



# Integrating Biodiversity into Upstream Project Site Selection

Supplement #2 to the "Good Biodiversity Management Practice Guide"

2014





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**THIS DOCUMENT APPLIES TO EXPLORATION & PRODUCTION ACTIVITIES,  
CONSIDERING THE FOLLOWING LIMITATIONS:**

- Should any specific regulations and/or legislation apply, or better knowledge concerning the issues in question be available, the latter will always prevail over the information included in this document.
- Without prejudice to the methodology described in this Guide, other tools may be useful for assessing the impact of Oil & Gas projects. Such tools will be identified in this document whenever required.
- Users are advised to read and consult all reference documents mentioned in this Guide.



## INTRODUCTION

The purpose of this Guide is to provide support to companies in identifying and implementing suitable solutions to managing upstream activities in areas of high Biodiversity value, regardless of the legal status of the latter. Alternative solutions may include the option not to proceed with the project.

In order to ensure Biodiversity issues are suitably addressed, three categories are considered, based on protection status:

Figure 1 – Area categories, based on Biodiversity protection status

<p><b>Protected Areas (PA)</b></p>	<p>Onshore or offshore areas where biological diversity and related resources, both natural and cultural, are protected and maintained, within the scope of a legal framework. Although most protected areas are granted this status under national, regional or local legislation, some protected areas are recognised as such by customary law and tradition (e.g. South Pacific). Moreover, some protected areas are granted this status by international (World Heritage or Ramsar) or regional (Natura 2000 Network) organisations.</p>
<p><b>Priority Conservation Areas (PCA)</b></p>	<p>Areas to which protection status has not been legally granted, but which have been identified by governments and/or the scientific and conservation community as a priority in what concerns conservation.</p>
<p><b>Rest of the World (RoW)</b></p>	<p>Areas not specifically included in the PA or PCA categories, but which may possess high Biodiversity value, still unidentified.</p>

This Guide was prepared based on documents produced within the scope of the Energy & Biodiversity Initiative, particularly “Framework for Integrating Biodiversity into the Site Selection Process”, as well as other reference documents, used as required to complement, clarify or provide background information on specific issues, or describe alternative approaches.

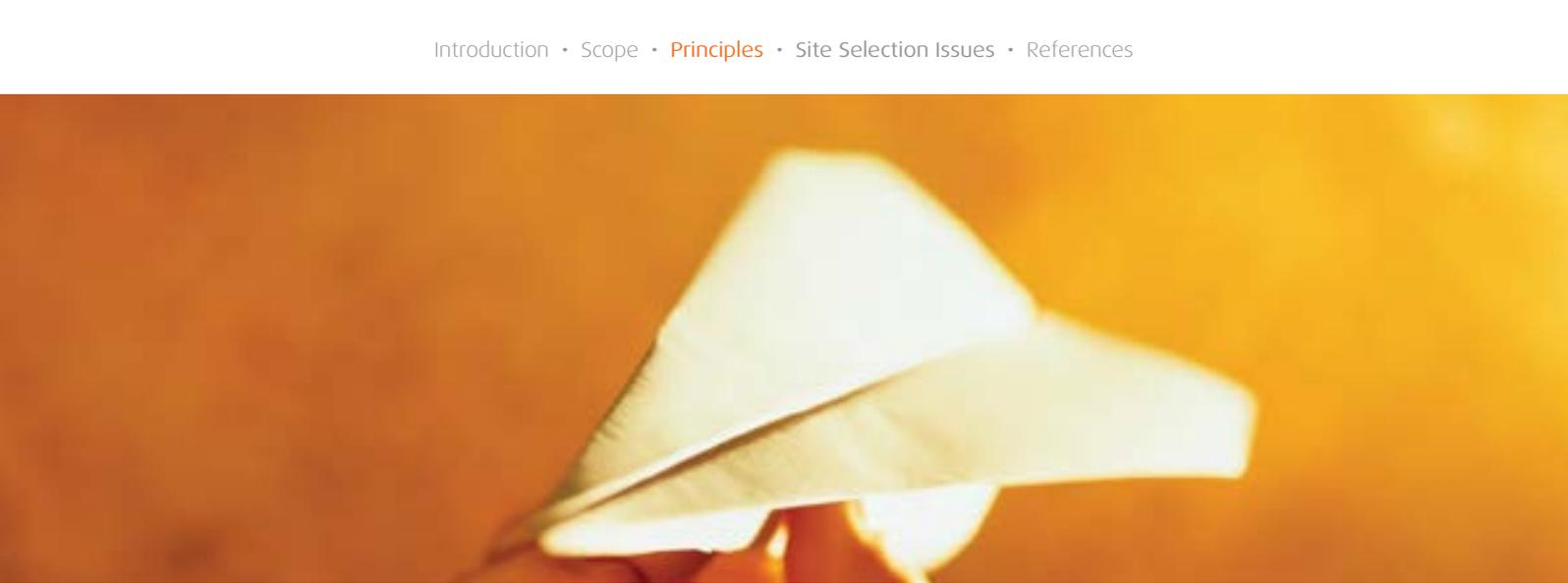
Without prejudice to the methodology described in this Guide, other sources may be useful for selecting upstream Oil & Gas project sites. Such sources will be identified in this Guide whenever required.

Finally, it should be stressed that the G+ System and the corresponding documents – Standard Procedures, Regulatory Guides, Technical Guides, Regulatory Standards – should be considered, directly or indirectly, within the scope of Oil & Gas project site selection. Additional information on how the G+ System relates to integration of Biodiversity issues into this process is available in the “Good Biodiversity Management Practice Guide” (Galp Energia, 2012).



## SCOPE

This document complements the “Good Biodiversity Management Practice Guide” of the Galp Energia Group (Galp Energia, 2012) by focusing specifically on integrating Biodiversity into upstream Oil & Gas project site selection. Should any other reference documents (in addition to those identified in this document), specific regulations and/or legislation apply, or better knowledge concerning the issues in question be available, the latter will always prevail over the information included in this document.



# PRINCIPLES

This Guide is based on the following principles:

**Table 1 – Biodiversity-related principles associated with upstream project site selection**

Principle
1. Biodiversity exists within and outside PAs.
2. Biodiversity conservation is a fundamental element of Sustainable Development.
3. Companies should respect the reasons for which PAs have been granted this status.
4. In some cases, the undertaking of industrial activities within PAs may be legitimate.
5. Operating within or near PAs or PCAs may entail increased risks.
6. Opportunities to benefit Biodiversity may arise in connection with Oil & Gas operations.
7. Companies can obtain significant benefits from addressing Biodiversity issues within PAs, PCAs and other areas, such as reduced risks for shareholders, easier access to capital, faster processing of operating authorisation applications, lower capital and operational costs, and improved reputation management [See “Good Biodiversity Management Practice Guide, pages 8-10) (Galp Energia, 2012)].
8. Companies may benefit from participating in and encouraging regional land use planning exercises, as the latter often lead to the early identification of sensitive Biodiversity issues. Additionally, Companies will achieve greater credibility before local stakeholders and be able to align their project and investment decisions with regional development plans.



## SITE SELECTION ISSUES

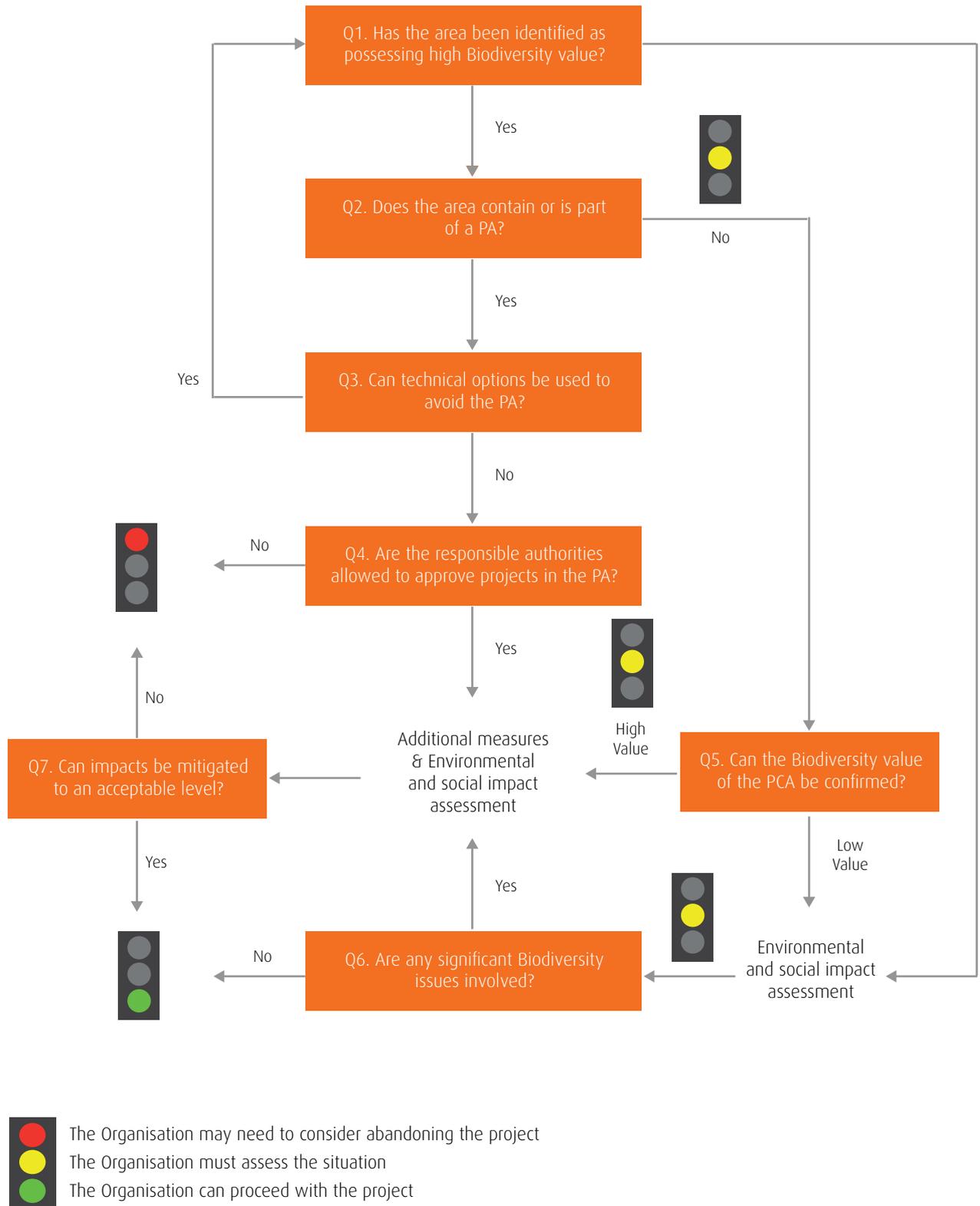
In order to assist with site selection, this Guide includes a series of key questions that must be answered by the Company, as follows:

Figure 2 – Relevant questions (Q) to upstream project site selection

- Q1. Has the area been identified as possessing high Biodiversity value?
- Q2. Does the area contain or is part of a PA?
- Q3. Can technical options be used to avoid the PA?
- Q4. Are the responsible authorities allowed to approve projects in the PA?
- Q5. Can the Biodiversity value of the PCA be confirmed?
- Q6. Are any significant Biodiversity issues involved?
- Q7. Can impacts be mitigated to an acceptable level?

The decision process based on the aforementioned questions is summarised in the flowchart shown in Figure 3:

**Figure 3 – Decision flowchart for upstream project site selection**



The process shown in Figure 3 is described in further detail in the following sections, considering each question separately.

## 4.1 | Q1. Has the area been identified as possessing high Biodiversity value?

At this stage, the Organisation should investigate whether the intended area is classed as a PA or PCA, as defined in Introduction of this document, Figure 1.

An area can be granted PA status through various processes, namely international agreements, such as the World Heritage Convention (UNESCO, 1972) and the Ramsar Convention (UNESCO, 1971), regional processes, national and provincial legislation, and sub-national processes, as is the case of private PAs.

PCAs can be defined through several processes. As a starting point, it will be useful to consider areas identified by governments, through national planning processes, and areas recognised by Conservation Organisations, as shown in the following examples:

**Table 2 – Sources of relevant information to Q1**

1. WWF (World Wild Fund) Global 200 Ecoregions: a global ranking of outstanding terrestrial, freshwater and marine habitats, including a global Biodiversity conservation diagram ([www.panda.org/resources/programmes/global200/pages/home.htm](http://www.panda.org/resources/programmes/global200/pages/home.htm))
2. Conservation International: a system designed to identify the richest and most threatened reservoirs of plant and animal life on Earth for the purpose of fighting Biodiversity loss at the global level (<http://www.conservation.org/How/Pages/Hotspots.aspx>)
3. BirdLife International: a list of essential habitats to one of more species of birds, including breeding, hibernation and/or migration sites. Important Bird Areas (IBAs) include private and public lands, and may or not be categorised as Protected Areas (<http://www.birdlife.org/worldwide/programmes/important-bird-and-biodiversity-areas-ibas>)
4. Centres of Plant Diversity: areas of global botanical importance identified by the International Union for Conservation of Nature (IUCN), based on the number of species present and/or presence of a significant number of endemic species ([http://www.iucn.org/about/union/secretariat/offices/iucnmed/iucn\\_med\\_programme/species/key\\_biodiversity\\_areas/](http://www.iucn.org/about/union/secretariat/offices/iucnmed/iucn_med_programme/species/key_biodiversity_areas/))
5. Global Representative System of Marine Protected Areas (GRSMPA): a joint initiative of the IUCN and the World Bank aimed at producing information on the biogeographic and ecological characteristics of 18 marine regions worldwide, and the major threats to their conservation ([http://www.iucn.org/about/work/programmes/gpap\\_home/gpap\\_capacity2/gpap\\_pub/gpap\\_marinepublications/?2110/A-global-representative-system-of-marine-protected-areas](http://www.iucn.org/about/work/programmes/gpap_home/gpap_capacity2/gpap_pub/gpap_marinepublications/?2110/A-global-representative-system-of-marine-protected-areas))

Questions 1 and 2 act as coarse filters. Q1 establishes a distinction between areas that have and have not been identified as possessing high Biodiversity value, whereas Q2 allows important areas to be divided into two groups, according to their legal status.

## 4.2 | Q2. Does the area contain or is part of a Protected Area?

At this stage, the Organisation should investigate whether the intended area is classed as a PA or PCA, as defined in Chapter 1 | of this document, Figure 1.

This is a relevant issue, as it will allow the Organisation to adjust its planning and operations to the specific requirements applicable to PAs, as defined by international, regional or national legislation.

It should be stressed that the signature of international/regional agreements binds national governments to the corresponding obligations and regulations, i.e. the approval of an international agreement is binding to signatory countries.

Moreover, many international agreements, such as the World Heritage Convention (UNESCO, 1972), are monitored by Conservation Organisations, which means that any related issues are bound to attract a significant amount of media attention.

It is important to identify PAs at the various possible levels, i.e. national, regional, local and even private, as occurs in Latin America and the Caribbean.

Since industrial activities are not prohibited in all PAs, the Company will need to investigate whether the intended activities are compatible with the area status. Government authorisation concerning certain activities is sometimes unclear and out of step with the concerns of certain stakeholders, in which case the Company's reputation may be compromised, even if no Biodiversity risks are involved.

## 4.2.1 | Q2.1 Has the PA status been granted under an International Agreement?

The following should be considered in order to determine whether the area where the Company intends to develop the project has been granted PA status under an International Convention:

### 4.2.1.1 | World Heritage Sites

The 1972 World Heritage Convention defines and promotes the conservation of the biological heritage by drawing up a list of natural and cultural sites of outstanding universal value, which should be preserved for all humankind.

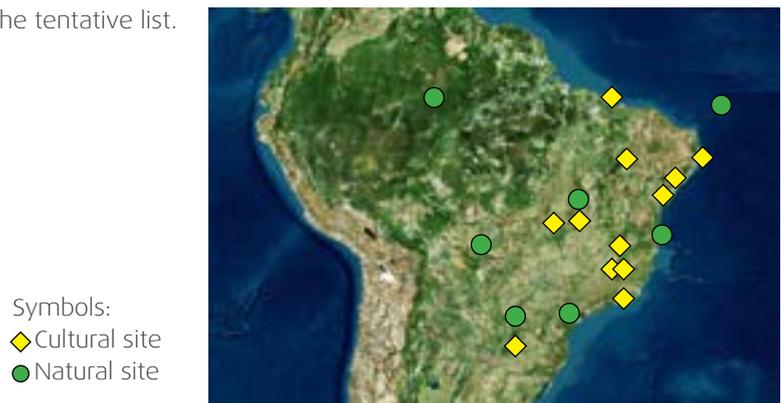
Sites	Transboundary	Delisted	In Danger	Cultural	Natural	Mixed
1007	31	2	46	779	197	31

[Source: UNESCO – World Heritage Convention, site list: <http://whc.unesco.org/en/list/>, viewed in Dec. 2013/Jan. 2014]

Detailed information on World Heritage Sites in countries where Galp Energia undertakes upstream Oil & Gas activities is presented on the following pages.

Figure 4 – Location of the 19 World Heritage Sites in Brazil

**Brazil:** 12 cultural sites, 7 natural sites, 15 sites on the tentative list.



[Source: [link here](#)]

Figure 5 – Location of the 9 World Heritage Sites in Morocco

**Morocco:** 9 cultural sites, 12 sites on the tentative list.



[Source: [link here](#)]

Figure 6 – Location of the World Heritage Site in Mozambique

**Mozambique:** 1 cultural site, 4 sites on the tentative list.

Symbols:  
◆ Cultural site



[Source: [link here](#)]

Figure 7 – Location of World Heritage Sites in Namibia

**Namibia:** 1 cultural site, 1 natural site, 3 sites on the tentative list.

Symbols:  
◆ Cultural site  
● Natural site



[Source: [link here](#)]

Figure 8 – Location of World Heritage Sites in Uruguay

**Uruguay:** 1 cultural site, 8 sites on the tentative list.

Symbols:  
◆ Cultural site



[Source: [link here](#)]

### 4.2.1.1 | Ramsar Sites – Wetlands of International Importance

The Ramsar Convention (UNESCO, 1971) provides a framework for national action, international cooperation and rational use of wetlands and the corresponding resources.

Table 4 – Ramsar Site statistics		
Sites	Total Area	Contracting Parties
2,170	207,045,355 ha	168

[Source: <http://www.ramsar.org/doc/sitelist.doc>, viewed in Dec. 2013/Jan. 2014]

Detailed information on Ramsar Sites in countries where Galp Energia undertakes upstream Oil & Gas activities is shown below.

- **Brazil:** 12 Ramsar sites; 7,225,687 ha;
- **Morocco:** 24 Ramsar sites; 270,010 ha;
- **Mozambique:** 2 Ramsar sites; 272,010 ha;
- **Namibia:** 5 Ramsar sites; 676.564 ha;
- **Uruguay:** 2 Ramsar sites; 424.904 ha.

### 4.2.1.2 | UNESCO Biosphere Reserves

The UNESCO Man and the Biosphere Programme (UNESCO, MAB Programme, viewed in Dec. 2013/Jan. 2014) recognises areas containing globally significant ecosystems, both terrestrial and coastal. The MAB Programme focuses on the establishment of a World Network of Biosphere Reserves, with a view to promoting the conservation of ecosystems, species and genes [as defined in the Convention on Biological Diversity (United Nations, 1992)]. This programme also aims to foster economic and human development, in a socially, culturally and ecologically sustainable manner, and support research, monitoring, education and the sharing of information on conservation and development issues, at local, national and global levels. Each reserve comprises a core area, a buffer area and a transition area. Core areas, which may be simultaneously classed as World Heritage and Ramsar Sites, require legal protection and are often categorised as PAs. Many reserves are owned by more than one entity. Core areas are often owned by governments, while buffer areas are frequently owned by individuals, private entities or communities. The goal of the Biosphere Network is to establish adequate mechanisms for coordinating activities within the reserves involved.

Table 5 – Biosphere Reserve statistics		
Sites	Countries	Transboundary
631	119	14

[Source: [link here](#)]

Detailed information on biosphere reserves in countries where Galp Energia undertakes upstream Oil & Gas activities is shown below.

- **Brazil:** 6 reserves [[link here](#)]
- **Morocco:** 3 reserves [[link here](#)].

### 4.2.2 | Q2.2 Has the PA status been granted under a Regional Agreement?

The term regional as used in this Guide refers to regions extending over two or more countries, or over two or more states or provinces within a single country. The goal of some regional agreements is to promote the management of PAs as key elements for socio-economic development. An example is the Natura 2000 Network, established within the scope of the EC Habitats Directive (92/43/EEC) and the EC Birds Directive (79/409/EEC), which aims to safeguard biodiversity in Europe by designating and protecting key sites, ensuring they are granted favourable conservation status. Further examples include the recognition of PAs in Central America by the Central American Commission on Protected Areas and the special protocols aimed at ensuring PA conservation and management in the Caribbean and Mediterranean regions. Some regional regulations and agreements allow the authorisation of certain activities within the framework of national legislations, whereas others completely prohibit the undertaking of any activities. Therefore, it is extremely important to understand regional legislation.

### 4.2.3 | Q2.3 Has the PA status been granted as a result of a National Process?

Since each country establishes its own legislation concerning PAs, based on specific categories, defined at national and sub-national levels, Organisations are likely to be faced with a wide variety of scenarios. The List of Protected Areas, compiled since 1959 by the IUCN and the UNEP World Conservation Monitoring Centre (WCMC) (<http://www.unep-wcmc.org/>), provides an overview of PAs around the world.

Countries submit proposals to the UNEP-WCMC for the inclusion of selected areas in the UN List of Protected Areas. Proposals are then reviewed by the UNEP-WCMC, according to the following criteria:

- Size: an area of at least 1,000 ha is required;
- Management goals: creation of management categories, based on an international framework and a common classification system:
  - I.a) Strict Nature Reserve (managed for scientific purposes only);
  - 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 intervention);
  - V) Protected Landscape/Seascape (managed for conservation and recreation);
  - VI) Protected Area with Managed Resources (managed for the sustainable use of natural resources).
- Authority of the managing agency.

It must be stressed that the requirement for a minimum area of 1,000 ha excludes a large number of areas from the WCMC database. As a result, many areas only benefit from PA status at the national level.

PA management categories are equally important, reflecting an increasing degree of human intervention, with the exception of category VI, which would sit between categories IV and V. Each category represents a potentially significant risk level for Organisations intending to operate within or near the areas involved, not least because some NGOs believe that all industrial activity should be prohibited.

Despite being a useful tool for comparison, the IUCN system is often out of step with national legislations. In fact, governments typically establish their own PA classification systems and specific restrictions applicable to each category.

A Recommendation [2.82] related to the conservation of PAs and protection of biological diversity from the negative impacts of mining and exploration (Amman Declaration, 2000) was adopted at the 2000 IUCN World Conservation Congress, held in Amman. Although specifically aimed at the mining industry, this recommendation can easily apply to Oil & Gas operations.

The following are suggested in Recommendation 2.82:

- In categories V and VI, exploration and localised extraction of minerals shall only be acceptable if the nature and extent of the proposed activities are compatible with the objectives of the PA;
- Exploration licences should only be granted following an Environmental Impact Assessment, whose results must be disclosed and approved by the competent authorities and stakeholder groups;
- Authorised projects shall be subject to strict planning, operation, monitoring and restoration conditions.

This recommendation also forms the basis for the WWF To Dig or Not to Dig (WWF, 2002), which suggests that mineral exploration activities (including fossil fuel exploration) should not be undertaken in the following areas:

- Highly protected areas (IUCN categories I-IV, marine areas in categories I-V, World Heritage Sites, core areas of Biosphere Reserves and Natura 2000 Sites);
- Proposed PAs within PCAs selected through eco-regional planning exercises;
- Areas containing the last remaining examples of ecosystems and/or particular species, even if located outside PAs;
- Locations where activities might threaten the well-being of communities, particularly local and indigenous communities.

### 4.2.4 | Q2.4 Has the PA status been granted as a result of a Sub-National Process?

Sub-national scenarios are even more complex, involving a myriad of PA types, ranging from private reserves to PAs in local communities, as well as state and regional parks managed by federal governments. These areas will need to be identified through consultation, access to local knowledge and Environmental Impact Assessments.

The main sources of relevant information to these issues are summarised in the following table:

General	International	National
<ul style="list-style-type: none"> <li>IUCN, UNEP World Conservation Monitoring Centre (WCMC) – List of Protected Areas (<a href="http://www.unep-wcmc.org/">http://www.unep-wcmc.org/</a>)</li> </ul>	<ul style="list-style-type: none"> <li>UNESCO – World Heritage Convention, site list (<a href="http://whc.unesco.org/en/list/">http://whc.unesco.org/en/list/</a>)</li> <li>UNESCO – Ramsar Convention, site list (<a href="http://www.ramsar.org/sites-countries/the-ramsar-sites">http://www.ramsar.org/sites-countries/the-ramsar-sites</a>)</li> <li>UNESCO, Man and the Biosphere Programme (<a href="http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/world-network-wnbr/">http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/world-network-wnbr/</a>)</li> </ul>	<ul style="list-style-type: none"> <li>United Nations National Strategies and Action Plans, Convention on Biological Diversity (<a href="http://www.cbd.int/nbsap/">http://www.cbd.int/nbsap/</a>)</li> <li>UNESCO, Man and the Biosphere Programme (<a href="http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/world-network-wnbr/">http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/world-network-wnbr/</a>)</li> <li>Ministries responsible for conservation status;</li> <li>Regional departments responsible for conservation status;</li> <li>IUCN Environmental Law Centre: Godesberger Allee 108-112, 53175 Bonn, Germany Telephone: ++49 228 2692 231; Fax: ++49 228 2692 250, E-mail: Secretariat@elc.iucn.org.</li> </ul>

### 4.3 | Q3. Can technical options be used to avoid the PA?

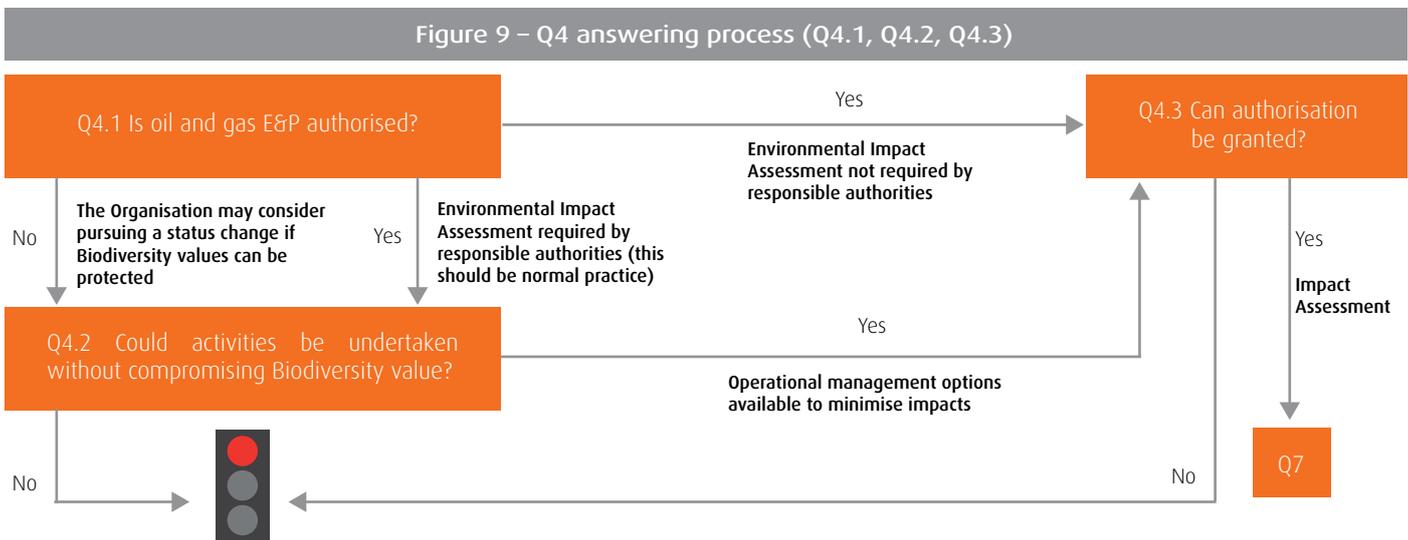
Although the Company will always be able to abandon the project, alternatives should be considered, for the following purposes:

- Assessing and considering all available options, with a view to minimising impacts on Biodiversity;
- Increasing credibility: it is important to show Biodiversity conservation communities, governments and society that all available alternatives were seriously considered and that the only viable option is to operate within a PA. It is essential to establish clear decision-making and risk assessment processes within this scope;
- Avoiding unnecessary costs and delays: developing projects in PAs may result in increased operational and reputational costs. Accordingly, alternatives whereby PAs are avoided should be considered.

In fact, the Company should determine whether the PA can be avoided by investigating alternative locations, routes or technical options. The Company may also need to consider abandoning the project, after having assessed all social, ecological and economic issues involved.

### 4.4 | Q4. Are the responsible authorities allowed to approve projects in the PA?

Three questions related to the approval process must be answered at this stage, as shown in the following figure:



#### 4.4.1 | Q4.1 Is oil and gas E&P authorised?

The first step will consist of finding out whether E&P operations are authorised and whether exceptions are allowed. Companies should obviously seek to avoid operating within PAs; however, it is assumed that the process associated with answering Q3 was adequately followed. In this sense, the Organisation may proceed with the project, provided the activities involved are legally allowed, or apply for an authorisation, if such activities are not explicitly authorised. It should be stressed that authorisation processes often lack clarity and consistency, which may cause stakeholders to raise concerns over the intended activities, regardless of whether or not authorisation is granted.

##### 4.4.1.1 | Q4.1.1 Is the PA a World Heritage Site?

If the answer is affirmative, the Organisation should become familiar with the procedures adopted by the World Heritage Convention, as well as with national, regional and local legislation, since sites are categorised under national legislation, in addition to being added to the World Heritage List (<http://whc.unesco.org/en/list/>) (UNESCO – World Heritage Convention, site list).

Authorisation to undertake activities in World Heritage Sites shall depend on national legislation. In any case, industrial activities are generally viewed by the Convention as incompatible with this status. Mineral exploration activities are specifically referred to as likely to place areas in danger – a line of thought that can be reasonably extended to oil and gas exploration, as mentioned in section 4.2.3. In this sense, avoiding World Heritage Sites would be the most sensible option, not only in terms of reputation management but also to avoid lengthy authorisation processes and potential conflict with stakeholders.

Since no official guidelines on the issue of operating within these areas are available within the scope of the Convention, the Company is advised to contact the Ministry responsible for managing World Heritage Sites and the World Heritage Centre, in Paris.

**Table 7 – Sources of relevant information to Q4.1.1**

Ministry responsible for managing World Heritage Sites

Regional departments responsible for managing World Heritage Sites

UNESCO – World Heritage Centre (<http://whc.unesco.org/>)

World Heritage Advisory Bodies:

- IUCN – International Union for Conservation of Nature (<http://www.iucn.org/>)
- ICOMOS – International Council on Monuments and Sites (<http://www.icomos.org/en/>)
- ICCROM – International Centre for the Study of the Preservation and Restoration of Cultural Property (<http://www.iccrom.org/>)

##### 4.4.1.2 | Q4.1.2 Is the PA a Ramsar Site?

Two aspects of the Ramsar Convention must be considered in connection with Oil & Gas operations:

- Might the proposed operations affect the integrity of the Ramsar Site? According to article 3.1 of the Ramsar Convention, the Contracting Parties are required to formulate and implement a planning system aimed at promoting the conservation of wetlands and their rational use, as far as possible. Additional information on rational use of wetlands is available in the UNESCO Handbook - Ramsar Toolkit ([http://ramsar.rgis.ch/cda/en/ramsar-news-cepa-ramsar-toolkit-21330/main/ramsar/1-26-253%5E21330\\_4000\\_0\\_\\_](http://ramsar.rgis.ch/cda/en/ramsar-news-cepa-ramsar-toolkit-21330/main/ramsar/1-26-253%5E21330_4000_0__)). A precautionary approach is recommended: when impacts are possible or even probable, albeit unknown, it should be assumed that the ecological integrity of the wetland is likely to be compromised.
- The Contracting Parties are only expected to authorise activities likely to cause losses or damages to Ramsar Sites if the operations involved are deemed of urgent national interest. Therefore, it is essential to determine whether the authorities involved have invoked this status to obtain approval for the project.

**Table 8 – Sources of relevant information to Q4.1.2**

Ministry responsible for managing Ramsar Sites

Regional departments responsible for managing Ramsar Sites

UNESCO, Ramsar Bureau ([www.ramsar.org](http://www.ramsar.org))

Wetlands International Database ([www.wetlands.org/](http://www.wetlands.org/))

#### 4.4.1.3 | Q4.1.3 Has the PA status been granted by a national, regional, local and/or private entity?

Specific regulations and restrictions apply to areas whose PA status has been granted by national, regional (national or supra-national), local or private entities. The Company will need to evaluate these situations on a case-by-case basis, by consulting the responsible ministries and relevant stakeholders.

Several options are available to the responsible authorities regarding the authorisation of upstream activities in PAs. For example, the following may apply in certain countries:

- Formal authorisation procedures concerning the activities in question, if the latter are not explicitly prohibited;
- Formal exceptions to a prohibition (e.g. when national interest is invoked);
- Changes to zoning within PAs;
- Status changes or changes to PA boundaries, in order to allow Oil & Gas activities.

Although many conservation organisations and governments recognise that defining PA boundaries may not be an easy task, not least due to the dynamic nature of ecosystems, changing the boundaries or status of a PA is usually a difficult and controversial process. For example, IUCN recommendation 2.82 (IUCN, World Conservation Congress, 2000), calls for procedures at least as rigorous as those involved in the classification of the protected area in the first place.

Compensatory measures may be considered when discussing possible changes to the boundaries and/or status of a PA. Some examples include establishing a conservation fund, supporting PA management and research, and managing the area as a conservation area. It is crucial to engage stakeholders in this discussion, in order to ensure that the proposed measures respond to their concerns and are regarded as adequate.

Compensatory measures should never be considered as a first resort, as all necessary efforts should be undertaken to avoid, minimise and mitigate impacts. Accordingly, such measures should only be considered once all possibilities have been thoroughly examined.

**Table 9 – Sources of relevant information to Q4.1.3**

Ministry responsible for managing PAs

National and regional departments responsible for managing PAs

IUCN World Commission on Protected Areas ([http://www.iucn.org/about/work/programmes/gpap\\_home/gpap\\_wcpa/](http://www.iucn.org/about/work/programmes/gpap_home/gpap_wcpa/))

IUCN Programme on Protected Areas ([http://www.iucn.org/what/global\\_programme/](http://www.iucn.org/what/global_programme/))

#### 4.4.2 | Q4.2 Could the intended activities be undertaken without compromising Biodiversity value?

Even if activities within the PA are authorised, it is imperative to conduct an Environmental Impact Assessment.

Firstly, the Company will need to engage stakeholders (authorities, the academic community, local communities, NGOs, etc.), in order to determine the Biodiversity value of the PA (e.g. is the area important for migratory species? Is it a habitat for endangered species? Does the area provide important ecosystem services to local communities?).

On the other hand, the Company will need to assess the impact of the project on Biodiversity (usually by conducting an Environmental Impact Assessment). Additional information is available in the corresponding Guide “Integrating Biodiversity into Environmental and Social Impact Assessments conducted in connection with Upstream Projects” (Galp Energia, 2013).

Secondly, a series of mitigation measures will need to be identified, in order to reduce impact to an acceptable level (see Q7). If, after all risks and impacts have been assessed, the project is approved by the competent authorities and the Company decides to proceed, it is advisable to implement a formal, clear process whereby acceptable offsets may be identified.

### 4.4.3 | Q4.3 Can authorisation be granted?

Authorisation to proceed with the project should never be unconditional. Several outcomes are possible, as shown in Figure 9. Urgent national interest may be invoked by the competent authorities, as mentioned in section 4.4.1.2. In these circumstances, the authorisation process may be expedited and the requirement for a detailed assessment of risks to Biodiversity foregone. Nevertheless, a conscientious Organisation would voluntarily conduct a detailed Impact Assessment, including Biodiversity issues, on which its decision to proceed with the project should be based.

In other cases, the responsible authorities may only allow the activities in question if study results reveal that no significant risks to Biodiversity would be involved. However, the Organisation should still consider the risks associated with operating within the PA, namely reputational risks.

In cases where the possibility of undertaking activities within the PA is not explicitly defined and study results indicate that no significant impacts on Biodiversity would be involved, the responsible authorities may or not consider changing the area status, depending on other factors and pressures, such as stakeholder concerns, compliance with international agreements and economic, social and environmental priorities.

Finally, if there is no legal basis for undertaking industrial activities in the PA and study results reveal significant risks to Biodiversity, authorisation will almost certainly be refused, unless urgent national interest is invoked, in which case it will be up to the Organisation to decide whether or not to proceed with the project.

### 4.5 | Q5. Can the Biodiversity value of the PCA be confirmed?

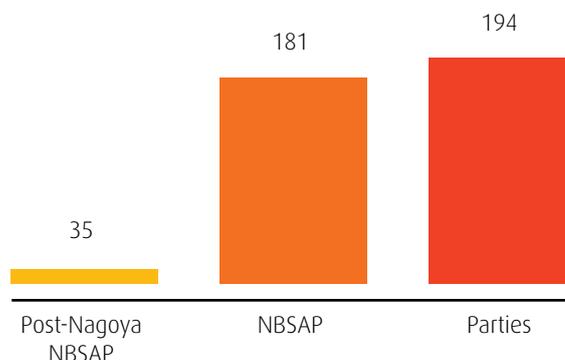
It is important for the Organisation to check if the proposed project site is classed as a PCA, as these areas are regarded as valuable, threatened and/or fragile by governments, the scientific community and conservation organisations. However, given the large geographical extent of some PCAs, it is important to confirm the Biodiversity value of the area involved. Since PCAs are often heterogeneous, containing zones of higher and lower value, this assessment will help the Company determine how operations might be adjusted.

PCAs can be defined through several processes. As a starting point, it will be useful to consider areas identified by governments, through national planning processes, and areas flagged by conservation organisations. However, it should be stressed that these selection methods provide no reliable measure of the actual Biodiversity value of the areas involved, as they reflect subjective opinions, closely related to local or regional needs and concerns. Therefore, confirmation of Biodiversity value becomes imperative.

At a national level, National Biodiversity Strategies and Action Plans, formulated under article 6 of the Convention on Biological Diversity ([www.cbd.int/](http://www.cbd.int/)) (United Nations, 1992), may include a chapter on habitats that represent a priority for conservation, as they reflect the way in which the Contracting Parties intend to achieve the goals of the Convention, given their specific circumstances.

Figure 10 – Statistics concerning the adoption of National Biodiversity Strategies and Action Plans within the scope of the United Nations Convention on Biological Diversity (<http://www.cbd.int/nbsap/>)

National Biodiversity Strategies and Action Plans within the scope of the Convention



Detailed information on National Biodiversity Strategies and Action Plans in countries where Galp Energia undertakes E&P activities is available at the sites listed below.

- **Angola:**  
<http://www.cbd.int/database/attachment/?id=1539>  
<http://www.cbd.int/protected/implementation/actionplans/country/?country=ao>
- **Mozambique:**  
<http://www.cbd.int/database/attachment/?id=1556>  
<http://www.cbd.int/protected/implementation/actionplans/country/?country=mz>
- **Brazil:**  
<http://www.cbd.int/database/attachment/?id=1600>  
<http://www.cbd.int/protected/implementation/actionplans/country/?country=br>

The Organisation should then determine whether the intended project site possesses the characteristics for which the overall region was classed as a PCA, in addition to checking for the presence of other valuable elements, both cultural and spiritual.

Examples of potential PCAs are described in section 4.1 | of this Guide.

The first step in determining the Biodiversity value of the site is to identify the reasons why the overall area was originally categorised as a PCA, which may include the following:

- Are any ecosystem functions of critical importance found in the area (e.g. breeding and feeding areas for global and regional migratory species, migration corridors for terrestrial species, critical watersheds, carbon capture, soil stabilisation)?
- Is it a key hunting and/or fishing area for local communities?
- Is it an area of high archaeological, spiritual, religious, historical and/or traditional value?
- Is it an important ethnobotanical area, used for purposes such as traditional medicine?
- Is it an area with high research and/or educational 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 invasive species (e.g. an island or isolated habitat)?
- Is the habitat/ecosystem unique?

The Organisation should assess these issues at an early stage, even if additional resources, both financial and human, are required. If little or no information is available, or the available data are unreliable, expert advice should be sought for the purpose of determining the level of effort required to confirm the Biodiversity value of the area.

If a high Biodiversity value is confirmed, an Environmental Impact Assessment in which Biodiversity issues are considered should be conducted. Additional information is available in the corresponding Guide “Integrating Biodiversity into Environmental and Social Impact Assessments conducted in connection with Upstream Projects” (Galp Energia, 2013).

Table 10 – Sources of relevant information to Q5

United Nations – National Biodiversity Strategies and Action Plans, Convention on Biological Diversity ( <a href="http://www.cbd.int/nbsap/">http://www.cbd.int/nbsap/</a> )
WWF – World Wild Fund, Global 200 Ecoregions ( <a href="http://www.panda.org/resources/programmes/global200/pages/home.htm">www.panda.org/resources/programmes/global200/pages/home.htm</a> )
Conservation International ( <a href="http://www.conservation.org/How/Pages/Hotspots.aspx">http://www.conservation.org/How/Pages/Hotspots.aspx</a> )
The Nature Conservancy’s Conservation by Design – Last Great Places ( <a href="http://www.nature.org/aboutus/howwework/">www.nature.org/aboutus/howwework/</a> )
BirdLife International ( <a href="http://www.birdlife.org/worldwide/programmes/important-bird-and-biodiversity-areas-ibas">http://www.birdlife.org/worldwide/programmes/important-bird-and-biodiversity-areas-ibas</a> )
IUCN Centres of Plant Diversity ( <a href="http://www.iucn.org/about/union/secretariat/offices/iucnmed/iucn_med_programme/species/key_biodiversity_areas/">http://www.iucn.org/about/union/secretariat/offices/iucnmed/iucn_med_programme/species/key_biodiversity_areas/</a> )
IUCN Species Survival Commission ( <a href="https://www.iucn.org/about/work/programmes/species/who_we_are/about_the_species_survival_commission/">https://www.iucn.org/about/work/programmes/species/who_we_are/about_the_species_survival_commission/</a> )
IUCN ( <a href="http://www.iucnredlist.org/">http://www.iucnredlist.org/</a> )
National publications
National research institutes (including Museums of Natural Sciences)
NGOs, groups and other stakeholders
Field guides
Ministries (e.g. Agriculture, Finance, Health, Trade, Fisheries)

#### 4.6 | Q6. Are any significant Biodiversity issues involved?

If the project site is not revealed as a PA or PCA during the preliminary assessment, any eventual Biodiversity issues will be brought to light by the Environmental Impact Assessment.

The identification and assessment of impacts on Biodiversity is a complex process. Understanding how an ecosystem changes over time, even without an Oil & Gas project, is no simple mission. In any case, it is essential to determine the baseline conditions, a task sometimes hindered by the limited time available for conducting an Environmental Impact Assessment. For example, time constraints may lead to an inadequate assessment of migratory patterns or seasonal variations. Additional information is available in “Integrating Biodiversity into Environmental and Social Impact Assessments conducted in connection with Upstream Projects” (Galp Energia, 2013).

#### 4.7 | Q7. Can impacts be mitigated to an acceptable level?

Mitigating impacts to an acceptable level is the primary purpose of an Environmental Impact Assessment. If this is not possible, the Organisation will need to feed assessment results back into the decision-making process, in order to make improvements to the project design and/or consider more robust mitigation measures. Project relocation must be ultimately considered if impacts cannot be sufficiently mitigated. However, it should be recognised that well-managed Oil & Gas operations may benefit Biodiversity, if the Company succeeds in preventing other human activities (e.g. agriculture, forestry, urban development, hunting, etc.) that would result in significant, long-term impacts on Biodiversity in the area.

Additional information is available in “Integrating Biodiversity into Environmental and Social Impact Assessments conducted in connection with Upstream Projects” (Galp Energia, 2013).



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