

Framework for Integrating Biodiversity into the Site Selection Process



The Energy & Biodiversity Initiative

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EXECUTIVE SUMMARY

The *Framework for Integrating Biodiversity into the Site Selection Process* (the Framework) is designed to support companies in identifying and developing appropriate responses to managing new business ventures in areas of high biodiversity value. To ensure that biodiversity is addressed everywhere, regardless of the legal status or other protective status of the area in question, the Framework considers three categories – areas with legal protection, areas that have a high conservation priority without legal protection and the “rest of the world,” which may contain areas of high value yet to be identified. The Framework is part of a wider context of a complex and multi-layered decision-making process in which companies prioritize and evaluate risks according to a broad range of perspectives. A company may choose to terminate its interest in a new business opportunity in an area irrespective of the options indicated by the Framework.

Several principles have informed the design of the Framework:

- Biodiversity exists within and outside of Protected Areas (PAs).
- Biodiversity conservation is an integral element of sustainable development.
- Companies should respect the reason for which PAs have been established.
- Not all PAs are closed to industrial activity.
- Aggravated risks may result from operating within or near to a PA or Conservation Priority Area (CPA).
- Opportunities to benefit biodiversity may arise at oil and gas operations.
- Addressing biodiversity issues in PAs and CPAs, and any other area, has significant advantages for companies – e.g. reduced risks for shareholders, potentially improved access to capital, an easier path to obtaining and maintaining a license to operate, lower capital and operational costs and improved reputation management, etc.

- Benefits for companies of participating in or encouraging regional land use planning exercises may include early identification and diffusion of sensitive biodiversity-related issues; increased credibility with local stakeholders; and investment and project design decisions that fit existing plans for regional development.

As a means of simplifying the issues and options that confront a company, the Framework uses a flowchart based on seven key questions to first identify the extent of the biodiversity values in an area. Whether the area has been legally protected or not, the Framework assists with identifying the nature of the protection or priority associated with the area or, for areas that fall into the “rest of the world” category, the presence of previously unrecognized biodiversity issues and values. The logic behind the key questions can be summarized as noted below:

Question 1. *Has the project area been identified as having high biodiversity values?* Regions may be identified as having high biodiversity values by governments, by international convention bodies, conservation organizations or the scientific community. Areas are categorized into those with legal protection, those without legal protection but with recognized biodiversity values, and those that may contain as yet unidentified biodiversity values.

Question 2. *Does the project area contain, or exist within, a Protected Area?* PAs are a common feature in conservation schemes in almost every country of the world. PAs may indicate an area of high biodiversity and societal value, and they are often related to the provision of important environmental services and products. Knowing where PAs are in relation to planned operations can give a company an idea of where governments may or may not allow it to work, as certain activities may be restricted by law, and what the potential risks to its reputation may be.

Question 3. *Can the Protected Area be avoided using technical options?* Having identified that the company's project area is within, or contains, a PA, the next question is whether the company can avoid entering the PA. Are there reasonable location, re-routing or technological options available which may preclude the need to enter the PA? Has the company considered the option of not continuing with the project, as well as the social, ecological, and economic tradeoffs of avoiding the PA? Assessing alternatives should be a standard procedure within the Environmental and Social Impact Assessment (ESIA) process that should look at the no-project alternative (i.e. what would happen if the project did not proceed) based on biodiversity issues as well as technical alternatives (e.g. building mitigation into engineering design, pipeline routing options, deviated drilling, etc.).

Question 4. *Can the Government approve hydrocarbon development activities within a Protected Area through a valid process?* Government authorization of a project in a protected area is not a foregone conclusion, and a company should exercise significant care even if it receives such authorization. There are a variety of scenarios under which a government may consider authorizing activities in a protected area, including ones in which the existing protected area legislation allows oil and gas activities, and those in which it does not but government may have legal authority to authorize such activities under specific circumstances. Each of these scenarios presents different risks to the company that the company should carefully evaluate in making any decisions whether or not to pursue such authorization or to proceed on the basis of any authorization granted.

Question 5. *Can the biodiversity values of the Conservation Priority Area Not Currently Under Protection (CPA) be confirmed?* CPAs can be defined in many ways. A starting point is to take areas either identified by governments and/or scientific organizations as part of their national planning processes or areas recognized by conservation organizations as a preliminary indication of high biodiversity value. However, it is important to recognize that this is not a comprehensive definition of biodiversity value and the related need for conservation. Companies may be advised to undertake testing of biodiversity value during the very early stages of the project, even where this requires additional financial support and staff time. In cases where there is little or no information available, or the information is contradictory, best professional judgment should be used to identify the initial level of effort required to confirm biodiversity values of a particular area. The results of the

science should then direct the need for additional work if values are initially deemed to be high

Question 6. *Are there any significant biodiversity issues?*

It is extremely important to identify any significant biodiversity issues as early as possible in the ESIA process. The company can then take steps to manage the potential impacts, identify what the residual impacts may be and determine what the benefiting (compensatory) measures might be. If these are ignored, there are increased environmental risks with the associated potential reputation issues, and the prospect of technically difficult and costly retrospective mitigation. Once damaged, it may be extremely difficult to recover a company's positive reputation.

Question 7. *Can impacts be mitigated to an acceptable level?*

In most instances, it may only be possible to reduce an impact to a certain degree. For example, although land-take can be minimized in areas of high biodiversity value, it is not possible to construct a production facility without any land-take impacts. These impacts are therefore "residual" in the sense that they remain after the mitigation measures have been designed into the intended activity. However, facilities and infrastructure can be designed in a way that can facilitate reuse (interpretation or social centers, research facilities, etc.) after the life of the project, thus minimizing land-take impacts. Mitigating impacts to a reasonable and acceptable level is the basic premise of the ESIA process. An ESIA is conducted to identify, predict, assess and then mitigate potential impacts of a project. If the company cannot mitigate impacts to a reasonable/acceptable level, then it will have to feed the findings back into the decision framework to include modifications such as improved design and/or more robust mitigation measures. If it still cannot mitigate impacts, then this should be fed into the overall decision-making process for the company and other stakeholders, as appropriate, to evaluate whether the project should proceed in that location.

For each of these possible outcomes arising from the "yes or no" answers to these questions, appropriate responses are suggested. These include choosing not to proceed and the consideration of alternative sites. It is not the intent of this Framework to encourage companies to seek exemptions, redesignation of area boundaries, or other means to obtain authorization to operate in a PA where the applicable PA legislation does not explicitly permit oil and gas activities. However, in very limited circumstances the process of seeking redesignation of protected areas or their boundaries to allow oil and gas activities to proceed may also be considered.

1. BACKGROUND

The *Framework for Integrating Biodiversity into the Site Selection Process* (hereafter referred to as the Framework) is designed to support companies in identifying and developing appropriate responses to managing new business ventures in areas of high biodiversity value, both inside and outside of legally protected areas. These responses may include the option of not proceeding with the development on biodiversity grounds. The Framework considers biodiversity value from two perspectives. The first is evident at the global/national scale, where governments or the scientific and conservation communities have identified particular priority areas. The second exists at the regional/local scale where areas may be classified as having high value because of local community or indigenous people priorities (e.g. hunting grounds or community reserves). It is important to recognize that these two perspectives may not always overlap and that stakeholder engagement is necessary to fully understand both.

To be used most effectively, the Framework should be integrated with other approaches to environmental management and biodiversity conservation, such as Environmental Management Systems (EMS) and Environmental and Social Impact Assessments (ESIA). It may also be used in conjunction with regional planning exercises that can help identify where oil and gas development and other economic activities are appropriate, recognizing the differing perspectives on land use. Long-range strategic land-use planning is an important tool for determining priorities for regional development and conservation, based on geological, ecological, cultural and economic factors; it is also useful for minimizing tensions usually associated with these priorities. Such a process should be led by government, but incorporate the views of all stakeholders, including indigenous people, local communities, the private sector, NGOs and development agencies.

It is anticipated that the principal users for this document will be oil and gas companies. However, it may also help conservation organizations and other stakeholders to better understand issues related to oil and gas projects and facilitate improved dialogue between all parties. Additionally, although this document

is designed for use as a standalone document, other Energy and Biodiversity Initiative products offer detailed guidance on key elements contained within it.

Integrating Biodiversity Conservation into Oil and Gas Development contains a summary of the analysis and recommendations of the EBI, which form the overall context for the Framework.



The Framework is laid out using seven key questions to lead the user through a process of identifying and responding appropriately to the challenges posed by areas with high biodiversity values. These questions can largely be answered using information the company is likely to gather as a matter of course, or to which it has ready access. In more detail, the Framework:

- Provides a means to identify whether regions of interest to the company and other stakeholders (including those likely to host pipelines and roads) are sensitive with respect to biodiversity and its conservation.
- Highlights where specific management responses are required.
- Provides a decision-support framework to address biodiversity issues within and outside legally protected areas.

The Framework also provides background information and context to the questions that are used to guide the reader. The methodology laid out in the following sections simplifies the process to facilitate use of the Framework. However, the issues and options confronting a company are normally complex and multi-layered. Companies typically prioritize and evaluate relative risks within a much broader business process. A company may choose at any point to terminate its interest in a new business opportunity in an area, irrespective of the options indicated by the Framework. However, it should be borne in mind that a potential challenge for biodiversity conservation can be the transfer of

oil and gas activities from one company to another. This can result in a lack of continuity of philosophy, commitment and practice between companies, jeopardizing sustainable biodiversity conservation and a company's ability to maintain the reputational value of its investment in conservation. Thus, exiting the process may bring its own risks where operation or rights to operation are transferred to another company.

 Additional information surrounding the issue of divestiture can be found in **Integrating Biodiversity into Environmental and Social Impact Assessment Processes**.

Finally, the continued improvement of this Framework is dependent on the active participation of end-users and stakeholders. Therefore we welcome any comments and suggestions relating to revisions and additions that will improve the usability, content and breadth and depth of application in the oil and gas sector.

PLEASE SEND COMMENTS, SUGGESTIONS AND QUESTIONS TO:

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2. INTRODUCTION

When considering new ventures or acquisitions, the Framework distinguishes between three broad geographic categories to ensure that biodiversity impacts are addressed everywhere, regardless of the legal or other protective status of the potential project area in question:

- **Protected Areas (PAs):** those areas of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal and other effective means. Note that although most protected areas are designated under national, local or regional legislation, some areas are designated under customary law and tradition (e.g. in the South Pacific). In addition, some protected areas are recognized under international (e.g. World Heritage or Ramsar sites) or regional processes (e.g. European Union Natura 2000 sites).
- **Conservation Priority Areas Not Currently Under Protection (hereafter referred to as CPAs in this document):** those areas that are not currently under protected status but have been identified by governments and/or the scientific or conservation community as having a high

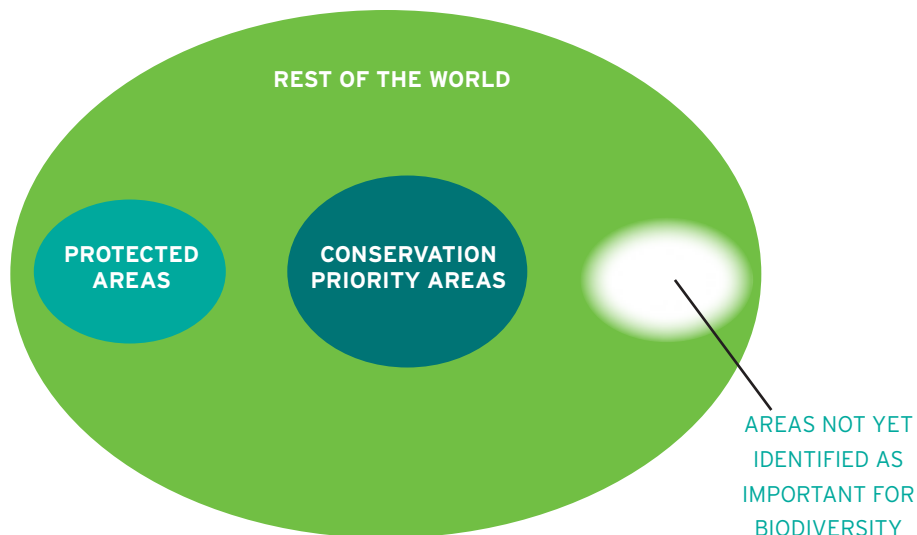
conservation priority. Examples include WWF Global 200 Ecoregions and Conservation International's Biodiversity Hotspots and Wilderness Areas.

- **Rest of the World (RoW):** the remaining areas not specifically included in PAs or CPAs, which may contain areas of high value that are yet to be identified.

The relationship between these three categories is shown in Figure 1.

Almost everywhere hydrocarbons are developed will have potential implications for biodiversity, so companies must make themselves aware of the potential ecological impact of their operations. Nevertheless, in addition to PAs some areas have been identified as priorities for biodiversity conservation (CPAs) based on the judgments of governments or conservation organizations. Operating in areas that are not protected but still have high biodiversity values may carry the same level of risk to biodiversity and corporate reputation as working in formal PAs. When choosing to work in these areas, the company should also recognize that it can provide benefits that may not occur if there were no development.

FIGURE 1. RELATIONSHIP BETWEEN PAS, CPAS AND "REST OF THE WORLD"



3. PRINCIPLES

The Framework has been developed according to the following principles:

- Biodiversity exists within and outside of PAs.
- Biodiversity conservation is an integral element of sustainable development.
- Companies should respect the reason for which PAs have been established.
- Not all PAs are closed to industrial activity.
- Aggravated risks may result from operating within or near to a PA or CPA.
- Opportunities to benefit biodiversity may arise at oil and gas operations.
- Addressing biodiversity issues in PAs and CPAs, and any other area, has significant advantages for companies – e.g. reduced risks for shareholders, potentially improved access to capital, an easier path to obtaining and maintaining a license to operate, lower capital and operational costs and improved reputation management, etc.
- Benefits for companies of participating in or encouraging regional land-use planning exercises may include early identification and diffusion of sensitive biodiversity-related issues; increased credibility with local stakeholders; and investment and project design decisions that fit existing plans for regional development.

4. APPLICATION OF THE FRAMEWORK

As noted above, the Framework uses seven principal questions to inform a company’s decision regarding operating in areas of high biodiversity value. These questions are:

1. Has the project area been identified as having high biodiversity values?
2. Does the project area contain, or exist within, a Protected Area?
3. Can the Protected Area be avoided using technical options?
4. Can the government approve hydrocarbon development activities within a Protected Area through a valid process?
5. Can the biodiversity values of the Conservation Priority Area Not Currently Under Protection (CPA) be confirmed?
6. Are there any significant biodiversity issues?
7. Can impacts be mitigated to an acceptable level?

The decision-support flowchart shown in Figure 2 summarizes the potential pathways that may arise when using the Framework. Users should refer to this as they work through each of the questions, which are examined in greater detail in the following sections. The flowchart uses the symbols noted in the key below it as a visual “prompt” to the user where further action is required.

Two further aides are used to assist the reader in using the Framework and in following the logical flow of questions:



- Each of the seven principal questions has a “next-question” box, which shows the reader the next question in the sequence based on whether the answer to the current question is “yes” or “no” (an example box is shown to the left).

- More detailed flowcharts showing the interrelationship of sub-questions, responses and actions are presented for some of the principal questions – these flowcharts expand upon and supplement Figure 2.

Many sources of information are available to answer the questions posed by the Framework. Certain specific sources are listed at the end of each question within this document.

Additional sources are described in more detail in the [Online Biodiversity Information Sources and International Conventions](#).



Note that the information gathering process may be constrained by confidentiality considerations in a competitive business environment (i.e. it may only be possible to conduct a desk-top study in the early stages of a project, which may then lead on to field-work and stakeholder engagement).

QUESTION 1.

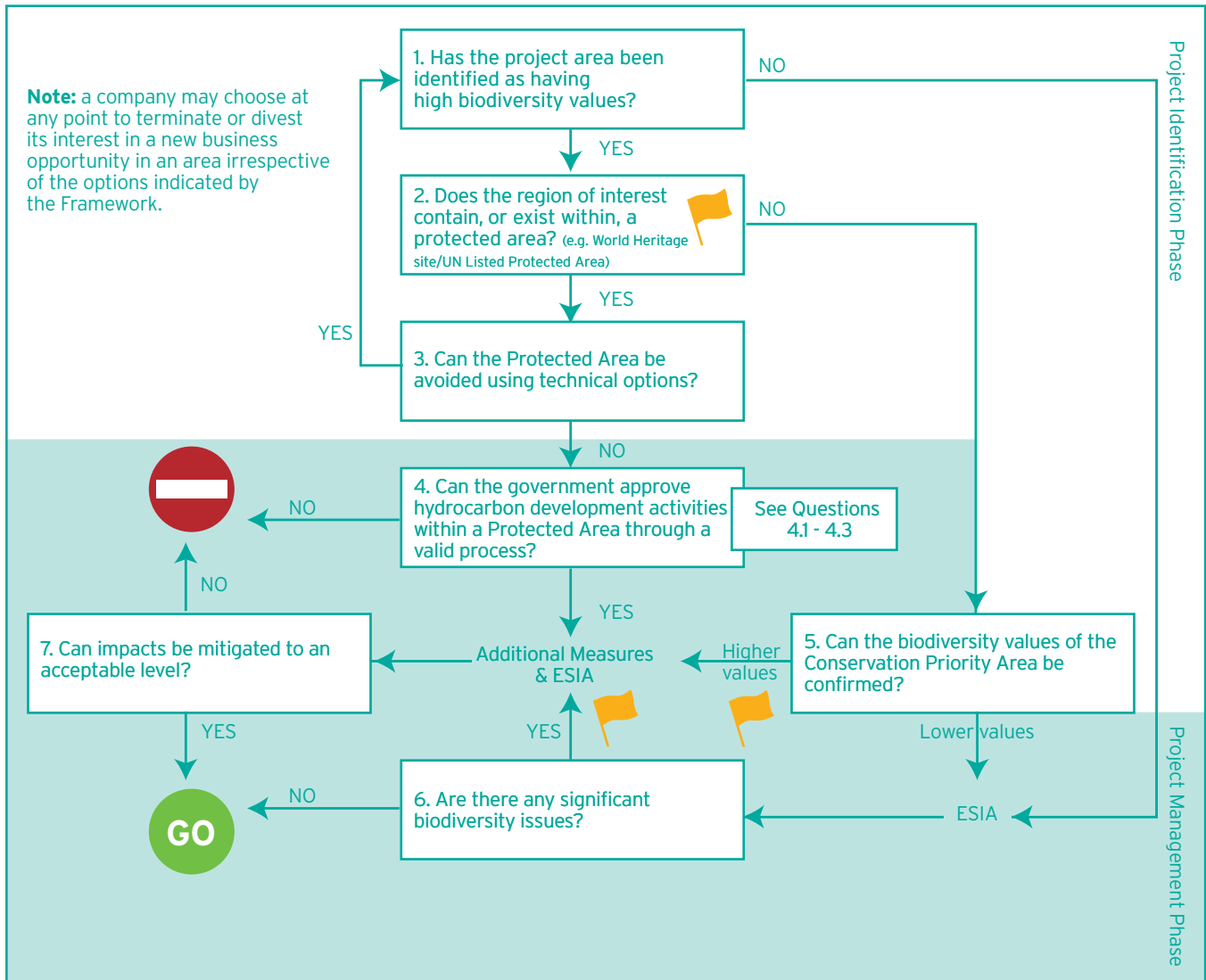
Has the project area been identified as having high biodiversity values?



Regions may be identified as having high biodiversity values by governments, by international convention bodies, conservation organizations or the scientific community. During this early identification phase, a company should look for either PAs or CPAs as defined in Section 2.

There are many different systems under which PAs are designated, including international agreements such as the World Heritage Convention and Ramsar Convention (see Question 2.1), regional processes (Question 2.2), national and provincial legislation (Question 2.3) and sub-national processes, including private PAs (Question 2.4).

FIGURE 2. THE FRAMEWORK FLOWCHART



Caution: "Yellow flag" is raised and an appropriate response is triggered.



Green Light: Proceed - feed outcome into overall company decision-making frameworks.



Stop and Assess: The company may choose to voluntarily exit at any point in the process, but at the "Stop and Assess" points shown in Figure 2, pressure to do so may be derived from non-voluntary or external drivers (e.g. no legal permission or impacts cannot be mitigated or offset). The assessment process therefore reaches a potential "do not proceed" decision. Companies will need to feed this outcome into their overall decision-making frameworks as part of an integrated environmental, social and economic risk and benefit assessment.

ESIA

Environmental and Social Impact Assessment (ESIA): Used to identify the biodiversity, social, health and other environmental impacts of an operation, and take action to avoid, minimize or mitigate their effects.

Additional Measures

Measures Above and Beyond Standard ESIA Practice: Triggers a management response to consider additional early risk management or measures that may be conducted above and beyond normal activities in the ESIA process.

CPAs can be defined in many ways. A starting point is to take areas either identified by Governments as part of their national planning processes or areas recognized by conservation organizations as a preliminary indication of high biodiversity values. For example, several international organizations have identified particular areas as priorities for biodiversity conservation, including:

- **WWF Global 200 Ecoregions:** a global ranking of the Earth's biologically outstanding terrestrial, freshwater and marine habitats, providing a critical blueprint for biodiversity conservation at a global scale. www.panda.org/resources/programmes/global200/pages/home.htm
- **Conservation International Biodiversity Hotspots and Wilderness Areas:** a system designed to identify the richest and most threatened reservoirs of plant and animal life on Earth, with the aim of tackling the problem of biodiversity loss at the global level. www.biodiversityhotspots.org
www.conservation.org/xp/CIWEB/strategies/tropical_wilderness/tropical_wilderness.xml
- **The Nature Conservancy's Conservation by Design – Last Great Places:** a strategic science-based planning process, which helps identify the highest-priority places – landscapes and seascapes that, if conserved, will help ensure biodiversity over the long term. nature.org/aboutus/howwework/
- **BirdLife International's Important Bird Areas (IBAs):** sites that provide essential habitat for one or more species of bird and include sites for breeding, wintering, and/or migrating birds. IBAs are usually discrete sites and may include public or private lands, or both, and they may be protected or unprotected. www.birdlife.org/sites/ibaprogramme.cfm
- **Centres of Plant Diversity:** areas of global botanical importance identified by IUCN on the basis of the number of species present (even if this is not accurately known) and/or the presence of a large number of endemic species. www.iucn.org/themes/ssc/plants/centres.htm

- **Global Representative System of Marine Protected Areas (GRSMPA):** this joint IUCN-World Bank product documents the biogeographic and ecological characteristics in each of the 18 marine regions of the world and summarizes the range of marine biodiversity within each region and the major threats to its conservation. <http://ea.gov.au/coasts/mpa/nrsmpa/global/>

Question 1 and Question 2 are coarse-scale “filters.” Question 1 distinguishes between areas that have and have not been identified as having high biodiversity values. Question 2 divides important areas into those that have some form of legal designation and those that do not. This “filtering” effect is shown in Figure 3.

QUESTION 2.

Does the project area contain, or exist within, a Protected Area?

WHY IS THIS QUESTION IMPORTANT?

This is a “filtering” question that allows companies to consider the appropriate action to take according to whether the project area is within/contains a PA or within/contains a CPA. Although this question is an integral part of the process to define the responses necessary to conserve biodiversity, its primary function is to enable the company to adapt its planning and operations to the special requirements of PAs as defined by international, regional and national laws and to ensure that the company operates within these laws. It is important to recognize that, in signing an international/regional agreement, national governments are committed to its implementation through adopting its terms in domestic statute, making the country subject to international/regional regulations supported by law. Moreover, international agreements - particularly the World Heritage Convention - are on the “radar screen” of the conservation community. Were companies to operate without due regard for these designations, there would be potential for communication campaigns that could damage the reputation of companies interested in operating at such sites. Acting in a way consistent with such agreements will therefore help to enhance the reputation of the company with the conservation community and with funding sources that are particularly committed to biodiversity conservation goals.



PAs are a common feature in conservation schemes in almost every country of the world. About 96,000 PAs worldwide cover an area similar to that of China and India combined (totaling nearly 11 percent of the Earth’s land surface). Biodiversity research continues to define new areas of importance, so many countries are still updating

their national protected areas systems. There is a high likelihood that oil and gas companies may find established and/or proposed PAs in or near to their concessions.

PAs may indicate an area of high biodiversity and societal value, and they are often related to the provision of important environmental services and products. Knowing where PAs are in relation to planned operations can give a company an idea of where governments may or may not allow it to work, as certain activities may be restricted by law. Finally, knowing where PAs are is important to the process of identifying potential risks to a company’s reputation.

PAs are mainly designated under national legislation or, in the case of federal countries, under provincial legislation. However, due to trends in the decentralization of governments’ functions, PAs are also increasingly designated by state, provincial and even local governments, as well as by local groups, including indigenous peoples. Moreover, in a number of regions, mainly Latin America and the Caribbean and increasingly

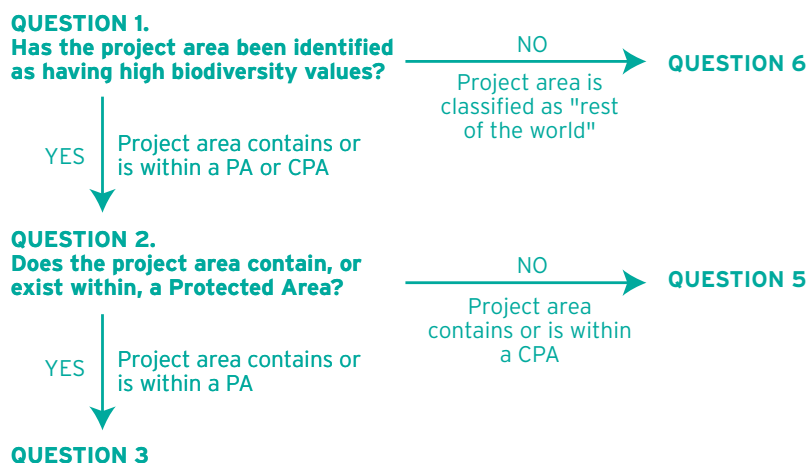
in Africa, the number of private PAs is increasing. In many countries, private PAs are recognized as part of the national protected areas system.

As noted in Section 3, not all PAs are closed to industrial activity. In some cases, the relevant PA legislation will explicitly authorize such activity as compatible with the purposes for which the PA was established. However, in other cases, government authorization for such activity may be unclear, opaque, or simply out of step with the concerns of some stakeholders. In these cases, government authorization may increase, rather than decrease, the company’s potential risks as they relate to operating in or near to a PA. Even where oil and gas exploration and production projects can be operated in ways that either do not threaten the integrity of a PA, or might even benefit it (see Question 4.2) and the government has explicitly authorized that operation through a valid process, the risk of significant biodiversity impacts and related impacts to reputation are increased by operating in or near to that PA. Therefore, companies must carefully consider not only the potential biodiversity impacts of operating in or near to a PA, but also the business consequences, irrespective of the nature of government approval. There may be clear business gains from choosing not to operate in such areas.

See also **Opportunities for Benefiting Biodiversity Conservation.**



FIGURE 3. “FILTERING” USING QUESTIONS 1 AND 2.



Questions 2.1–2.4 examine the variety of designations available for PAs and allow a company to understand their relevance to the project area being considered.

Question 2.1

Is the PA designated under international agreements?

If the operation the company is planning will take place in a PA that has been designated under an international convention such as the UNESCO World Heritage Convention or the Ramsar Convention on Wetlands of International Importance, or related programs such as UNESCO's Man and Biosphere Programme, then the company should recognize and be aware of both international and resulting national policies, regulations and guidelines. The procedures set out under these two conventions are different, as oil and gas operations are more likely to be permissible within Ramsar sites than World Heritage sites. However, the translation of these designations into national statute is often done as part of stronger legislative support. This may place tighter restrictions than the basic international designation:

- **World Heritage Sites:** The 1972 World Heritage Convention defines and conserves the world's heritage by drawing up a list of natural and cultural sites whose "outstanding universal values" should be preserved for all humanity. As of July 2003, the 754 total sites in 128 countries inscribed on the World Heritage List included 149 natural, 23 mixed and 582 cultural sites. Further information on World Heritage Sites can be found in Question 4 and at whc.unesco.org.
- **Ramsar Sites – Wetlands of International Importance:** The Ramsar Convention (signed in 1971) provides a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. As of 2003, there were 138 Contracting Parties to the Convention, with 1,308 wetland sites, totaling 110 million hectares (271.8 million acres), designated for inclusion in the Ramsar List of Wetlands of International Importance. Further information on Ramsar sites is given in Question 4 and at www.ramsar.org.
- **Biosphere Reserves:** The UNESCO Man and Biosphere Programme (MAB) recognizes government nominated areas of terrestrial and coastal ecosystems as internationally important. The MAB Programme is oriented toward establishing a World Representative Network of Biosphere Reserves, with each reserve aiming to contribute to the conservation of ecosystems, species and genes, to foster economic

and human development which is socio-culturally and ecologically sustainable, and to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development. Each reserve consists of a core area (or group of core areas), a buffer zone, and a transition area. The core area requires legal protection and is often part of the existing PA network and may even be recognized by other international conventions such as World Heritage or Ramsar. Many of the areas have mixed ownership regimes, with the core area often under government ownership and the buffer zone in private or community hands. Thus, the challenge and reward of biosphere reserves is establishing an appropriate mechanism for coordinating activities within the total Reserve – while biodiversity conservation is a central feature of Biosphere Reserves, conservation is not necessarily a primary function of all parts of a Biosphere Reserve. Further information on Biosphere Reserves can be found at www.unesco.org/mab/wnbr.htm.

For summary details of, and online links to, a comprehensive range of relevant international conventions including information on World Heritage and Ramsar sites and Biosphere Reserves, see **International Conventions**.

Question 2.2

Is the PA designated under Regional Agreements?

Regional refers to more than one country (e.g. the European Union) or more than one state or province within a single country. Under some regional agreements, provisions have been made to enhance the management of existing PAs as key elements of socio-economic development. One example is the European Union-wide network of nature conservation sites known as Natura 2000 and established under the EC Habitats Directive (92/43/EEC) and the EC Wild Birds Directive (79/409/EEC). The objective of this network is to safeguard European biodiversity by designating and protecting key sites. Member governments are required to identify these sites and take steps to protect them, ensuring that they have what is referred to as "favorable conservation status" (see europa.eu.int/comm/environment/nature/natura.htm for further information on Natura 2000). This is achieved by managing both these sites, and through the use of biodiversity-supportive policies in the non-protected areas. Further



examples include the recognition of PAs in Central America under the Central American Commission on Protected Areas and the special protocols containing provisions for PA conservation and management in the Caribbean and Mediterranean regions. Regional regulations and agreements on PAs may enable national regulations that allow for certain types of activities, while other designations may not allow any activities at all. Again, it is important to understand and follow regional laws relevant to PAs.

Question 2.3

Is the PA designated under national processes?

Each country has its own processes and sets of designations for protected areas, with numerous means of designating protected areas at sub-national levels. This leaves a somewhat confusing global picture of nationally designated protected areas. However, the UN List of National Parks and Protected Areas, compiled by IUCN and the UNEP World Conservation Monitoring Centre (UNEP-WCMC) since 1959, provides an overview of national protected areas around the world.

Countries propose protected areas for inclusion in the UN list to UNEP-WCMC, which then reviews the proposal against three criteria: (a) size – only protected areas 1,000 ha (2,471 acres) or larger are included; (b) management objectives – based on the IUCN Protected Area Management categories (see Box 1), and (c) authority of the management agency. In many developed

countries, the typical protected area is less than 1,000 ha, making the IUCN categorization a very coarse sieve, and excluding substantial numbers of protected areas from the WCMC database. In addition, the categorization is not used in national legislation in many countries.

The IUCN Protected Area Management categories are not designations for PAs, but are a way of classifying PAs around the world using common terminology. The categories promote internationally agreed standards of protection and management, to help global accounting and comparisons, to demonstrate the full range of PA values, and to encourage governments to create systems of PAs. The six categories in the IUCN system are based on conservation management objectives and reflect a gradient of management intervention. All categories are equally important but reflect an increasing human influence on the environment, except that Category VI actually sits between Categories IV and V. Therefore Category V is the category where human influence is likely to be the greatest. Each category carries a varying but potentially significant degree of risk for a company that operates or seeks to operate in or near to such areas, not least because some environmental and conservation NGOs may consider them as “no-go” areas.

While the IUCN Categories system is a convenient tool for making comparisons between countries, the category system itself is not typically enshrined in national legislation. Rather, each government has its own national legislation that establishes its own restrictions

BOX 1. THE IUCN PROTECTED AREA MANAGEMENT CATEGORIES

National legislation for protected areas varies from country to country as well as across types of protected areas. Some protected areas may allow certain types of activities, where others may be totally off limits to any human activity apart from research. This variety across national classification systems is part of the rationale behind the creation of the IUCN Protected Area Management Categories system, which creates a common language, based on an international framework, among PA managers. But, as each nation is sovereign and national law binds companies, it is imperative to understand and follow the national law regarding PAs.

IUCN Categories

- I(a). Strict Nature Reserve (managed mainly for science)
- I(b). Wilderness Area (managed for wilderness protection)
- II. National Park (managed for ecosystem protection and recreation)
- III. Natural Monument (managed for conservation of specific natural features)
- IV. Habitat/Species Management Area (managed for conservation through management intervention)
- V. Protected Landscape/Seascape (managed for conservation and recreation)
- VI. Managed Resource Protected Area (managed for the sustainable use of natural resources)

on land use in various types of protected areas. In some countries, such as Australia, well over 100 types of protected areas have been named. In many countries, protected areas are publicly owned, requiring that the State acquire the land from private owners, sometimes through the right of pre-emption over any land that comes on the market. Public ownership is commonly felt to be an advantage in preventing harmful activities or developments, but each government decides for itself what kinds of activities are permissible within which types of protected areas.

The World Conservation Congress (WCC) in Amman, October 2000, adopted Recommendation 2.82 that related to the “protection and conservation of biological diversity of protected areas from the negative impacts of mining and exploration” (the full text of the Recommendation is presented in Appendix A). The WCC is the key gathering for conservation organizations (governmental and NGOs) and is part of the IUCN governing system, where its members approve the IUCN program of work and propose resolutions and recommendations that should be implemented as part of that program.

Although specifically targeted at mining, Recommendation 2.82 could also be extended to include oil and gas operations given that it:

- Invites all governments and corporations to promote and implement best practice in all aspects of mining and mineral extraction, from first exploration through to decommissioning and subsequent land use.
- Calls on all IUCN’s State members to prohibit by law all exploration and extraction of mineral resources in protected areas corresponding to IUCN Protected Areas Management Categories I to IV.
- Urges that proposed changes to the boundaries of protected areas, or to their categorization, to allow for the exploration or localized extraction of mineral resources, should be subject to procedures at least as rigorous as those involved in the establishment of the protected area in the first place.

The Amman Recommendation is the basis of the World Wide Fund for Nature’s (WWF) To Dig or Not to Dig, in which it is suggested that mineral activity (including fossil fuels) should not take place in the following places:

- Highly protected areas (IUCN categories I-IV, marine category I-V protected areas, UNESCO World Heritage

sites, core areas of UNESCO biosphere reserves, and Natura 2000 sites in European Union countries).

- Proposed protected areas within priority conservation areas selected through ecoregional planning exercises.
- Areas containing the last remaining examples of particular ecosystems or species, even if these lie outside protected areas.
- Places where mineral activities threaten the well-being of communities including, particularly, local communities and indigenous people.

Question 2.4

Is the PA designated under sub-national processes?

Relative to the national level, the situation at the sub-national level may be even more complex with a myriad of different types of protected areas ranging from private reserves to local community protected areas to state and provincial parks within federal government systems. These protected areas will need to be identified through consultation, access to local knowledge resources (e.g. government agencies, academic or scientific institutions, NGOs, etc.), and through the ESIA process.

Information sources for answering Question 2

General

- UNEP-WCMC Protected Areas Database:
www.unep-wcmc.org/protected_areas

International

- World Heritage Sites:
whc.unesco.org
- Ramsar Sites – Wetland of International Importance:
<http://www.ramsar.org/>
- Biosphere Reserves:
<http://www.unesco.org/mab/wnbr.htm>

National Sites

- National Biodiversity Strategies and Action Plans:
<http://www.biodiv.org/world/reports.asp?t=ap>
- UNESCO Man and Biosphere Reserves:
<http://www.unesco.org/mab/wnbr.htm>

- National Government Ministry responsible for PAs.
- Regional Departments responsible for PAs.
- IUCN Environmental Law Centre
Godesberger Allee 108-112, 53175 Bonn, Germany
Phone: ++49 228 2692 231; Fax: ++49 228 2692 250,
Email: Secretariat@elc.iucn.org

QUESTION 3.

Can the Protected Area be avoided using technical options?

WHY IS THIS QUESTION IMPORTANT?

Although, as noted above, companies have voluntary options to exit at any stage in the business process, they may also have the opportunity to avoid a PA through the use of suitable technical options. Alternative locations to the PA should be investigated in order to:

- Fully assess and consider all pre-operational options for minimizing impacts on biodiversity.
- Establish credibility: for a company to hold a credible position when discussing options of operating in PAs (such as avoidance, offsets, best practice, etc.), it is important to have demonstrated to the conservation community, governments, and society that all options have been seriously considered and the only viable alternative being chosen is to operate within the PA. Being able to articulate a clear decision-making and risk assessment process that demonstrates consideration of alternatives can be a powerful tool in establishing credibility.
- Avoid unnecessary costs and delays: operating in PAs may result in incremental business and reputational costs for a project. Identifying an alternative that avoids the PA early in the planning of the project can help avoid unnecessary costs.



Having identified that the company's project area is within, or contains, a PA, the next question is whether the company can avoid entering the PA. Are there reasonable location, re-routing or technological options available which may preclude the need to enter the PA? Has the company considered the option of not carrying on with the project/

acquisition/purchase, as well as the social, ecological and economic tradeoffs of avoiding the PA? Assessing alternatives should be a standard procedure within the ESIA process, which should look at the no-project alternative (i.e. what would happen if the project did not proceed based on biodiversity issues) as well as technical alternatives (e.g. building mitigation into engineering design, pipeline routing options, deviated drilling etc.).

QUESTION 4.

Can the Government approve hydrocarbon development activities within a Protected Area through a valid process?

In order to answer Question 4, three sub-questions that assess the government approval process in greater detail must be considered:

- Is oil and gas exploration and production (E&P) allowed?
- Could E&P activities proceed without compromising the biodiversity values of the PA?
- Can project authorization be granted?

The relationships among these sub-questions are shown in Figure 4 (which supplements Figure 2).

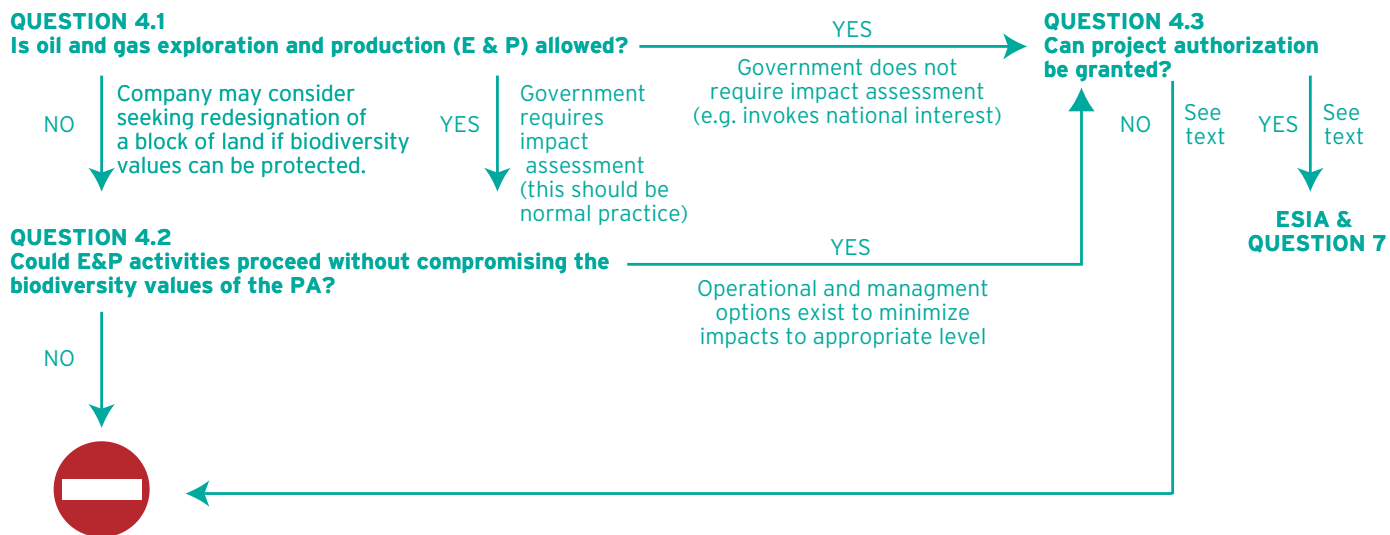
QUESTION 4.1

Is oil and gas exploration and production allowed?

The first question is whether hydrocarbon activities are allowed under the legal structures or exceptions allowed under those structures. The reason for knowing this is so that a company can operate within the law. As stated above, companies should, as a basic premise, seek to avoid PAs. However, when technical options do not exist to allow this, companies may choose to pursue operations if the PA legislation explicitly allows such activities, or seek government authorization to conduct hydrocarbon activities even if the PA legislation does not explicitly authorize them. It should be recognized that concerns may be raised regarding the nature of any authorization – as noted in Question 2, the government process to allow industrial activities in PAs may lack clarity or consistency, raising stakeholder concerns that such activities should not be undertaken irrespective of the legal right to do so.

The type of designation that the protected area has been assigned will guide the process that a company needs to follow to determine if the government will allow hydrocarbon activities in that area. This guide explains processes associated with:

FIGURE 4. RELATIONSHIPS AMONG SUB-QUESTIONS IN QUESTION 4.



- World Heritage Sites.
- Ramsar Wetlands of International Importance.
- Nationally, regionally, locally and privately designated protected areas.

Question 4.1.1

Is the PA inscribed as a World Heritage site?

Where the protected area within the company’s project area is inscribed as a World Heritage site, the company should be familiar with the guidelines and procedures of the World Heritage Convention as well as the national, regional and local laws, as the sites are designated under national law in addition to being inscribed on the World Heritage List. As mentioned under Question 2.1, the World Heritage Convention provides protection for natural and cultural properties of outstanding universal value. The Convention relies on the Parties to protect the sites, which entails having the relevant forms of legislation, staffing, funding and management plans (July 2002 Operational Guidelines) to protect the property.

Whether industrial activities are allowed in a World Heritage site depends on the legal and administrative structures relevant to the site, such as national legislation, any regional or local regulations and the site management plan. But generally speaking, industrial activities are viewed by the Convention as incompatible with World Heritage status and mining is specifically named as an activity that may lead to a natural or mixed

World Heritage site being listed “in danger” (July 2002 Operational Guidelines). Therefore, avoiding World Heritage sites would be the best option in terms of easier reputation management and avoiding the potentially long and involved process of progressing with an option, where legally permitted to do so. There are currently no formal guidelines under the Convention for approaching operations in such areas, so this Framework recommends that the company contact both the Ministry responsible for managing World Heritage (e.g. Education, Culture or Environment) and the World Heritage Centre in Paris.

Experiences with industrial developments and World Heritage sites indicate that there are essentially three ways industrial activities may be considered in the context of a World Heritage site:

- Through the nomination process.
- Through reactive monitoring and periodic reporting.
- Through stakeholder identification.

The processes associated with these three mechanisms are illustrated in Appendix B.

Information sources for answering Question 4.1.1

- National Government Ministry responsible for World Heritage.
- Regional Departments responsible for World Heritage.

- World Heritage Centre: www.unesco.org/whc
- World Heritage Advisory Bodies: The World Conservation Union (IUCN), International Council on Monuments and Sites (ICOMOS), International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM).

Question 4.1.2

Is the PA a Ramsar site?

There are two aspects of the Ramsar Convention to consider in the context of oil and gas operations:

- First, does the planned, proposed or existing operation affect, or have the potential to affect the ecological character/integrity of the Ramsar site? Under Article 3.1 of the Ramsar Convention, the Contracting Parties are obligated to formulate and implement planning that promotes the conservation of the Ramsar wetlands and, as far as possible, the wise use of wetlands within their territory (for further information on the wise use concept see www.ramsar.org/wurc_index.htm). A precautionary approach is advised, and where impacts are likely or even possible, but unknown, it should be assumed there is a possible change in the ecological character, determined on a site-by-site basis as

WHY ARE THESE QUESTIONS IMPORTANT?

Governments may have various options to authorize hydrocarbon activities within a PA. There may be formal processes whereby governments can issue a permit for such activities if they are not explicitly prohibited, grant a formal exemption to a prohibition where the legislation provides for an exemption (e.g. urgent national interests), change zoning within the area, or agree to the re-designation or alteration of PA boundaries to allow hydrocarbon activities to occur outside the area. Typically, governments will make such decisions having considered the environmental, social and economic trade-offs of the potential hydrocarbon development, although governments may also choose to “short-circuit” the formal process where such an approach is not explicitly prohibited by international laws or conventions. In some cases, the government may not act in a way that is transparent and credible to concerned stakeholders. In addition, it is important to recognize that conflicts between government agencies regarding development and conservation priorities may be reflected in conflicting regulatory provisions (such as one ministry prohibiting hydrocarbon activities in a PA, and another authorizing them) or activities by one ministry to persuade another ministry to alter its regulations. Similar problems may arise between federal and regional/local authorities.

Due to the potential significant risks to biodiversity and corporate reputation, companies should seek to avoid PAs, although in some cases governments may explicitly allow industrial activity (e.g. National Wildlife Refuges in the U.S.) or invoke national interests to justify the presence of such activities. It is not the intent of this Framework to encourage companies to seek exemptions, redesignation of area boundaries, or other means to obtain authorization to conduct hydrocarbon activities in or near a PA where the relevant PA legislation does not explicitly authorize such activities. Nevertheless, the reality is that a company may be inclined to undertake such efforts and that government may have legal processes to grant such authorizations. Therefore, it is essential to note that risks for companies and biodiversity can escalate in association with such activities. If key stakeholders perceive that a company is seeking to enter a PA, the company should expect more vocal and intense opposition from such stakeholders.

The specific authorization approach may also have its own implications. If a PA boundary is redrawn to permit hydrocarbon activities, it may be that a single project may not irretrievably compromise the PA's biodiversity values. However, if the redrawn boundary opens the door to multiple projects, the actual and perceived risks to biodiversity are likely to be greater, giving rise to increased stakeholder opposition. It will also increase the probability that the company that originally sought the redesignation will be viewed as responsible for damage caused by subsequent projects not under the company's control. This will, in turn, have potentially significant implications for the company's reputation. Therefore, if companies propose changes to designation or boundaries of PAs (where this can be done without compromising biodiversity values), then it must be done via a transparent, rigorous, legal and objective process, taking into account the cumulative and secondary impacts, if it is to be credible to key stakeholders. Throughout the process of gaining government authorization, the company can voluntarily exit should issues arise that cannot be satisfactorily resolved.

part of the application process for listing under the Convention.

- Second, Ramsar Parties are expected to only consent to activities or developments that will cause loss or damage to a Ramsar site if that activity is of “urgent national interest” (see Appendix B). Therefore, to operate within the spirit of the Convention it is important to know if the government has invoked the “urgent national interest” clause under the Ramsar Convention, and to know that it followed due process in so doing.

Information sources for answering Question 4.1.2

- National Government Ministry responsible for Ramsar.
- Regional Departments responsible for Ramsar.
- Ramsar Bureau: www.ramsar.org
- Wetlands International Database: www.wetlands.org/

Question 4.1.3

Is the PA designated nationally, regionally, locally and/or privately?

Protected areas that are designated under national, regional (both supra and sub-national), local or private processes will have restrictions and regulations relating to their designation. Companies need to determine these on a case-by-case, country-by-country basis in consultation with ministries and other relevant stakeholders.

Governments may have various options to validly authorize hydrocarbon activities within a PA. For example, within certain countries there may be formal processes whereby governments can issue a permit for such activities if they are not explicitly prohibited, grant a formal exemption to a prohibition where the legislation provides for an exemption (such as for the national interest), change zoning within the area, or agree to the re-designation or alteration of protected area boundaries to allow hydrocarbon activities to occur outside the area. Typically governments will make such decisions having considered the environmental, social and economic trade-offs of the potential hydrocarbon development. However, while many conservation organizations and government protected area agencies will recognize that boundaries may not always be perfect, not least because of the dynamism of ecosystems, changing boundaries or designations of protected areas is usually a difficult and

controversial process. For example, IUCN, in its World Conservation Congress *Recommendation 2.82*, called for proposed changes to protected areas boundaries or categorization to be subject to “procedures at least as rigorous as those involved in the establishment of the protected area in the first place.” It should be noted any efforts by a company (working with the Government) to re-draw PA boundaries could present a significant impact to biodiversity as well as an increased risk to the company. Invariably the risks will be greater to the company and the impacts to the biodiversity more significant if the area is opened to a series of projects (which may or may not be oil and gas related, such as logging or tourism development).

Compensatory measures may be part of the process of discussing possible boundary changes and/or re-categorization or may come up as a separate discussion. An example includes offsets, such as establishing a fund for conservation, supporting the management of PAs and research, placing other territory under protection, reclaiming degraded land, or managing the area of interest as a conservation zone. It is critical to discuss possible offset options with relevant stakeholders to ensure the planned offset meets their concerns, does not negatively impact local communities, and is viewed as adequate compensation.

Compensatory measures should not be a first recourse, and should only be explored as an option after having examined all possibilities for avoiding, minimizing and mitigating impacts.

Further information on measures useful for consideration as compensatory can be found in **Opportunities for Benefiting Biodiversity Conservation**.



Information sources for answering Question 4.1.3

- National Government Ministry responsible for Protected Areas.
- National and Regional Departments responsible for Protected Areas.
- IUCN World Commission on Protected Areas: <http://www.wcpa.iucn.org/>
- IUCN Programme on Protected Areas.

QUESTION 4.2

Could exploration and production activities proceed without compromising the biodiversity values of the PA?

Even though it might be legally possible to undertake an oil or gas operation within a PA, it is imperative that the likelihood of the project having negative impacts on the biodiversity values of the PA is assessed. There may be instances when those impacts may be too significant, such that the values of the PA would be compromised, even though it would be legal to undertake the oil/gas operation, thereby presenting a greater reputational risk to the company.

First, the company will need to work with others (such as government, academics, local communities, NGOs, etc.) to determine the values of that particular PA (e.g. an area important for migratory species, habitat for a rare/endangered species, an area providing important ecosystem services and goods to local communities). Second, the company will need to identify the potential impacts of the project upon those values (normally done through the ESIA process, which may include an Environmental Profile, Rapid Assessment Program and more detailed ESIA).



See also **Integrating Biodiversity into Environmental and Social Impact Assessment Processes.**

Next, the full range of mitigation measures will need to be identified to reduce the impacts to a minimum acceptable level (see Question 7). Finally, after assessing all risks and impacts, if the government allows the company to operate in a protected area and the company decides to do so, it is advised to follow a formal transparent procedure to identify acceptable offsets. Undertaking a unilateral discussion only with the ministry responsible for oil and gas can lead to a lack of consultation and additional risks to the business. By following a formal transparent process, the company may maintain credibility among stakeholders.

Information sources for answering Question 4.2

- National Government Ministry responsible for Protected Areas.
- National and Regional Departments responsible for Protected Areas.
- Environmental and Social Impact Assessments.

QUESTION 4.3

Can project authorization be granted?

Project authorization by the government is not a foregone conclusion irrespective of the answers to Questions 4.1 and 4.2, and a company should exercise significant care even if it receives such authorization. The various possible outcomes are examined in Figure 4.

Where a government allows oil and gas exploration, it may exceptionally invoke “urgent national interest” and short-circuit the process of assessing whether or how oil and gas operations might impact biodiversity in the PA. However, this scenario is likely to be a rarity, and one that a conscientious company would respond to by voluntarily undertaking a detailed impact assessment on which to base its own judgment of whether to proceed.

In other cases, the government may only authorize oil and gas activities on the basis of existing legal permission when studies are undertaken to demonstrate that no significant impacts on biodiversity values in or around the PA will arise. The company may still need to consider the business risks that may arise from operating in a PA post-authorization, even if risks to biodiversity are absent.

In cases where there is no explicit legal permission for operations in PAs, and studies indicate that there will be no significant impacts on biodiversity values, the government may or may not consider re-designation and authorization at the company’s request, depending on other factors and pressures that it faces, such as stakeholder concerns, ensuring compliance with overarching international agreements and conventions and its own economic, social and environmental priorities (including consideration of “urgent national interests”).

Finally, in cases where there is no legal basis for industrial activity in PAs and studies indicate that there may be significant impacts, it is almost certain that governmental authorization would not be given, unless for reasons of “urgent national interests.” It is then up to each individual company to evaluate the potential risk of proceeding with the decision.

QUESTION 5.

Can the biodiversity values of the Conservation Priority Area Not Currently Under Protection (CPA) be confirmed?

WHY IS THIS QUESTION IMPORTANT?

It is important that a company knows if a project might take place in a CPA, because such areas are regarded as valuable, threatened and/or fragile by governments, scientific and/or conservation organizations. The risks to the company from an operational or reputation perspective may be high if these areas are not recognized.

However, given the large geographical extent of some of these areas, it is important to confirm the biodiversity values within them. They are not homogeneous and will contain particular areas of higher or lower values; so potential operational plans may be adjusted accordingly.



CPAs can be defined in many ways. A starting point is to take areas either identified by Governments as part of their national planning processes or recognized by conservation organizations as a preliminary indication of high biodiversity value. However, it is important to recognize that this is not a comprehensive definition of biodiversity value and

the related need for conservation. Prioritizing areas for conservation is a large, subjective concept and may depend on local needs and concerns that exist within a region. Therefore, it is necessary to confirm the values associated with such priorities.

At the national level, National Biodiversity Strategies and Action Plans (NBSAPs) prepared under the Convention on Biological Diversity (Article 6) may include a chapter on habitats that are a priority for conservation. Article 6 creates an obligation on governments for national biodiversity planning. A national strategy will reflect how the country intends to fulfill the objectives of the CBD in light of specific national circumstances, and the related action plans will constitute the sequence of steps to be taken to meet these goals. More than 145 countries have to date either completed or drafted their NBSAPs. The list of countries and their respective NBSAPs may be viewed at www.biodiv.org/world/reports.asp?t=intro.

Designations can cover enormous areas of land or water. (For instance, in the case of the Ecoregions and Hotspots, the entire country of Madagascar is included.) Essentially, these designations provide an indication that the company's proposed project area may contain an area of high biodiversity value. The company should be sure to examine its specific area of interest to determine if it holds some of the characteristics for which the overall region was originally classified. Moreover, the company should be aware of other limitations of these assessments, mainly the lack of recognition of biodiversity values associated with cultural landscapes (such as in Europe), and the lack of attention to cultural/spiritual values that indigenous and traditional peoples attribute to natural areas. CPAs are often established on ecological rather than social priorities, and the company should consider the full range of potential impacts as it proceeds with its assessments.

Examples of CPAs are described in Question 1. However, it is important, to understand the criteria used in defining CPAs, as this will enable a company to understand how to examine each area in the context of its unique value.

The first step in determining if there are high biodiversity values in the company's project area is to identify why the overall region or area was originally categorized as a CPA. As noted above, the criteria for each type of CPA are quite variable. Example criteria may include:

- Are there any key ecosystem services/functions of critical importance in the concession (e.g. breeding and feeding areas for global and regional migratory bird species or migration corridor for terrestrial species, critical watershed, carbon capture, soil stabilization)?
- Are there any other uses of special concern:
 - Key hunting and/or fishing grounds for local communities?
 - Areas with significant archaeological/spiritual/religious/historical/traditional value?
 - Areas used for ethno-botany (e.g. traditional medicines)?
 - Areas that have an amenity or spiritual value?
 - Areas that have high research/education potential?

- At the local level, is the habitat/ecosystem an ecological corridor between other isolated habitats of ecological importance?
- Is the ecosystem particularly vulnerable to the introduction of alien species (e.g. on an island or another isolated habitat)?
- Is the habitat/ecosystem representative of that within the company's project area (i.e. is the habitat/ecosystem well-represented or is it unique)? This will give some idea as to the distinctiveness of that particular habitat.

Companies may be advised to undertake testing of biodiversity values during the very early stages of the project, even where this requires additional financial support and staff time. In cases where there is little or no information available, or the information is contradictory, best professional judgment should be used to identify the initial level of effort required to confirm biodiversity values of a particular area. The results of the science should then direct the need for additional work if values are initially deemed to be high – for whatever reason. If there is no access to professional judgment in-house, third party assistance should be sought.

If it is determined that the biodiversity values are high, then a particular response should be triggered. To confirm these values may involve commissioning an ESIA or linking up with third party studies. This may lead to a more thorough biodiversity baseline and monitoring program as the project develops.

Information sources for answering Question 5

- National Biodiversity Strategies and Action Plans: www.biodiv.org
- Conservation International – Biodiversity Hotspots and Wilderness Areas: www.biodiversityhotspots.org
- WWF – Global 200 Ecoregions: <http://www.panda.org/resources/programmes/global200/pages/mainmap.htm>
- The Nature Conservancy's Conservation by Design – Last Great Places: <http://nature.org/aboutus/howwework/>
- Birdlife International – Important Bird Areas: <http://www.birdlife.org/sites/whatareibas.cfm>

- Centres of Plant Diversity: <http://www.iucn.org/themes/ssc/plants/centres.htm>
- Species Survival Commission: <http://www.iucn.org/themes/ssc/sisindex.htm>
- Information on rare ecological resources (e.g. IUCN Red List: www.redlist.org)
- National publications.
- National academic research institutes (including Museums of Natural Sciences).
- National NGOs, community groups and other stakeholders.
- Field guides.
- Ministries (e.g. Finance, Agriculture, Health, Trade, Fisheries).

QUESTION 6.

Are there any significant biodiversity issues?

WHY IS THIS QUESTION IMPORTANT?

It is extremely important to identify any significant biodiversity issues as early as possible in the ESIA process. The company can then take steps to manage the potential impacts, identify what the residual impacts may be and determine what the enhancement (compensatory) measures might be. If these are ignored, there are increased environmental risks with the associated potential reputation issues, and the prospect of technically difficult and costly retrospective mitigation. Once damaged, it may be extremely difficult to recover a company's positive reputation.

If the company's early screening does not identify any designated PAs or CPAs within its project area, then the standard ESIA process should identify whether there are any significant biodiversity issues.

Prediction of impacts on biodiversity is difficult. Understanding how an ecosystem changes through time, even without an oil and/or gas project, is not simple. An important first stage in gaining an understanding of how the system might be changed by the proposed



project is to take a “snap-shot” of the existing conditions – the baseline environment. Often the main difficulty associated with assessing biodiversity baselines is the limited time within the ESIA for a thorough assessment. This results in issues such as migratory patterns and seasonal variations not being addressed properly, making it still more difficult to develop an accurate assessment.

This is not to say, however, that baseline surveys within a standard ESIA should not be conducted, but it will be a case of professional judgment (either in-house or external) of how detailed they should be. Utilizing the skills of an expert within the ESIA team can expedite both the fieldwork and the interpretation of related findings. In addition, consultation with local stakeholders such as local communities (harnessing local knowledge such as ethno-botany), academics and local organizations will help to build a more accurate baseline.

i See also **Integrating Biodiversity into Environmental and Social Impact Assessments.**

Having established a biodiversity baseline and discussed it with stakeholders, it is then necessary to work systematically through the various activities and aspects of each development alternative to determine the likely effects of those activities on the baseline, making sure to:

- Take into account the nature of the impact (direct or indirect, long-term or short-term, effects from cumulative impacts, etc.).
- Identify the type of impact (positive – enhancing biodiversity; negative – causing biodiversity loss; or neutral – no net change).
- Determine the likely magnitude of the residual impact (x hectares/acres of an ecosystem or habitat, x number of individuals of a species, etc.).
- Take into account the effects that could be associated with emergency situations so as to consider such risks in the design of appropriate emergency response plans.

i See also **Biodiversity Indicators for Monitoring Impacts and Conservation Actions** and **Good Practice in the Prevention and Mitigation of Primary and Secondary Biodiversity Impacts.**

Social change also needs to be considered – for example, how social changes caused by the project might affect biodiversity resources, either directly or indirectly by affecting other components of the ecosystem. An example of an indirect change would be if the project resulted in an influx of people into an area, and this in turn resulted in the clearance of forest for subsistence farming, or increased hunting, poaching or logging. Another example would be if the forest clearance resulted in significant sediment loads in local watercourses, resulting in the smothering of aquatic fauna and flora. Impacts such as these need to be assessed to determine their significance, and this information needs to be fed into the overall decision-making framework.

i See also **Negative Secondary Impacts from Oil and Gas Development.**

In predicting impacts, it is necessary to take into account the:

- Ability of an ecosystem/habitat or species to recover.
- Local value and role of biodiversity.
- Temporary nature/cycles of some processes (e.g. flooding, migrations etc).
- Global, national or local significance (or importance) of the biodiversity component and other national values or ecological processes.

For the purposes of an ESIA, it is useful to place some sort of value (low, moderate, high) on the components that might potentially be affected. Although this is to some extent subjective, expert judgment (and stakeholder engagement) will ensure a reasonable degree of consensus on the intrinsic value of a resource. Expert judgment can also play an important role in designing a monitoring program that systematically assesses impacts against the baseline. This will assist in determining adaptive measures to enhance operations while limiting their negative impacts.

It is essential that the criteria by which impact significance is judged be clearly defined and set out in the ESIA (unfortunately, this is often not done in many ESIA's, due to the apparent difficulty in determining significance). Setting the criteria for what amounts to “high” (major), “medium” (moderate) or “low” (minor) magnitude impact for a particular project involves

deciding what amount of change is acceptable in that case (sometimes referred to as the “limits of acceptable change”). Ideally, these criteria will be derived from appropriate objectives/targets for individual habitats and species (e.g. targets sets in national, regional or local Biodiversity Strategies and Action Plans [BSAPs]) and/or from stakeholder engagement. “Off-the-shelf” criteria definitions should not be encouraged.

Where there are no appropriate targets/nature conservation objectives, specific criteria will need to be developed on a case-by-case basis based on expert opinions. Two examples of criteria used to assess significance are based on habitats and species:

- **Assessing Impacts to Habitat**

- *Major negative impact*: the proposal (either on its own or together with other proposals) may adversely affect the integrity of an area/region, by substantially changing in the long term its ecological features, structures and functions, across its whole area, that enable it to sustain the habitat, complex of habitats and/or population levels of species that makes it important. The whole area can irreversibly change into a different landscape.
- *Moderate negative impact*: the area/region’s integrity will not be adversely affected in the long term, but the effect on the site is likely to be significant in the short to medium term to some, but not all, of its ecological features, structures and functions. The area/region may be able to recover – through natural regeneration and restoration – to its state at the time of the baseline study.
- *Minor negative impact*: neither of the above applies, but some minor impacts of limited extent, or to some elements of the area, are evident but easy to recover through natural regeneration.
- *Positive impact*: examples include a mitigation package where previously fragmented areas were united through habitat creation work (the concept of connectivity), or the appropriate use of design features such as ditches, hedges, scrub, linear woodland, grassland, large wetlands or small ponds to create microhabitats. Many such improvements, while being very useful, will not provide a significant gain to the biodiversity interest within the natural area – these should be assessed as minor positive. However, where a significant net gain is evident (determined through stakeholder

engagement), the features should be assessed as either intermediate positive or major positive (if for example the net gain is of national importance). It should be noted that if not properly designed, what appears to be a positive impact in the short term can lead to longer-term impacts that may be more damaging.

- **Assessing Impacts to Species**

- A *high magnitude impact* on a species affects an entire population or species in sufficient magnitude to cause a decline in abundance and/or change in distribution beyond which natural recruitment (reproduction, immigration from unaffected areas) would not return that population or species, or any population or species dependent upon it, to its former level within several generations, or when there is no possibility of recovery. A major impact may also affect a subsistence or commercial resource use to the degree that the well-being of the user is affected over a long term.
- A *moderate magnitude impact* on a species affects a portion of a population and may bring about a decline in abundance and/or a reduction in the distribution over one or more generations, but does not threaten the long-term integrity of that population or any population dependent on it. The size, and cumulative character, of the consequence is also important. A Moderate Impact multiplied over a wide area would be regarded as a Major Impact. A short-term effect upon the well being of resource users may also constitute a moderate impact.
- A *low magnitude impact* on a species affects a specific group of localized individuals within a population over a short time period (one generation or less), but does not affect other levels or the population itself.

It is also important to look at a holistic level to assess whether the project will affect the achievement of the aims of any BSAPs (which could be at an international, national or local level and cover a species or an ecosystem/habitat). Such an assessment may also identify opportunities for the project team to contribute in a positive manner to the achievement of the aims.

Engagement with key stakeholders is vital in determining significance, as many of the ecological functions that make an ecosystem or species important are related to the environmental, economic or cultural values and

services of that ecosystem or species. Thus, involving stakeholders in determining significance can help ensure the mitigation measures address those impacts that are important to people, as well as those that are important for the environment.

It may be noted that a moderate or low-magnitude impact to a species may be regarded as a high-magnitude impact on a genetic level, if a distinct or isolated subspecies, population or geographical variant is significantly affected by a project.

QUESTION 7.

Can impacts be mitigated to an acceptable level?



Mitigating impacts to a reasonable and acceptable level is the basic premise of the ESIA process. An ESIA is conducted to identify, predict, assess and then mitigate potential impacts of a project. If the company cannot mitigate impacts to a reasonable/acceptable level, then it will have to feed the findings back into the decision framework

to include modifications such as improved design and/or more robust mitigation measures. If it still cannot mitigate impacts, then this should be fed into the overall decision-making process for the company and other stakeholders, as appropriate, to evaluate whether the project should proceed in that location. It should be recognized that, in some cases, the presence of well-managed oil and gas operations may benefit biodiversity if a company's effective control of the concession area prevents other human activities (e.g. agriculture, forestry, urban development and hunting) that would otherwise have a more significant long-term negative impact on biodiversity in the area.

The ESIA process is examined in detail in Integrating Biodiversity into Environmental and Social Impact Assessment Processes.

The ESIA process should feed back into project design to assess potential impacts to biodiversity and to identify the mitigation or enhancement measures that are required to address these impacts. Having developed a management plan, a monitoring process is required to assess the actual effectiveness of the management plan and to adapt/modify it to ensure that impacts have been reduced to a reasonable and acceptable level.

WHY IS THIS QUESTION IMPORTANT?

In most instances, it may only be possible to reduce an impact to a certain degree. For example, although land-take can be minimized in sensitive areas, it is not possible to construct a production facility without any land-take impacts. These impacts are therefore "residual" in the sense that they remain after the mitigation measures have been designed into the intended activity. However, facilities and infrastructure can be designed in a way that can facilitate reuse (interpretation or social centers, research facilities, etc.) after the life of the project, thus minimizing land-take impacts. An ESIA should identify residual impacts and evaluate how significant they are, so that:

- Where the ESIA and decision making/design are still evolving, the predict-evaluate-mitigate sequence can be repeated. Setting clear measurable indicators against significance criteria is important in demonstrating that the residual impacts are acceptable (for the project and to stakeholders).
- Where the ESIA is being undertaken primarily to aid a company's decisions, this allows negative impacts (and potential indirect risks, e.g. to reputation) to be weighed against the benefits to the company's business and the positive benefits it could deliver to others. The latter could in turn be regarded as "offsetting" or "compensating" for the negative impacts. Consultation on ESIA outputs also allows stakeholders to make an independent judgment of cost and benefits, thus often resulting in a more balanced view of the project.
- Where the ESIA is submitted to regulatory authorities, it allows them to weigh the pros and cons of the company's proposals in deciding whether or not to allow the project to proceed or not.
- Measures may need to be considered to either offset or compensate against the residual impacts. If this cannot be achieved, then this should feed into the overall decision-making process for the company to evaluate whether the project should proceed as originally planned or whether it requires further modifications.

Determining what is reasonable/acceptable is something the assessment team cannot do in isolation. Factors such as technical and financial feasibility, constructability and operability all need to be considered and will involve the project design team, engineers and operations. Furthermore, stakeholder identification and consultation is a critical feature of this process.

Information sources for answering QUESTION 7

The impact assessment process will have identified whether there are ways of mitigating residual impacts to an acceptable level. To answer whether the residual impacts are acceptable it is necessary to consult with relevant stakeholder groups as early in the design of the project as possible.

APPENDIX A. "AMMAN DECLARATION" - RECOMMENDATION 2.82 (WORLD CONSERVATION CONGRESS)

Protection and conservation of biological diversity of protected areas from the negative impacts of mining and exploration

CONSIDERING that protected areas of various definitions and categories are home to a substantial portion of the Earth's biological diversity, threatened species, indigenous communities, lifestyles, and cultures;

NOTING that protected areas act as an important natural system for the regulation of the world's climate balance;

RECALLING that a large majority of State members of IUCN are signatories to the Convention on Biological Diversity;

ACKNOWLEDGING that many of IUCN's State members have established national systems of protected areas to guarantee the conservation of biological diversity;

CONCERNED by the negative social and environmental impacts associated with the rapid growth of mining and mineral exploration activities worldwide with particular reference to the risks posed to the preservation of biological diversity in protected areas; and

RECOGNIZING that the positive endeavours of States, environmental groups, and threatened communities require strong legislative instruments to strengthen their efforts for nature conservation;

The World Conservation Congress at its 2nd Session in Amman, Jordan, 4–11 October 2000:

1. **INVITES** all governments and corporations to promote and implement best practice in all aspects of mining and mineral extraction, from first exploration through to decommissioning and subsequent land use;
2. **CALLS** on all IUCN's State members to prohibit by law, all exploration and extraction of mineral resources in protected areas corresponding to IUCN Protected Areas Management Categories I to IV;
3. **RECOMMENDS** that:
 - (a) in categories V and VI, exploration and localized extraction would be accepted only where the nature and extent of the proposed activities of the mining project indicates the compatibility of the project activities with the objectives of the protected area;
 - (b) authorization for localized exploration and mining require an environmental impact assessment (EIA) of the project and approval by the relevant competent authority and stakeholder groups after public disclosure of the EIA draft document; and
 - (c) authorized exploration and mining projects be subject to strict planning, operating, monitoring, and post-use restoration conditions;
4. **URGES** that proposed changes to the boundaries of protected areas, or to their categorization, to allow for the exploration or localized extraction of mineral resources, should be subject to procedures at least as rigorous as those involved in the establishment of the protected area in the first place;
5. **RECOMMENDS** that exploration and extraction of mineral resources and allied infrastructure development work, which is outside of a protected area, but which may negatively affect the values for which the protected areas were established, should be subject to:
 - (a) EIA preparation and approval from relevant competent authority and stakeholder groups after public disclosure of the EIA draft document; and
 - (b) strict planning, operating, monitoring, and post-use restoration conditions.

This Recommendation was adopted by a show of hands. The delegation of the United States made a formal Statement for the Record indicating that it had opposed and voted against the Recommendation, noting that mining policy is an internal matter for sovereign states, and reiterating that, “in the US, management of parks and requirements for

environmental assessments are based on domestic laws and regulations, not a global framework. In this context, the US Government has acted strongly to limit mining where it is not appropriate.” The full Statement is reproduced in the Congress Proceedings.

APPENDIX B. INDUSTRIAL ACTIVITIES AND WORLD HERITAGE AND RAMSAR SITES

Introduction - the Impact of International Agreements at the National Level

An international agreement (treaty) is binding on citizens and entities within a country, where it has been signed and ratified by that country, and in the majority of cases where an enabling statute has been passed (non self-executing). An international agreement sometimes would be directly applicable (that is without the need for an enabling statute). Treaties of this nature are known as self-executing treaties and apply directly as the law of the land. Whether or not a treaty is self-executing will depend on the law/constitution of the particular country and the nature of the treaty. Nevertheless, whether or not a treaty has become a part of national law, a State is obliged to refrain from acts tending to frustrate the object of a treaty when it has:

- Agreed to enter into negotiations for the conclusion of the treaty, while these negotiations are in progress.
- Signed the treaty subject to ratification, acceptance or approval, until it has made its intentions clear not to become a party to the treaty.
- Expressed its consent to be bound by the treaty and provided that such entry into force is not unduly delayed.

States are also obliged not to defeat the object and purpose of a treaty prior to its coming into force. Therefore, once a state has expressed its consent to be bound by, or has signed either the Ramsar or the World Heritage Convention, it is under an obligation to refrain from acts which may frustrate or defeat the objects of these agreements, regardless of whether it has implemented enabling legislation (however, see *Urgent National Interests and Ramsar sites* below).

The listing of a site on either the World Heritage or Ramsar lists confers on such a site international recognition. By having a site listed under the Ramsar

Convention, a government is obliged to take all steps necessary to ensure the maintenance of the ecological character of the site. The site does not have to have been declared a protected site prior to being listed, and in the case of sites subject to intensive use by human communities (either to extract resources or to benefit from the natural functions of the wetland) a government should provide the necessary protection to ensure its long-term sustainability. Parties to the convention are also bound to promote the conservation of wetlands whether or not they are included on the list. By signing the World Heritage Convention, each country pledges to do all it can to the utmost of its ability to ensure the protection, conservation and presentation of such sites.

Urgent National Interests and Ramsar sites

The discussion of what constitutes an “urgent national interest” is ongoing. Resolutions in the past on the issue have stressed that redefining boundaries and compensating for losses are a last resort and should only happen after all feasible alternatives have been examined through rigorous and transparent assessments in consultation with all relevant stakeholders. General guidance for interpreting “urgent national interests” and considering compensation have recently been adopted by the Ramsar Parties (Resolution VIII.20). Under this guidance, the Contracting Party is obliged to inform the Ramsar Bureau of changes in the boundaries at the earliest possible time (Article 2.5) and is encouraged to notify changes to the Bureau so as to request advice from them, the STRP and/or the Standing Committee before any irreversible action is taken.

The guidance adopted by the Parties requires an environmental assessment that takes into consideration the full range of functions, services and benefits offered by the wetland is an appropriate first step when a Party is invoking the right to delete a site or restrict its boundary and proposes related compensatory measures. Furthermore, this assessment should be made in full consultation with all stakeholders. Additionally, the guidelines state that Parties should take into account that,

where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

More specifically, the guidelines recommend a Contracting Party take the following items into account when invoking “urgent national interest:”

- The national benefits of maintaining the integrity of the wetlands system and its related benefits.
- Whether maintaining the status quo threatens a national interest.
- Whether the prolonged change is consistent with national policies.
- Whether the immediate action is required to avert a significant threat.
- Whether a national interest is being increasingly threatened.
- All reasonable alternatives to the proposed action including “without project” option, finding an alternative location, introducing buffer zones, etc.
- The existing functions and economic, social and ecological values of the site in question.

- The particular value of habitats harboring endemic, threatened, rare, vulnerable or endangered species.
- Whether the proposed action provides benefits to a large base of recipients.
- The alternative that will best minimize harm to the site in question.
- Transboundary effects.

In terms of compensation, the Parties have committed themselves to take a number of factors into account when considering compensation, including the maintenance of the overall value of the wetland and wetland areas in the country as a whole, the availability of compensatory land, the ecological character, habitat or value of the site, and uncertainties associated with compensation, timing, and potential adverse impacts of the compensatory measure itself.

World Heritage Processes

The following figures outline the nomination, monitoring and reporting, and threat identification processes for World Heritage sites.

FIGURE 5. WORLD HERITAGE SITES NOMINATION PROCESS

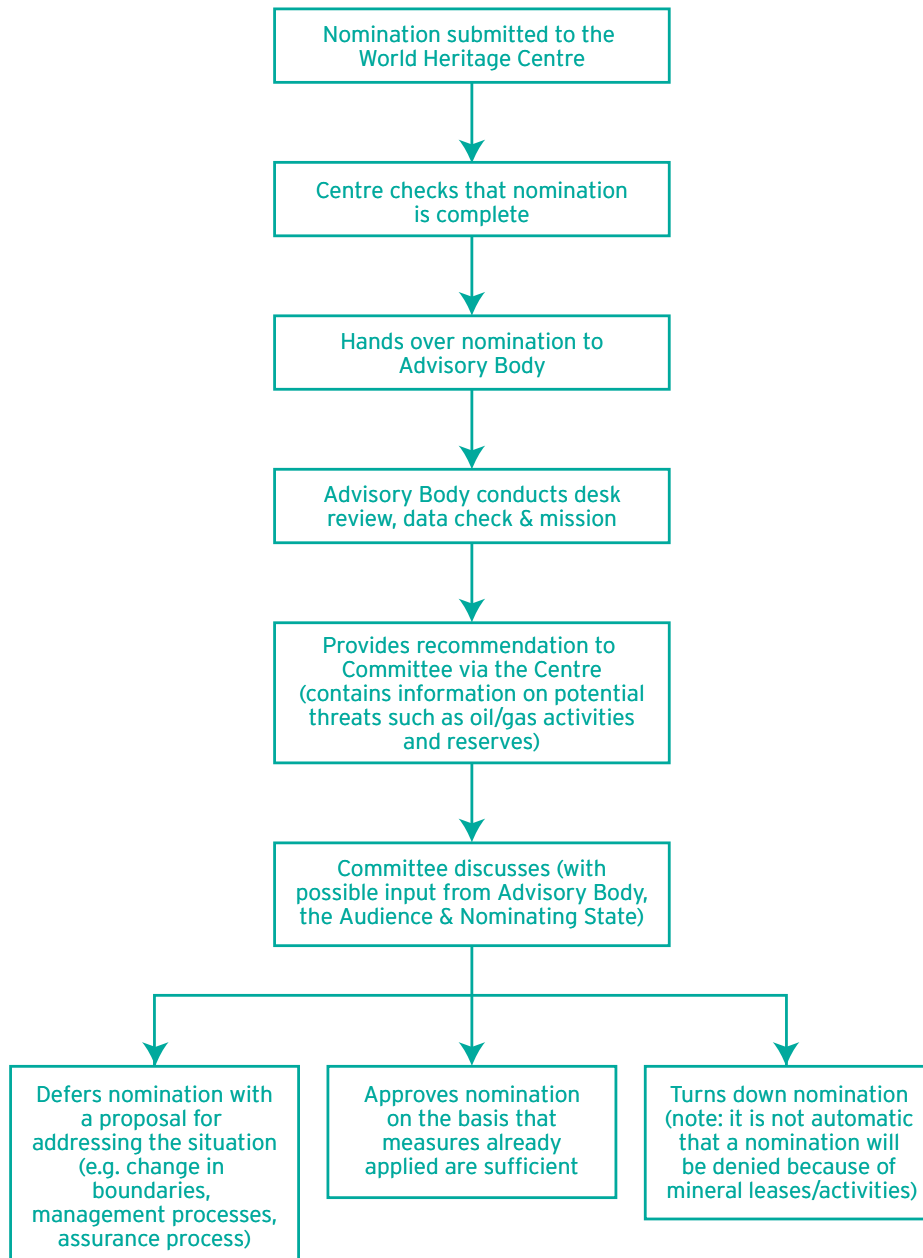


FIGURE 6. WORLD HERITAGE SITES MONITORING & REPORTING PROCESS

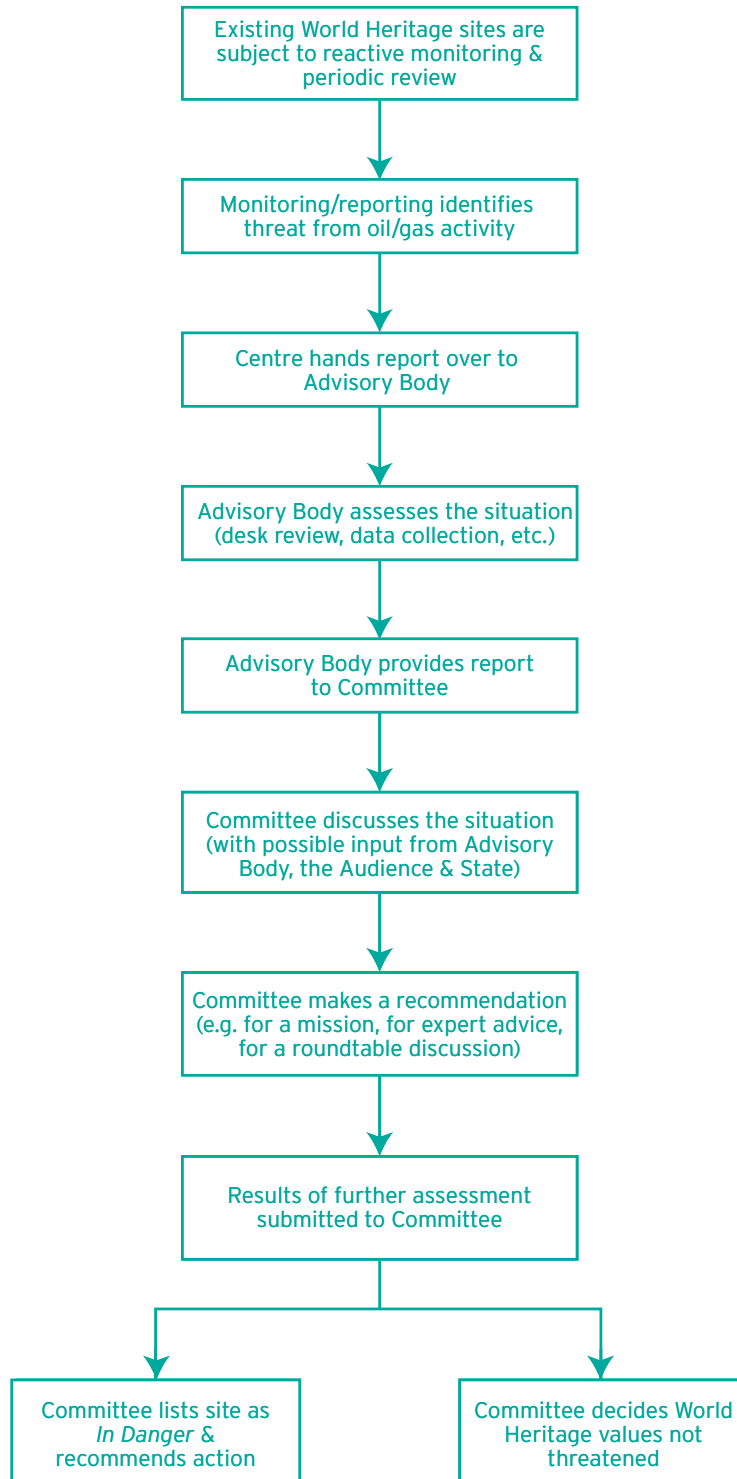


FIGURE 7. WORLD HERITAGE SITES THREAT IDENTIFICATION PROCESS

