

BIODIVERSITY THE VALUE OF THE ENVIRONMENT



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FOREWORD



A fundamental principle of sustainability is to ensure that future generations can attain the same quality of life as we enjoy today. Of particular concern, therefore, is our ability to ensure that future generations have unfettered access to the natural resources and ecosystem services on which we rely, and inherit an environment of a quality which at least matches our own. Their wellbeing, therefore, will depend greatly on the quality and accessibility of natural resources inherited from previous generations, and that means us.

Society's appreciation of the need to care for the environment has clearly shifted in recent decades. In the past it would have been considered that this issue inferred cost on the business, with little or no reward. There was little consideration for the overall "value" of the environment and the environment suffered accordingly. Now, companies are much more aware of the overall value of the environment, both in economic terms and as a mechanism to support the health and wellbeing of society.

This increased awareness coincides with the phenomenon of a changing climate, as a steep history of economic growth has driven changes in the Earth's atmospheric chemistry. Changes in the climate contribute to the stresses placed on the Earth's most sensitive ecosystems, and compound the effects of environmental degradation.

Such awareness now needs to be translated into positive action, fast. Evidence that biodiversity is being irreversibly impacted is overwhelming. This White Paper explains what the stakes are concerning biodiversity and the steps which companies need to take to prevent further damage from occurring.

A handwritten signature in black ink, appearing to read 'David Batchelor', with a long horizontal line extending to the right.

David Batchelor
CEO, Marsh, Europe, Middle East and Africa

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VALUING THE ENVIRONMENT

As scientific knowledge of the sensitivity of the natural environment improves, so our understanding of its susceptibility to irreversible damage increases. With the interest of the general public on the quality of the environment running high, the media has also been focusing on environmental damage. Whether due to a one-off significant pollution event or a long-term disregard for the environment, companies who cause environmental damage increasingly are 'named and shamed'.

For certain types of organisation, where the potential to cause significant damage to the environment and biodiversity is an unavoidable consequence of doing business, the management of environmental risks has become highly sophisticated and is acknowledged as best practice. For others, however, the perception may be that the everyday operation of businesses does not constitute a high risk to the environment or to biodiversity. Indeed, consideration for the need to assess and manage potential environmental impacts associated with products, emissions, waste and an overuse of limited natural resources, may be deemed as unnecessary.

Growing understanding of the value of the natural resources and ecological services that the environment provides

has led to an appreciation of the need for regulation to ensure that operators take all action necessary to prevent significant environmental damage from occurring, and where damage has been caused, to make the responsible party liable.

There has been a groundswell of awareness – from regulators, investors, and customers – that a business-as-usual approach, developed with a 'profit at any cost' mindset is, and will continue to become, environmentally unacceptable. Economic growth has resulted in accelerated rates of natural resources utilisation and it has been acknowledged that current rates of resource consumption are unsustainable. In addition, the nature of many of the products, emissions and wastes that are produced by business are causing impairment to the environment and an irreversible loss of biodiversity.

Companies are increasingly aware that it is not just what a company does that is being scrutinised by customers, investors and regulators, but more importantly how they do it. It has become important to consider not only the financial outcomes of business activities, but also the potential effects on the environment, and therefore the possible impacts on the ability of future society to realise a quality of life equivalent to our own. Today more than ever therefore, doing business according to defined and accepted

environmental principles has become accepted as good practice, and having a robust environmental risk management strategy, including environmental damage mitigation plans, has become an essential tool in ensuring that businesses have a sustainable future.

WHAT PRICE DO WE PLACE ON THE ENVIRONMENT?

We are reliant upon the natural environment for many resources and ecological services that are required for the maintenance of society. Consideration of the scope of ecological services provided by the environment and biodiversity is generally less well understood. A resource-based valuation of the environment and biodiversity is relatively easily estimated through the quantification of the economic benefit gained from the extraction of natural raw materials and resources. The productivity of the environment is heavily relied upon, and the maintenance of good environmental quality is thus essential. We depend on the environment to provide food, fuel, construction material, natural fibres for clothing, natural compounds for use in pharmaceuticals, and many other economically and socially valuable, if not critical resources. Less easy to quantify is the value of biodiversity and the maintenance of diverse ecosystems, which provide important services which are no less critical to the maintenance and growth of human populations and society. The scope of the ecological services provided by biodiversity include, for example, the biological and chemical balancing of air quality and a consequential regulation of the climate, the purification of water, the detoxification and maintenance of the fertility of soils, and the detoxification and recycling of waste.

Various groups of environmental economists have made attempts at deriving an estimate of “the true value of the environment”, including an international consortium of economics and environmental experts hosted by the United Nations Environment Programme under an initiative entitled The Economics of Ecosystems and Biodiversity (TEEB)¹. The TEEB study has the overarching aim of deriving a global view on the economic benefits supplied by biodiversity and therefore to highlight the scale of the increasing cost to the global community of biodiversity loss and ecosystem degradation. The TEEB initiative places a high level of importance on developing a comprehensive list of the natural resources and ecological services that are provided by biodiversity, and describing the financial consequences that a chronic loss of biodiversity would have, and indeed is having on the world economy. TEEB makes a strong case for “the inclusion of the economics of biodiversity and ecosystems services in decision-making” and highlights the serious risks to business, as well as the significant opportunities, associated with maintaining the biodiversity of the planet.

As evidence for the potential economic significance of chronic biodiversity loss has improved, so our concerns have turned to what we don’t know. It is clear that critical ecosystem services and beneficial raw materials extractable from flora and fauna are as yet undiscovered. With numerous global ecosystems and its inherent biological diversity under-researched, there is the significant risk that a number of species could have become, or will be extinct before their benefits to society have been discovered. In other words, there is a real risk that the potential benefits of biodiversity could be lost before they have even been understood.

¹ <http://www.teebweb.org/> May 2010

GETTING THE POLLUTER TO PAY

With the development of new methods to estimate the value of the environment has come growing estimates for the value of biodiversity and ecosystems services. As a consequence, governments and regulators are taking note of the potential costs to society of long-term environmental damage and the chronic loss of biodiversity. Globally, regulatory regimes have been developed to ensure that the polluter pays for the damage that is caused.

In the USA, the concept of Natural Resource Damage is well developed and companies can be held culpable for causing significant damage to natural resources, and to remediate as necessary. Under US regulations “natural resources” are broadly defined as “land, fish, wildlife, biota, air, water, ground water, drinking water supplies and other such resources” which provide economic value, and which is for use by the public. Natural Resource Damage will be deemed to have occurred where there is evidence of injury to, destruction of, or loss of natural resources. The concept of restoration to a baseline condition is a fundamental part of the Natural Resource Damage regulations. This, of course, assumes that the baseline of condition of the natural resource prior to the damage occurring can be reasonably documented or estimated. The requirements for remediation and restoration therefore extend to: the cost of restoring the impaired resource back to its original condition as defined by the baseline; compensation for any interim loss or the lack of access to the impaired resource whilst work to undertake recovery is underway; and other reasonable costs of assessing the damage. Costs imposed on the polluters so as to restore Natural Resource Damage in the USA range

from the majority of cases where US\$1 m to US\$20m have been claimed by trustees for assessment and restoration, to the Exxon Valdez oil spill which resulted in costs payable to trustees, in this case the regulatory authorities, of over US\$1bn. The majority of cases brought under Natural Resource Damage regulations in the USA are associated with the effects of pollution on the quality and integrity of natural resources.

In addition to the potential for businesses to cause pollution which can cause damage to property, bodily injury to third parties, or damage to the environment, the European Union's Environmental Liability Directive (ELD) has imposed new liabilities for environmental damage on many companies operating within the European Union. In addition to requiring companies to remediate and restore resources that are impaired by pollution, the ELD requires companies to take action to avoid damaging the environment in the first place. The ELD has established a liability framework for defined forms of 'environmental damage' which are caused as a result of impacts on protected species and natural habitats, through the pollution of waters, or as a result of pollution of land that could represent a significant risk to human health. The ELD is therefore based on both the 'precautionary' and the 'polluter pays' principles, whereby operators of a potentially hazardous activity are expected to take all action necessary to prevent, and where necessary to remediate, any environmental damage that they cause. The scope of remedial measures required following an environmental damage event under the ELD is broad, and has extended the responsibilities of companies with regard to compliance with other environmental legislations. In reality this means that, should it not be possible for the environment to be fully restored back to its original, or baseline condition, the polluter may be required to undertake additional rehabilitation or natural habitat restoration elsewhere in order to compensate the environment for the damage caused. Potentially this may include the requirement to undertake interim measures whilst clean-up and rehabilitation is underway, and may even extend to the creation of alternative "natural" habitats elsewhere.

The requirements for businesses to prevent environmental damage and a loss of biodiversity have inferred new liabilities for inappropriate actions. The potential costs to business, as associated with the need to prevent and restore any environmental damage caused are therefore starting to be understood. A recent French Government report² analysed the costs of several environmental damage incidents in the 1990s and compared them with the estimated cost of clean up required today under the auspices of the ELD. In one example incident, a fire in a sodium chlorate plant resulted in extensive pollution of the river and the destruction of the surrounding natural habitat. The costs of clean-up at the time were estimated to be around Euro 10,000 whereas under the ELD regime, the estimated cost of clean-up would have been around Euro 4m if undertaken today. In a separate case, caused by the release of chemicals from a ruptured drainage pipe at a paper mill, the resulting damage was the total destruction of almost all the fauna and flora in the receiving waters. The cost of clean-up at the time was around Euro 42,000. The expected cost of clean-up under the ELD should the same incident have occurred today was estimated as being up to Euro 425,000³. Clearly, under the current environmental liability regimes put in place to protect the environment and prevent the loss of biodiversity, the liabilities of business have increased by 10 to 40 times, with costs of clean-up being defined with reference to an environmental baseline of environmental quality.

2, 3 La directive Responsabilité environnementale et ses méthodes d'équivalence: Ministère de l'Écologie, de l'Énergie, du Développement durable et de la Mer; Avril 2010

PREVENTION IS BETTER THAN CURE

Since 2002, world leaders have been in agreement⁴ that action is needed to address the issue of accelerating biodiversity loss, and under the auspices of the Convention on Biological Diversity, committed to achieve a significant reduction in the rate of biodiversity loss by 2010. Although significant actions have been implemented to slow the rate of biodiversity loss on a global basis, the Global Biodiversity Outlook 3 report on progress has concluded that this target has not been met, and in some cases the evidence shows biodiversity damage is intensifying. The Global Biodiversity Outlook 3 report concluded that the consequences of a collective failure to slow and reverse the chronic loss of biodiversity will be severe. “Biodiversity underpins the functioning of the ecosystems on which we depend for food and fresh water, health and recreation, and protection from natural disasters”⁵.

The Global Biodiversity Outlook 3 report also drew attention to the interrelated issues of biodiversity loss and climate change. It noted that the conservation of biodiversity makes a ‘critical contribution to moderating the scale of climate change and reducing its negative impacts by making ecosystems, and therefore human societies, more resilient. It is therefore essential that the challenges related to biodiversity and climate change are tackled in a coordinated manner and given equal priority.’

A critical component of the continued efforts to slow the rate of biodiversity loss, therefore, is a requirement to prevent environmental damage from occurring. Regulatory regimes to ensure that the “polluter pays” for damage to the environment and biodiversity can ensure that effective restoration is undertaken should environmental damage occur, but the prevention of environmental damage needs to be a proactive process. Businesses operating in certain geographical regions may be obliged to prevent environmental damage; the European Union requires that action is taken as necessary to prevent significant environmental damage from occurring under the ELD. These obligations are encouraging companies to become more aware of the sensitivity of the environment on and around their sites of operation, to assess their operating systems, such as environmental management plans, and to put in place procedures and equipment to prevent and mitigate environmental damage. The need to proactively protect and prevent any harm to the natural habitats and protected species around a site of operation is recent, and requires an understanding of the baseline condition of the surrounding environment. Notwithstanding the novelty of the requirement to prevent environmental damage and the risk of a loss of biodiversity, companies need to assess the potential impacts of their operations and product, and take steps to ensure prevention and mitigation procedures are in place. In some sectors, the requirement to assess the potential environment effects of products on the environment may be already in place. For instance, REACH, the European Community’s Regulation on chemicals and their safe use, seeks to improve the level of protection afforded to human health and the environment through progressive substitution of hazardous substances with suitable alternatives. A key driver for developing and adopting the REACH Regulation was that a large number of substances have been manufactured and placed on the market in Europe for many years, sometimes in very high amounts, despite a lack of information on the hazards that they pose to human health and the environment. Such information gaps need to be filled to ensure that industry is able to assess the hazards and therefore the risks associated with the lifecycle of the substances in the open market. Ultimately, the requirement is to identify the risks and implement risk management measures to protect humans and the environment.

⁴ First global agreement to cover all aspects of biological diversity: the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the use of genetic resources.

⁵ <http://gbo3.cbd.int/> Feb 2011



INSURING AGAINST ENVIRONMENTAL DAMAGE

A commonly held view by business has been that the sudden and accidental pollution coverage provided by a public liability insurance policy would be sufficient to cover the liabilities imposed in the event of causing an impact to the environment. For many companies, where daily business operations do not involve handling large volumes of hazardous substances or for whom the production of problematic waste and harmful discharges or emissions is not an unavoidable consequence of their operations, the potential for causing significant environmental damage could appear low, and where damage did occur, the presumption would be that the general insurances should be sufficient to respond. Recently, a number of case law and regulatory developments quantifying the liability for causing damage to the environment and biodiversity has encouraged companies to assess the potential for their operations to impact the environment, and specifically to assess the potential for ecosystem or biodiversity damage. In a UK court judgment (*Bartoline Limited (Bartoline) v (1) Royal & SunAlliance Insurance plc (RSA) (2) Heath Lambert Limited (2006)*), it was confirmed that such costs do not constitute a 'legal liability for damages' as required by the policy wording and the insurer was within its rights to reject a claim for costs owed to the Environment Agency and costs incurred to comply with a statutory clean-up notice. The case highlighted the core meaning of the policy term, 'damages', which may be described as 'the pecuniary recompense given by a process of law to a person for the actionable wrong that another has done him.' It was also held that the statutory costs relating to the clean-up works required to reinstate a river and to restore the flora and fauna within the river following the discharge of contaminated water and foam entering the river did not fall within this meaning. Whilst explicitly excluding losses arising from any gradual pollution, Bartoline's public liability policy did cover pollution incidents caused by a 'sudden and accidental' event. The fact that this pollution resulted from a 'sudden and accidental' event, in this case a fire, was never disputed. However, this judgment limits losses to those arising from a third party claim, rather than to an enforcing authority.

The implementation of the ELD in Europe has boosted businesses' focus on reconsidering the potential for their operations to cause environmental damage and consider the scale of potential environmental damage. The adoption of the 'precautionary' and 'polluter pays' principles has inferred that operators need to be prudent in having environmental risk management procedures and plans in place to prevent significant environmental damage, and where environmental damage is caused, to have the financial capital available to remediate and restore fully. In the context of the environmental liabilities imposed by the potential to cause biodiversity damage, the scope of liability for a business has been expanded outside of bodily injury or property damaged to include damage to protected species and natural habitats. The value of biodiversity and the requirements to protect has become a key risk to business. The environmental liabilities imposed by giving biodiversity an inherent value are not likely to be covered by any standard public liability insurance policy, and may even be specifically excluded from coverage under such policies. The costs relating to the prevention, mitigation and remediation of environmental damage in its widest sense could be significant and companies need to have the tools available to be able to assess the scale of potential environmental exposures and to manage the associated costs and liabilities. Environmental impairment liability insurance is available to businesses to assist in managing these risks and liabilities.

YOU CANNOT MANAGE WHAT YOU DO NOT MEASURE

Businesses depend on the environment and its inherent biodiversity to provide natural resources and ecosystem services. Whether such benefits are realised directly, and therefore require to be measured directly, or as a function of an indirect connection through a supply chain, businesses need to assess their reliance upon the environment, and the scale of their potential environmental impacts. Businesses which do not measure and record their dependencies on the environment, and the scale of their potential impacts, and the associated business interruptions that could be caused by an environmental impact event, could be viewed as having unquantified and therefore unmanaged risks.

It is important that companies develop a view of the baseline condition of the environment around their sites of operation. On the understanding that “you cannot manage what you do not measure”, having a good understanding of the environmental status of the ecology and natural habitats located around and in close proximity to the sites of operation will be critical. The benefits of undertaking a comprehensive baseline environmental survey are clear; companies will enhance their ability to assess the potential impacts of operations on the environment based on a knowledge of the sensitivity of the surrounding area and will have a target environmental quality to remediate back to should an environmental damage event occur.

Conversely, businesses who do not have a comprehensive understanding of the potential impacts of their business on the environment will be increasingly perceived as being a company with an unsustainable future.



HOW MARSH CAN HELP

As the world's leading strategic risk adviser and insurance broker, Marsh helps its clients to identify, assess and manage risks arising from changing processes and initiating projects to prevent, mitigate and remedy damage to the environment. We draw on the expertise and deep insights of colleagues across our global network to evaluate the threats and capture the opportunities presented. Our experience comes from working with clients in managing their own environmental, operational and reputation risks, and from the work we have carried out within the specialist areas of environmental due diligence, environmental liability management, biodiversity damage assessment and environmental insurance.

Our areas of expertise include:

ENVIRONMENTAL SUSTAINABILITY SERVICES INCLUDING LIFECYCLE ANALYSIS OF AN ORGANISATION'S OPERATIONS AND MANAGEMENT PROCEDURES TO EVALUATE THE USE OF RAW MATERIALS, WATER, ENERGY AND OTHER NATURAL RESOURCES, AND RISK REDUCTION FROM THE RESULTING OPERATIONS, EMISSIONS AND WASTE

We work with clients to deliver economic value by incorporating a sustainable enterprise culture into day-to-day operations. We achieve this through analysing process alternatives, operational efficiency, risk quantification and management options. A key benefit of establishing an enterprise sustainability programme is the positive impact it can have on an organisation's bottom line and brand image.

ASSESSING CLIENTS' KEY ENVIRONMENTAL RISKS AND IMPROVING THEIR ENVIRONMENTAL RISK MANAGEMENT PROCEDURES AND ENVIRONMENTAL PERFORMANCE

We provide environmental risk assessment expertise to help in the characterisation of environmental risks, and in the development of environmental risk management methodologies, including the use of environmental insurance, to mitigate and manage environmental risk.

ASSISTING CLIENTS TO MANAGE THE RISK EXPOSURES FROM GREENING THE SUPPLY CHAIN AND TO OPERATE WITH A DEGREE OF RESILIENCE

We work with organisations to help ensure continuity of supply by designing and implementing appropriate contingency plans and effective mitigation against identified risk exposures. Marsh helps organisations to withstand shocks and respond quickly to unforeseen events. Reacting effectively to disruption in supply chains enables organisations to operate with a degree of confidence that reputation and brand equity will be protected in the event of an unforeseen disruption.

HELPING CLIENTS UNDERSTAND THE ENVIRONMENTAL PERFORMANCE OF EXISTING ASSETS AND ENVIRONMENTAL PERFORMANCE ENHANCEMENT MEASURES

We help clients achieve enhanced risk transfer through inclusion of property sustainability clauses in insurance policies. The inclusion of environmental and sustainability performance measures, and resilient repairs policy extensions will ensure rebuilding in an environmental friendly manner.

PROVIDING CONSULTING AND ADVISORY SERVICES DESIGNED TO HELP BUSINESSES ASSESS AND MANAGE KEY RISKS ASSOCIATED WITH POTENTIAL IMPACTS TO THE ENVIRONMENT

We combine strategic environmental consulting and insurance services to help clients navigate through the statutory and operational environmental risks that can impact their company.

HELPING CLIENTS TO IDENTIFY AND MANAGE PRODUCT-RELATED RISKS WITHIN THEIR OPERATIONS AND ASSISTING CLIENTS TO MAKE SAFER PRODUCTS, REDUCE THE LIKELIHOOD AND SEVERITY OF MAJOR PRODUCT RISK EVENTS, ENSURE REGULATORY COMPLIANCE AND CONDUCTING EFFECTIVE RECALL

We deliver a range of consulting solutions concerning pre-incident risk assessment and mitigation, managing recall to protect consumers and a company's brand, and review and evaluation of crisis management plans.

WORKING WITH A COMPANY'S MANAGEMENT TEAM TO ESTABLISH ITS KEY STRATEGIC GOALS, PERFORMANCE INDICATORS AND PROCESSES RELATING TO ITS BUSINESS ENVIRONMENT AND REPUTATION

We help clients to assess the reputational risk issues associated with changes in stakeholder perception which may threaten the sustainability of current and future demand for a company's products or services, and commercial freedom and licence to operate. We test the validity of the identified reputational risks, analyse the severity and likelihood of a reputational risk issue occurrence, develop a risk map to enable simple visual recognition of the most significant risks and develop an action plan around an agreed response.

PROVIDING PROJECT RISK ADVISORY, CONSULTANCY AND TRANSACTIONAL INSURANCE SOLUTIONS FOR THE DEVELOPMENT OF RENEWABLE ENERGY AND CLEAN TECHNOLOGY PROJECTS

We work with power and utilities companies, independent power producers, financial institutions and their technical advisers and consultants to provide comprehensive project risk advice on risk and insurance in the renewable energy and clean technology sectors. Work is focused on risk management for projects involving low carbon power generation technologies and clean technology, where companies are seeking support to transition from hydrocarbon to low carbon technology.

ABOUT MARSH

Marsh, the world's leading insurance broker and risk adviser, teams with its clients to define, design, and deliver innovative industry-specific solutions that help them protect their future and thrive. It has around 25,000 colleagues who collaborate to provide advice and transactional capabilities to clients in over 100 countries. Marsh is a member of Marsh & McLennan Companies, a global professional services firm with 52,000 employees worldwide and annual revenue exceeding US\$10bn, which is also the parent company of Guy Carpenter, the risk and reinsurance specialist; Mercer, the provider of HR and related financial advice and services; and Oliver Wyman, the management consultancy.



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base

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