Total and Biodiversity

Commitments and Actions

JULY 2018
“Given its business, Total sometimes works in sensitive natural environments. We are aware of the stakes involved and have taken measures to ensure that biodiversity and ecosystems are taken into account in our projects and operations.”

Patrick Pouyanné, Chairman and Chief Executive Officer, Total

This document sets out our vision of biodiversity and explains how we address this important issue in our operations. It describes our commitments and our associated actions, including those that are currently under development.
Biodiversity and Its Challenges

The word “biodiversity” covers both the variety and variability of living things and the ecological complexes of which they are part. With ecological balances under threat, it is important to preserve biodiversity, not only because of its intrinsic value, but also for its many services that contribute to human wellbeing.

The Diversity of Living Things

Scientists continue to debate the number of species already and not yet catalogued. According to the latest estimates, more than seven million species have yet to be discovered.

How Living Things Interact

There are three interdependent levels of biodiversity:
• Species diversity, or the number of different plant or animal species in a given community.
• Genetic diversity within each species.
• Ecosystem diversity, or the variety of ecosystems within a given area and their interactions with the different species present.

Critical interactions take place among species, as well as among species and ecosystems. Wild and domesticated bees, for example, play a key role in pollination of crops and of the natural environment.

* Source: Mora et al., PLOS Biology, 2011.
The Threat to Biodiversity

According to scientists at the International Union for Conservation of Nature (IUCN), a large number of species are threatened. Among invertebrates catalogued,

- 42% of terrestrial species are classified as endangered.
- 25% of marine species are classified as endangered.

According to certain studies*, the pace of extinction has accelerated since 1900 by a factor of:

- x55 for mammals
- x24 for reptiles
- x100 for amphibians

Irreplaceable Services

Nature provides four broad categories of ecosystem services: supporting services, such as the production of oxygen and formation of soil; provisioning services, such as the production of food and water; regulating services, such as the regulation of climate and the balance among species; and cultural services, including spiritual and recreational benefits.

Total is fully aware of the positive role business can play in finding solutions to the problem of loss of biodiversity. For this reason, we are committed to taking biodiversity into account in our decision-making processes.
The inclusion of biodiversity in Total’s environmental management system was presented in 2005 in our biodiversity policy, which requires:

- Applying the Mitigation Hierarchy, an approach to avoid, reduce, mitigate and, if necessary, compensate any loss in biodiversity.
- Taking ecosystem sensitivity into account.
- Managing biodiversity by integrating risks and impacts in our environmental management systems.
- Reporting on biodiversity performance to stakeholders.
- Working with local and international partners and our industry associations to improve knowledge of biodiversity.

In 2016, Total pledged to contribute to the success of the United Nations’ Sustainable Development Goals (SDGs). We address the two SDGs that specifically concern biodiversity (SDGs 14 and 15) with an active policy to reduce the environmental footprint of our operations, paying particular attention to protected and sensitive areas.

Given the complexity of the issues involved, Total has chosen to work with other organizations to drive advances in the area of biodiversity. One example is our cooperation with French business association Entreprises pour l’Environnement (EpE), which spearheaded the act4nature initiative in 2018.
The act4nature initiative gives Total an opportunity to reaffirm and broaden its approach to biodiversity through the following collective undertakings made alongside 64 other signatories.

1. **Integrate biodiversity into our corporate strategy** on the basis of available scientific knowledge.

2. **Communicate with all our stakeholders** about their expectations and our impacts, actions and advances.

3. **Assess the different components of biodiversity that concern our company** using indicators to measure direct and indirect impacts, risks and improvements. When pertinent for making decisions, evaluate the cost of our impacts and dependence on well-functioning ecosystems.

4. **Promote the gradual inclusion of biodiversity in decision-making across our value chains**, from the production of natural resources to processing of post-consumer waste.

5. **Avoid impacts whenever** possible in our operations and geographic areas of influence, taking into account the need for ecosystems to adapt to climate change. If impacts cannot be avoided, reduce and compensate so that our projects result in no net loss in biodiversity or, if possible, a net gain*.

6. **Focus on Nature-based Solutions (NbS)** and ensure that they are deployed in a scientifically sound manner that is beneficial for biodiversity, notably by promoting a diverse range of solutions.

7. **Include biodiversity in our discussions with public officials** so that the issue is taken into account in public policy. **Contribute to national biodiversity strategies** in our host countries **when we are asked to participate**.

8. **Raise awareness among our employees and provide training about biodiversity** and how it relates to their work. **Promote and encourage their initiatives** to protect nature and **recognize their involvement and good practices**.

9. **Allocate resources** and establish appropriate partnerships to support and monitor our tangible actions in the field.

10. **Issue public progress reports on the deployment of these collective undertakings** and of our individual commitments described on the following page.

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Total’s ambition to become the responsible energy major has led us to make six additional commitments.

1. Total does not conduct oil and gas exploration or extraction operations at natural sites included on the UNESCO World Heritage List (at December 31, 2017).

2. Total does not conduct any oil exploration activities in Arctic sea ice.

3. Total develops biodiversity action plans for operated production sites located in the most sensitive protected areas corresponding to International Union for Conservation of Nature (IUCN) I to IV and Ramsar protected areas.

4. Total commits to implement, as part of Total Foundation, a global program for the preservation of forests, mangroves and wetlands, as well as restoration projects of degraded lands to balance development of agriculture and forest preservation, based on partnerships, and integrating youth education and awareness initiatives.

5. Total, in partnership with specialized organizations, such as the UN Environment World Conservation Monitoring Centre, develops innovative tools and methods for the analysis and modeling of biodiversity data collected as part of its baseline studies and promotes their sharing with the scientific community.

6. Total promotes employee awareness of biodiversity issues through actions that promote biodiversity at its office buildings.
Our Biodiversity Initiatives

Our policy and commitments are reflected in a variety of real-world examples in the field.
Avoid Sensitive Areas at the Regional Level

**What This Means**

We do not conduct exploration or production operations at natural sites on UNESCO’s World Heritage List or carry out exploration in Arctic sea ice.

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**Real-World Examples**

*In the Democratic Republic of the Congo,* Total was awarded the exploration license for Block III in the Albertine Graben. One-third of the acreage is located in Virunga National Park. We pledged to work only on the section located outside the park. Since 2013, we have systematically verified that all new exploration or extraction projects are located outside the borders of areas on UNESCO’s World Heritage List.

*In Arctic sea ice,* Total refrains from all oil exploration operations. We publish the list of our licenses in the area on our website in the interest of full disclosure.

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Avoid Sensitive Areas at the Local Level

**What This Means**

We take ecosystem sensitivity into account at a smaller scale.

**Real-World Example**

*In Uganda,* one of Total’s exploration blocks is located in Murchison Falls National Park. Before we began working, we identified mammal breeding grounds, as well as waterholes and trails used by wildlife so that we could map out the areas to be avoided. In addition to ensuring that our operations did not impact sensitive areas, this inventory helped us determine the best season for carrying out work without disturbing the surrounding environment.
Reduce Impacts

What This Means
We take care to minimize the impacts of our operations on biodiversity throughout our projects’ lifespan.

Real-World Examples
In southern Yemen, Total discovered rich coral reefs during preliminary studies for the Balhaf gas liquefaction plant. To limit the project’s impact on marine biodiversity, we modified the facility’s design, implemented measures to confine fine particles and turbidity from construction and transplanted certain coral colonies so they could thrive in conditions similar to their original habitat. The project was monitored by a scientific committee on biodiversity, which included a member from the International Union for Conservation of Nature (IUCN).

In Uganda and Tanzania, Total adjusted the route of a 1,500-kilometer pipeline to the port in Dar es Salaam in order to avoid certain sensitive areas.

Mitigate

What This Means
To ensure the sustainability of the natural habitats in which we operate, we incorporate mitigation from the beginning of each project and also help to restore degraded natural environments.

Real-World Examples
In Scotland, Total conserved the peat excavated during construction of its industrial complex in the Shetland Islands. The peat has been stored in such a way as to prevent decomposition so that it can be returned to the original location when the site closes.

In Indonesia, Total operated in the Mahakam Delta until 2017, in an area where human activity had led to deforestation of the mangrove ecosystem. We responded by planting more than 12 million mangrove tree seedlings.

R&D FOCUS
For future mangrove reforestation projects, our R&D teams have worked with a specialized company to develop artificial tutors that retain sediment and promote the development of mangrove trees. With the same partner, we have also developed a technology for a 3D-printed coral reef structure that facilitates the natural growth of new reefs.
Offset

What This Means

Our offset programs focus on ensuring there is no net loss in biodiversity in natural habitats or on contributing to a net gain in biodiversity on certain of our projects.

Real-World Example

In Uganda, Total operates the Tilenga project in a particularly sensitive area for biodiversity. Due to poaching and other pressure from humans, the ecosystem has been degrading. In response, we identified actions to be carried out in partnership with specialized local and international organizations. These initiatives will help stabilize the situation and even reverse the current trend by promoting the increase of priority species and the protection of critical habitats, with the goal of achieving a net gain in biodiversity.

Evaluate Ecosystem Services

What This Means

By evaluating the services that nature provides to local communities, we are able to develop appropriate responses for each specific situation.

Real-World Example

In Bolivia, Total evaluated the services provided to local communities by the surrounding ecosystems (including water, food and medicinal plants) during an exploration campaign in the Incahuasi mountain area. We used different methods to draw up an inventory and identify the measures that will ensure ecosystem services are secured for the future. One of the access roads, for example, was designed and built to avoid all impacts on the local communities’ water resources.
Prepare Biodiversity Action Plans

What This Means
We have drawn up biodiversity action plans for our industrial facilities located fully or partially in International Union for Conservation of Nature (IUCN) I to IV sites or Ramsar Convention wetlands protected areas. These plans help us establish priority objectives, implement them with our biodiversity teams and report on the results to our stakeholders.

Real-World Example
In Gabon, Total’s former Atora site extended into protected areas that are recognized worldwide as priority habitats for chimpanzees, Western lowland gorillas, elephants, hippopotamuses and other species. Our biodiversity action plan included guidelines and best practices for protecting the primates and for limiting disturbances caused by noise and light, as well as by the passage of employees and subcontractors. We also contributed to anti-poaching programs and replanted local vegetation in our areas of operation.

Preserving Biodiversity on a Daily Basis

What This Means
We take action and follow guidelines to protect and preserve ordinary biodiversity at our industrial sites.

Real-World Examples
In France, Total carefully mapped plant life at its Feyzin refinery near Lyon in order to establish specific grounds maintenance approaches for peripheral areas (mowed once a year), grassed areas (mowed twice a year, with tree and bush trimming when needed) and production areas. Around a quarter of the site is available for the development of local biodiversity.
Again in France, Total has promoted the creation of wetland areas at the Carling petrochemicals complex to help protect amphibians and maintain their natural habitat.
Through our service stations in different countries, Total carries out numerous awareness campaigns on protecting biodiversity. These include field trips for students to discover local ecosystems such as mangroves, reefs and forests, along with the benefits they provide.
Total at a Glance

98,277 employees as of December 31, 2017

Europe’s No. 1 biofuel retailer, with 2.4 Mt of biofuels blended into gasoline and diesel in 2017

Oil and gas production of 2.6 Mboe/d of which approximately 48% gas

R&D spending of US$ 912 million in 2017

8 million customers stop at our service stations worldwide each day

30% decrease in greenhouse gas emissions since 2010 in our operated scope
Our Main Partners

Locally and globally, we partner with organizations and programs to protect biodiversity, such as:

Support for marine biodiversity research and programs has been a core mission of our corporate foundation for more than 25 years. The foundation is now refocusing its commitment to biodiversity on forest and climate programs.
To Find Out More

Our publications and additional information on our commitments and projects are available at the links below:

Registration Document

[Image of 2017 registration document]

www.total.com/en/media/publications

Integrating Climate Into Our Strategy

[Image of Integrating Climate Into Our Strategy]

www.total.com/en/media/publications

Sustainable Performance

[Image of Sustainable Performance]

www.sustainable-performance.total.com

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