazonas where ornamental fish are collected.

Project Piaba, a research group working in Amazonas, sum up the importance of the ornamental fish industry in helping conserve rainforests in their slogan “Buy a Fish save a Tree”.

RAISING AWARENESS OF THE 2020 TARGETS TO OVER 500 MILLION PEOPLE

In Europe and the USA alone, over 10% of homes (30 million) own ornamental fish while nearly 50% (150 million) own a pet of some kind. Among them are many who have an especially well developed knowledge of and empathy towards the areas such as rain forests and coral reefs from where their pets originate. If engaged positively, the pet industry can promote further relevant messages widely and effectively.

INVASIVE SPECIES

The ornamental fish sector industry is actively campaigning to discourage the release of invasive species through retailers and fishkeepers. Pet trade associations in the UK (Ornamental Aquatic Trade Association (OATA)), Holland (Dibevo), Norway (NZB), the US (PIJAC), Canada (PIJAC) and Australia (PIAA) have all been proactive in engaging with government bodies, nationally and internationally.

Examples include OATA's posters and by producing fish and plants transportation bags printed with the message “Ornamental fish and plants bought for aquariums and ponds must never be released into the wild”. Additionally, OATA has produced a guide to enable members to implement comprehensive biosecurity measures. OATA is actively engaged with the UK Governments Non Native Species Secretariat in number of initiatives, including the “Be Plant Wise” campaign that seeks to raise awareness of responsible pond plant disposal.

Other examples of high-profile proactive action include PIJAC USA who have played a central role in developing the public awareness campaigns “Habitattitude”, the Reptile Improvement Plan and “Bd Free ‘Phibs” which addresses the chytrid fungus issue. PIJAC Canada has also been active in promoting “Habitattitude”.

In Holland, the trade association Dibevo helped devise and promote the “Waterplanten Convenant”, a voluntary agreement to refrain from trade in selected species of pond plants and to promote “geen exoot in de sloot” (no exotic animal in the ditches). Ornamental Fish International, with both government and industry sponsorship, hosted a conference on invasives at Aquarama in Singapore, which attracted international attendance from key industry figures.



GARDEN PONDS—PROVIDING ALTERNATIVE AMPHIBIAN HABITATS

Over the last century, while the natural habitat for amphibians in the UK has severely diminished, millions of garden ponds have provided alternative breeding sites. Various studies of natural ponds in England and Wales have shown that their numbers have dramatically reduced. In the late 19th century, it was estimated that there were 800,000 natural ponds in England and Wales. By the 1980s, this number had reduced to 200,000 since when there has been an increase to 281,000 in 2007. Such a reduction clearly illustrates a significant loss of natural habitat for amphibians.

Keeping garden ponds is a popular hobby in the United Kingdom. By 2001 in England alone almost 14% (2.4 million) of the 17 million households with gardens had a pond for attracting wildlife.

The Big Pond Dip 2009 survey was designed to gather information about the wildlife of garden ponds in the UK. Of all the ponds surveyed, 97% were visited by amphibians and in 83%, breeding activities were seen. If these results were applied to just England, then garden ponds may have provided nearly two million breeding sites for amphibians.

Sustaining marine biodiversity requires corporate ocean responsibility

THE WORLD OCEAN COUNCIL IS CATALYZING MULTI-INDUSTRY COLLABORATION TO DEVELOP PRACTICAL, SCIENCE-BASED, BUSINESS-DRIVEN SOLUTIONS TO SUSTAINING MARINE BIODIVERSITY

by **Paul Holthus** ● Executive Director World Ocean Council

Leadership and inter-industry collaboration in ocean stewardship by the diverse, international ocean business community is essential to achieving marine biodiversity goals in the global ocean ecosystem.

Marine ecosystems support a significant, unique component of the world's biological diversity in a dynamic, inter-connected, three-dimensional water world covering over 70% of the planet's surface. The marine environment provides 59% of the world's ecosystem benefits, with the 5% comprising the near shore marine environment, i.e. estuaries, mangroves, coral reefs, and continental shelves, alone providing 38 % of the world's ecosystem goods and services. Marine ecosystems are also critical to natural carbon capture - nearly 55% of all green carbon is captured by living organisms in the ocean.

The ocean and its rich biological resources are in trouble. Recent studies show that almost no part of the worldwide marine environment is unaffected by human impacts. As recent marine pollution tragedies unfortunately demonstrate, conservation achievements from the most perfectly managed marine protected area, the best laid marine spatial management plan, or most sustainable fishery can be severely compromised, if not rendered meaningless, by outside impacts.

Whether it is the disasters that make headlines - or the multitude of minor incidents, such as chronic oil spillage, plastic garbage tossed overboard, a seafood species overexploited or an invasive species introduced—injuries large and small from growing commercial uses of the seas are adding up to cumulative impacts on the global ocean. Marine biodiversity is being degraded, destroyed and overexploited at an ever increasing rate and global scale.

The private sector, as the main ocean user, is key to the future of marine biodiversity. The marine environment supports a wide range of uses —shipping, oil and gas, ports, fisheries, aquaculture, renewable energy, mining, tourism and more. Companies and entire sectors need to understand the effects of their ocean activities, and their cumulative impacts in the inter-connected global ocean.

Given the transboundary nature of ocean ecosystems, sustaining marine biodiversity requires responsible use and stewardship by all members of the diverse ocean business community. Many good people in good companies are working to develop the policies and practices of corporate ocean responsibility, but the best efforts by a single company or an entire industry will not be enough to address cumulative effects in the marine “commons”. Identifying problems and developing solutions must be based on good science, credible risk assessment, performance monitoring and the best available technology—and must be tackled at the scale at which the impacts are accumulating.

Companies with a long-term view of their ocean business are looking to collaborate within and between industries on solutions to mutual marine environmental challenges. Protecting the seas to protect your business makes good business sense, e.g. through the economies of scale that can be achieved in joint research on shared problems. This not only applies to the companies that directly operate use marine space or resources, but also to the wide range of industries linked to, or dependent on, those direct ocean users. This includes marine technology, mining, manufacturing and many sectors. In fact, any company that transports its products by sea “owns” part of the associated



MARINE PHOTOBANK



marine environmental impacts. With more than 90 percent of trade being seaborne, the ocean business community is woven throughout modern society's economic fabric.

Given the scope of the ocean business community and the web of intertwined, cross-cutting impacts to marine ecosystems, it is clear that tackling marine biodiversity challenges requires an international, cross-sectoral approach. The World Ocean Council (WOC) is catalyzing just such a business leadership alliance by bringing together the multi-faceted ocean business community around the concept of corporate ocean responsibility.

A growing number and range of companies share the WOC's vision of a healthy and productive global ocean and its sustainable use and stewardship by responsible companies. They are distinguishing themselves by becoming WOC Founding Members and are calling on others to join. More than 150 business leaders from a range of ocean industries recently participated in the WOC's inaugural Sustainable Ocean Summit. With the theme of "Reducing Risk, Increasing Sustainability: Solutions through Collaboration," a wide variety of industries gathered to initiate the cross-sectoral efforts needed to work on shared marine environmental issues.

The WOC is catalyzing multi-industry collaboration to develop practical, science-based, business-driven solutions to sustaining marine biodiversity. WOC programs will address numerous targets of the CBD 2020 Strategic Plan, including:

- Target 8 on pollution - by sharing best practices to reduce and prevent pollution and debris discharges
- Target 9 on invasive alien species - by facilitating cross-sectoral synergies in developing and implementing the means to control introductions from vessels in all ocean industry sectors
- Target 10 on protected areas - by developing ocean business community understanding and constructive engagement in marine protected area developments, especially in international waters
- Target 12 on threatened species - by creating multi-industry collaboration on solutions to marine mammal impacts from ship strikes and from sound in the marine environment
- Target 19 on science and knowledge - by coordinating marine industry participation in ocean observation programs and contributions to intergovernmental ocean databases.

As the only international, cross-sectoral business alliance dedicated to ocean sustainability, the WOC is uniquely positioned to engage the CBD on business and biodiversity in the marine environment. As the UN Secretary-General noted in his 2010 report on Oceans and the Law of the Sea, there is a need to "strengthen efforts to create a global cross-sectoral industry alliance to constructively engage in United Nations and other international processes relevant to oceans, through organizations such as the World Ocean Council."

Fisheries certification and commercial benefits

THE MARINE STEWARDSHIP COUNCIL ECOLABEL EMPOWERS CONSUMERS TO MAKE ENVIRONMENTAL CHOICES THAT ULTIMATELY LEAD TO SUSTAINABLE FISHING; AND TO COMMERCIAL BENEFITS FOR BUSINESSES.

by **Kozo Ishii** ● Programme Director, Marine Stewardship Council Japan

Fish contribute to the food security of people throughout the world and the per capita consumption of fish is increasing. In addition, healthy fish stocks are essential for diverse marine ecosystems. However, according to the Millennium Ecosystem Assessment, about half of the marine fish stocks for which information is available are fully exploited and the catch is no longer expected to increase.

The Marine Stewardship Council (MSC) is an international non-profit organization set up to promote solutions to the problem of overfishing by recognizing and rewarding sustainable fishing practices through the use of an ecolabel and fishery certificate program. In total, more than 200 fisheries are engaged in the

MSC program. Together, fisheries already certified or under full assessment record annual catches of close to seven million metric tons of seafood, representing more than 12 percent of global capture production for direct human consumption. Worldwide, more than 6,000 seafood products, which can be traced back to certified sustainable fisheries, bear the blue MSC ecolabel.

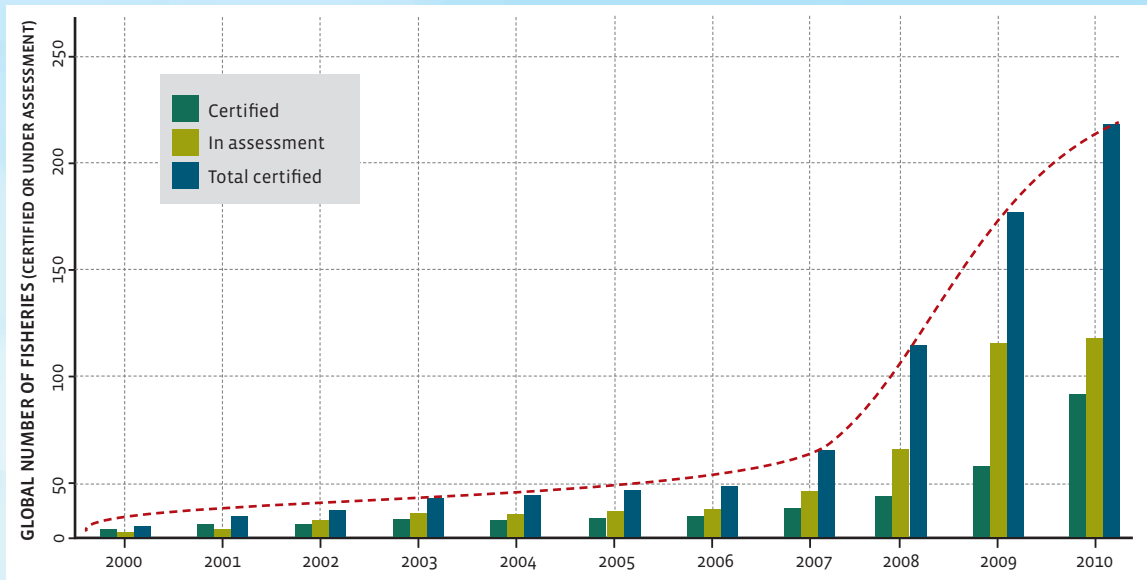
Eco-labeling and certification programs are market-based tools to influence the choices people make when buying seafood. The MSC ecolabel is the simplest way to ensure that it comes from a fishery that has been independently certified as sustainable against the most robust standard that keeps up with the latest scientific knowledge and industry practices. Consumers around the world are choosing MSC labeled seafood, thus giving producers incentives to change their method of operation towards sustainable practices. Fisheries entering the MSC program are making improvements to meet the MSC standard and after certification many implement new action plans to support further improvement where needed.

Despite the fact that the consumption of seafood in Japan is decreasing, Japan is still the world's largest fish importer, with the biggest seafood market in the world. Therefore, if Japanese consumers choose seafood carrying the MSC ecolabel, it could



TOSAKATSUO SUISAN CO., LTD.

FISHERY PARTICIPATION LAST UPDATED AUGUST 2010



greatly contribute towards the sustainable use of the world's fisheries resources.

Products with the MSC label have spread rapidly in Japan since its launch by large-scale retailer Aeon in November 2006. In September 2008, snow crab and flathead flounder fisheries in Kyoto became the first domestic fisheries to receive MSC fishery certification. Following the successful certification of the Kyoto fisheries, the Tosakatsuo Suisan Group pole and line skipjack tuna fishery entered into assessment and was certified in November 2009 for sustainable fishing.

The Tosakatsuo Suisan pole and line skipjack tuna fishery scored in assessment against the MSC standard. The fishery scored as follows in assessment against the MSC standard for sustainable fishing. The highest possible score for each principle is 100 and a fishery must score at least 80 against each principle to get certified:

MSC Principle	Fishery Performance
Principle 1: Sustainability of Exploited Stock	Overall: 86, Pass
Principle 2: Maintenance of Ecosystem	Overall: 90, Pass
Principle 3: Effective Management System	Overall: 84, Pass

Skipjack tuna is an iconic and well-known commercial fish for the Japanese because it is used in making katsubushi, which is used in making soup stock for popular Japanese foods such as miso and noodle soup. Because several retailers carry skipjack tuna products featuring the MSC ecolabel, the level of aware-

ness among Japanese consumers on the importance of sustainable fisheries has increased.

The main reason that the Tosakatsuo Group decided to enter into the MSC program is to save Japan's proud tradition of skipjack tuna pole and line fishing from extinction and preserve it for generations to come by differentiating the fishery from others. The certification brought in additional benefits to the group, including Tosakatsuo Suisan, a skipjack processing company, and several pole and line fisheries vessels. Because demand from global seafood buyers, especially in Europe and North America, for internationally-recognized certified sustainable tuna species has not been fulfilled, a range of new marketing opportunities have opened up for the company both in Japan and internationally. After being certified, skipjack tuna products processed by Tosakatsuo Suisan are gaining market shares in Japan, as well as new retail customers. They are also preparing to export their products to fill demands from both the European and US markets. The certification has also been advantageous for the company in the sense that it has received subsidies from the Japanese government to promote their business activities.

Addressing sustainable use of marine resources can lead to securing long-term and stable procurement of seafood. Therefore it is imperative for us to achieve target 6 of the Convention's proposed strategic plan. To achieve the target, collaboration and partnership among fisheries, retailers, processors and consumers through MSC's market-based certification and eco-labeling program is required. It is important to note that the use of the MSC ecolabel empowers consumers to make the best environmental choice, which in turn leads to sustainable fisheries. As in the case of the Tosakatsuo Group, the certification and eco-labeling scheme has the possibility to achieve both sustainability and commercial benefits.

SAI Platform's approach to sustainable agriculture and biodiversity conservation

THE SUSTAINABLE AGRICULTURE INITIATIVE (SAI) PLATFORM IS THE MAIN FOOD INDUSTRY INITIATIVE SUPPORTING THE DEVELOPMENT OF SUSTAINABLE AGRICULTURE WORLDWIDE. THE SAI PLATFORM TODAY COUNTS 26 MEMBERS, WITH ESTIMATED SALES OF US\$ 300 BILLION.

by **Emeline Fellus** ● Deputy Manager, SAI Platform

In order to contribute to the achievement of this long-term goal, SAI Platform's members collaborate towards the development and wide scale implementation of commonly agreed "Principles and Practices" for sustainable agriculture. "Maintaining or enhancing biological diversity on the farm" is one of the nine key environmental principles to which all members agree.

Several initiatives have evolved to help improve the sustainability of agriculture and food production. Some of these are certification schemes which guarantee a minimum price to farmers against the implementation of sustainable practices – which often focus on one or two of the pillars of sustainability (environmental, social or economic). These initiatives represent a step in the right direction but the quantity of commodities produced in these programmes often has a limited commercial potential. Coffee for instance, is one of the commodities sold under the largest number of ecological and social labels. Yet certified coffee represents, in volume, only six percent of the total global coffee production in 2008.

The Sustainable Agriculture Initiative (SAI) Platform aims to actively support the development of sustainable agriculture for the mainstream market, through a continuous improvement process along the three pillars of sustainability. The following are two examples of SAI Platform Members' efforts to protect biodiversity:

HEINEKEN AND THE SKYLARK PROJECT IN THE NETHERLANDS

In 2002, Heineken partnered with an enthusiastic group of growers, buyers and processors in the project called "Skylark" - to explore how to grow barley sustainably in the Netherlands, in rotation with other crops such as potatoes, sugar beets, onions and carrots.

The project started with a simple statement: vital soil and sufficient biotopes for wildlife are part of a sustainable farm. Agricultural practices ought to be chosen on the basis of how they improve the soil's natural structure as well as the variety and health of habitats on the farm. Therefore, a series of chang-

es were implemented in the participating farms, including growing more cereals in the cropping plans and planting field margins with wildflowers in order to attract birds. Since the start of the project, professional observers have monitored the bird population annually on four arable farms located between the towns of Dronten and Swifterbant. A positive effect was shown for the populations of three bird species: the Skylark, the Yellow Wagtail and the Meadow Pipit. These species all appear on the Dutch Red List of threatened summer birds.

FARM FRITES POLAND DWA POTATO FARM

Farm Frites Poland Dwa is a farm located in the northern part of Poland, between Slupsk and Lebork. With about 67 permanent staff working on the 3500 hectares, the farm grows 950 ha of potatoes for French Fries production, in a four-year crop rotation with cereals, rapeseed, grass and maize. Despite the impressive size of the farm's operation, which makes it look like a typical intensive farm at first, the management cares about the natural environment and the existing flora and fauna.

Several agricultural practices have been chosen to help preserve biodiversity. The farm notably maintains the input of chemicals on a low level by using a combination of integrated pest management (IPM), decision support system for Phytophthora and Alternaria in potatoes, low dosage system, air support of sprayers (whereby dosage can be decreased by 15%), and precision farming. This contributes to ensure minimal leakage of pollutants into the Łupawa River, which is included in the ecological program "Natura 2000" as it provides a habitat to endangered species like *Ranunculus Fluitans*. The farm also uses grain and potatoes which do not meet the processing requirements, to feed wild animals during periods of hardship, such as in winter or during reproduction.

The increased population of wild animals however risked causing serious damage to the farm's crop production. The management thus secured the fields from animals with traditional fencing systems as well as the application of a special scent on sticks around the fields as well as the use of sound signals to scare the animals away.

CONCLUSION

With all SAI Platform Members focused on the agreed Principles and Practices for sustainable agriculture, addressing the particular challenge of integrating farming systems and biodiversity is a positive common experience. Working together in a pre-competitive manner, member companies continuously share their experiences like those presented above. Thereafter other members can adopt these or develop improved best practice initiatives adapted to each farm's unique circumstances of location, culture, marketplace etc.

Public and private sectors working together for biodiversity

MEMBER COMPANIES IN THE 'BIODIVERSITY IN GOOD COMPANY' INITIATIVE GAIN FROM THE EXCHANGE THAT TAKES PLACE THROUGH THIS PLATFORM. THEY HAVE ACCESS TO TOP SCIENTIST AND RESEARCH INSTITUTES, ENABLING THEM TO PROFIT FROM THEIR WORK.

by **Edgar Endrukaitis** ● Coordinator, Business & Biodiversity Initiative, "Biodiversity in Good Company", Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany, www.business-and-biodiversity.de

In May 2008 Germany hosted the 9th Conference of the Parties (COP 9) to the Convention on Biological Diversity (CBD). On account of this, the Business and Biodiversity Initiative's Biodiversity in Good Company' was established as an international Initiative within the scope of the German chairmanship of the CBD. This Initiative aims to intensify the engagement of the private sector in achieving the objectives of the CBD and to contribute to the 'Post 2010 Targets' of the Convention.

Stopping biodiversity loss completely cannot be achieved by one group alone. For this reason the Initiative engages the private sector to do their part. It brings member companies together with many other involved actors, from the non-profit sector to university and research institutes, all the way through to government agencies from all levels. In this way the corporate world consolidates its efforts to take on the challenge of sustainably using the diverse life available on Earth.

The Corporate Biodiversity Management Handbook outlines the steps for integrating biodiversity conservation into corporate management.

Since its inception, more than 40 companies from around the world have joined the 'Biodiversity in Good Company' Initiative and have voluntarily committed to protecting biodiversity by signing its Leadership Declaration. They pledge to integrate biodiversity into their management systems, develop biodiversity indicators and monitoring systems, and communicate with suppliers about the company's biodiversity objectives.

Members come together for regular regional workshops in Japan, Brazil, and Germany, where they not only present their progress in the field of biodiversity management, but they also have the chance to exchange information and gain valuable feedback from other businesses, who also have engaged in shorting up their corporate practices.

Those involved with the 'Biodiversity in Good Company' Initiative gain from the exchange that takes place through this platform. Member companies have access to top scientist and research institutes, enabling them to profit from their work. NGOs can offer their concepts to companies who are looking to be front runners in this field and are in need of innovation. Governments are able to shape the future of biodiversity by offering the necessary framework to tackle the challenges presented by biodiversity conservation.

In 2010, together with the Leuphana University Lüneburg in Germany and the member companies, the Initiative published the Corporate Biodiversity Management Handbook, outlining the steps necessary for integrating biodiversity conservation measures into corporate management. This publication showcases the concerted efforts of universities, NGOs and the member companies working together to produce a theoretically founded and practically proven manual based on the experiences of the member companies and the watchful eye of scientists and NGO specialists.

Ongoing cooperation with ministries, international institutions, and NGOs has helped establish new alliances. International conferences such as COP 10, in October 2010 in Nagoya, Japan, are ideal platforms for the members of the 'Biodiversity in Good Company' Initiative to network on a global level. At COP 10 member companies will be presenting the successes and challenges they have faced in their effort to integrate biodiversity into their corporate management systems. Visitors will be able to meet with these business representatives and hear about their experiences firsthand. The Initiative is publishing fact sheets outlining the progress member companies have made since taking up the business and biodiversity cause.

In addition to this, the Initiative's public relations work increases awareness both of the topic 'Business and Biodiversity' and the members' ongoing projects. The website (www.business-and-biodiversity.com), its newsletter, information material, and an international touring exhibition for the public and the staff of member companies are all part of the public relations work.

Although the global degradation of biodiversity is still a major threat and cannot be solved by one single Initiative or company alone, it is clear that projects such as the Business and Biodiversity Initiative's 'Biodiversity in Good Company' are essential for bringing the private sector on board. It has also shown that individual players from the private and public sectors must work together to accomplish true progress and more importantly are capable of advancing further down the road of living and working in a sustainable and biodiversity-friendly way.

Preserving biodiversity: An initiative by India Inc.

THE EXPECTATIONS A SOCIETY HAS OF ITS CORPORATIONS AND GOVERNMENTS ARE INCREASING IN THE WAKE OF NEWER SOCIAL AND ENVIRONMENTAL RISKS OF ECONOMIC DEVELOPMENT. THE BUSINESS COMMUNITY IS UNIQUELY PLACED TO CONTRIBUTE TO THE PROTECTION AND ENHANCEMENT OF OUR ENVIRONMENT.

by **CII-ITC Centre of Excellence for Sustainable Development** ● New Delhi, India (www.sustainabledevelopment.in)

In India, traditional and substantial dependence on biodiversity resources for fodder, fuel wood, timber and minor forest produce has been an accepted way of life for the rural population that accounts for nearly 74 per cent of India's population. All businesses, irrespective of size, sector and location, ultimately depend upon and influence biodiversity either directly or indirectly through their supply chains.

Therefore, further loss of biodiversity could have substantial social and economic consequences as it could result in irrevocable damage and degradation of ecological services that people, societies and businesses depend on.

The Government of India has committed itself to making India a resource efficient economy ensuring that the country's economic growth path is ecologically sustainable. India is one of the first few countries in the world to enact a national legislation, called the Biological Diversity Act in year 2002, which contains provisions for access and benefit sharing. A National Biodiversity Authority was set up at Chennai in 2003.

The Union Ministry of Environment & Forests is planning to set up a People's Register of Biodiversity, so that traditional knowledge, which is not in texts but is passed down through the oral tradition can also be documented and protected. It is seeking inputs from civil society groups to ensure that the Biological Diversity Act, 2002, is implemented in a manner that upholds the spirit of conservation and community control, prior to the grant of access.

At the national level, India had been taking a number of proactive measures related to biodiversity conservation. India has created a database of traditional knowledge—called the Traditional Knowledge Digital Library—which is a computerised database of documented information available in published texts of the Indian systems of medicine.

As a mark of its commitment to biodiversity conservation, India has offered to host the eleventh Conference of Parties (COP) to the Convention on Biological Diversity (CBD) in October 2012 in New Delhi.

The expectations a society has of its corporations and governments have increased in the wake of newer social and environmental risks of economic development. The business community is uniquely placed to contribute to the protection and enhancement of our environment. Businesses across the world, therefore, should recognise the need to address the environmental and social impacts of their activities on biodiversity, and to integrate its facets into their core business strategies. Companies can really make a meaningful contribution, if they future-proof against risks, identify opportunities, and partner to innovate & develop a resource efficient economy.

India's biggest business associations have taken the lead in engaging with the Indian industry on biodiversity issues. One of India's apex industry associations, Confederation of Indian Industry (CII), has taken leadership in developing understanding of biodiversity issues among Indian businesses and devising strategies, approaches to combat its loss. Various activities of the Confederation including policy advocacy, advisory services, events, reports and projects in the climate change area have helped create a momentum amongst Indian businesses to tackle the biodiversity concerns.

CII has established the CII-ITC Centre of Excellence for Sustainable Development and the CII-Sohrabji Godrej Green Business Centre in order to engage with the industry on sustainable development issues and these institutions have undertaken several such initiatives.

India's single largest electricity utility company, NTPC, undertakes afforestation programmes covering vast tracts of land in and around its projects in a concerted bid to counter the growing ecological threat. Saving existing trees, planting right at the beginning of construction phase, preservation of trees and advice from State Forest Departments and agricultural universities are a few general guidelines followed by NTPC.

One of the world's pioneering steel companies, Tata Steel, has been investing in environmental sustainability and has played a vital role in boosting the biodiversity of the areas where it operates. It has adopted a holistic approach to understand its local eco-system. Tata Steel has extensive reclamation and afforestation programmes in place, which forms part of their endeavour to maintain bio-diversity along with implementation of new programmes. Initiatives are underway to improve and develop several areas through various protection measures.

Similarly, Tata Power has been involved in the conservation of the habitat around its three hydroelectric power stations at Khopoli, Bhira and Bhivpuri for 30 years. It developed stretches of forests and wetlands that attracted wildlife and over 100 species of migratory birds. The company also recreated the biodiversity of the Western Ghats on a 60-acre tract of land near the Walwhan Lake.

Tata Chemicals is committed to meeting the highest standards of corporate governance and business practices. All of its activities integrate the principles of corporate sustainability. It is involved in efforts to preserve the biodiversity of land along the coastline and the nesting sites of migratory birds. Tata Chemicals is also involved in a conservation project that will create awareness and undertake research to save the endangered species of whale shark.

ITC, one of India's foremost private sector companies, makes sure that none of their units/operations is located in a biodiversity sensitive zone. In the paperboards and paper domain, ITC continuously works towards sustainable growth and minimizing the impact of its operations on the environment and biodiversity. It launched 'Social Forestry' in year 2001-02 which covered 6,500 poor tribal families, converted 1730 hectares of private wastelands into productive farmlands and planted 4.5 million saplings of different species.

Indian public sector companies are not behind in taking certain measures. ONGC, which is the leading central PSU, believes in works towards expanding green cover, maintaining biodiversity apart from creating aesthetically satisfying environment as its key objectives. Being responsible corporate, ONGC has undertaken an ambitious programme of Mangrove conservation & education-awareness. It has been undertaking tree plantation in operational as well as non operational areas.

Similarly, SAIL, a public sector company and is the largest integrated iron and steel producer in India, is committed to its environment policy in which afforestation finds a predominant place. Extensive afforestation programme are being followed in all the plants and mines. A cumulative 16 million trees have been planted at SAIL plants and mines since inception.

A total no. of 2.6 lakh saplings have been planted covering an area of 73.5 ha in 2007-08. Over the years, much emphasis has been given to reclamation and rehabilitation of degraded mined out areas, waste dumps, backfilled areas and tailing ponds.


This clearly indicates a positive and proactive attitude among the Indian companies towards addressing the challenge. The

biodiversity related disclosures in Sustainability Reports, further show that businesses are willing to share information voluntarily with their stakeholders.

Companies at the vanguard no longer question how much it will cost to reduce biodiversity losses and conserve the same, but how much wealth they can make from it. Indian businesses identify the risks associated with biodiversity loss and ecosystem degradation turning the perceived biodiversity risks into 'win win' business case for biodiversity i.e. mutually benefiting both business and natural environment in which it operates.

Having acknowledged the value of undertaking biodiversity conservation, businesses need to develop an action plan and mainstream biodiversity conservation into their activities. Thus companies can play a particularly important role in biodiversity conservation by adopting appropriate policy, management and reporting measures. The development and implementation of the company's biodiversity strategy may include adopting:

- Policy: companies should have a specific public statement on biodiversity; this statement should explicitly state the company's position on protected areas.
- Management: companies should integrate biodiversity within their environmental management systems, but at the same time should publish specific information about how biodiversity risks are relevant to their business and how these are being managed.
 - » Conservation and management through Biodiversity offsets: Biodiversity offsets are conservation activities intended to compensate for the residual, unavoidable harm to biodiversity caused by economic development projects. The basic idea of biodiversity offsets is to extend the traditional mitigation hierarchy of avoid, reduce, rescue and repair in an effort to achieve no net loss or a net positive impact on biodiversity. Such offsets are done voluntarily by companies though the use of legal mandate. There are opportunities to develop biodiversity offsets as a commercial business, focusing on situations where there is significant unmet demand for offsets, or where demand could be stimulated more easily.
- Reporting: companies should identify their progress on biodiversity within their public reporting, and support this through reporting progress through targets.
- Long-term risks: companies should work with industry-wide initiatives on biodiversity to identify and mitigate long-term risks for the sector; in particular, companies should assess and report on their exposure to protected areas including IUCN categories I-IV (IUCN 1994).

An aerial photograph of a coastal city, likely in East Asia, showing a dense urban area built on a hillside overlooking a harbor. The harbor contains several large ships and cranes. The sky is clear and blue.

Environment officials from 192 countries and the business community are expected to take part in the discussions towards a new (revised) Strategic Plan for the Convention, to cover the period 2011-2020. The new strategic plan is expected to be finalized this October at the tenth meeting of the Conference of the Parties to the Convention in Nagoya, Japan. This edition of the 2010 business newsletter is dedicated to some of the businesses that are already contributing to the strategic plan or initiatives that are relevant to the business sector. Once adopted, the strategic plan will be the basis for future laws and regulation for the business sector and companies taking leadership today will help themselves and nature.