

# Teide National Park

## 2020 Conservation Outlook Assessment

### SITE INFORMATION

**Country:** Spain

**Inscribed in:** 2007

**Criteria:** (vii) (viii)



Situated on the island of Tenerife, Teide National Park features the Teide-Pico Viejo stratovolcano that, at 3,718 m, is the highest peak on Spanish soil. Rising 7,500 m above the ocean floor, it is regarded as the world's third-tallest volcanic structure and stands in a spectacular environment. The visual impact of the site is all the greater due to atmospheric conditions that create constantly changing textures and tones in the landscape and a 'sea of clouds' that forms a visually impressive backdrop to the mountain. Teide is of global importance in providing evidence of the geological processes that underpin the evolution of oceanic islands. © UNESCO

### SUMMARY

#### 2020 Conservation Outlook

Finalised on 16 Jan 2022

**GOOD**

The outstanding universal value of the site is mostly robust to anthropogenic impact and affected by a low level of threats. This is combined with an overall effective management. As a result, the site's state is good and stable, which allows to assess its conservation outlook as good. However, this requires that the ongoing strong efforts to control invasive alien species and other threats to the site, particularly to its biodiversity and ecosystem values are maintained on the currently high level. The geological values of the property are likely to be as robust to potential threats as they are to present ones, although the potential impact of climate change is difficult to estimate. Considering that Teide is listed for criterion viii, highlighting "active volcanic processes", eruptions and the natural processes are seen as adding to the geological value and associated scientific interest in the site. At the same time, future eruptions may cause significant damage to buildings and infrastructure.

## FULL ASSESSMENT

### Description of values

#### Values

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##### World Heritage values

► **Exceptional volcanic system of outstanding geodiversity**

**Criterion:(viii)**

Teide National Park has extraordinary geological characteristics. Teide Volcano is the result of a specific geodynamic setting and geological processes that favoured the formation of a volcanic island (Tenerife) on a slow-moving and extremely old oceanic crust, circumstances that prevented subsidence and allowed an exceptionally prolonged volcanic history of the island, at least 12 million years (Thirlwall et al., 2000; Guillou et al., 2004), over 10 million years older than the island of Hawaii (Clague and Sherrod, 2014). Such an extended geological period favoured magmatic differentiation of deep mafic magmas (basalts) to produce large volumes of felsic magmas (phonolites, trachytes) (e.g. Ablay et al., 2000; Carracedo et al., 2007; Carracedo and Troll, 2013). The coeval existence in Tenerife of both types of magmas and their different types of eruptions are the basis of the extraordinary geological values of Teide National Park: 1. The pre-Caldera Las Cañadas Volcano, truncated by the collapse that carved Las Cañadas Caldera, forming the southern flanks of the TNP and the volcanic sequences of the caldera scar, including deposits from highly explosive Plinian eruptions (Ancochea et al., 1999). 2. The present Las Cañadas Caldera, whose origin –vertical collapse vs gravitational landsliding– has been the subject of scientific debate. 3. The NW and NE rift zones, similar to the Hawaiian rifts, showing abundant features of basaltic (Strombolian) eruptions (Carracedo, 2014). And 4. Two large stratocones (Teide and Pico Viejo volcanoes), the former still active, with the latest eruption (medieval) forming the summit cone and the obsidianic phonolitic Lavas Negras flows (Carracedo and Troll, 2013). A spectacular set of Holocene peripheral phonolitic domes and coulees encircle the basal perimeter of the Teide and Pico Viejo volcanoes (Ablay et al., 1995; Carracedo et al., 2007). These exceptional volcanological features of the TNP are the perfect complement of the equally remarkable Hawaiian Volcanoes National Park, predominantly associated to basaltic volcanism (Walker, 1990; Carracedo, 2008).

► **Volcanic landscape of outstanding natural beauty and diversity**

**Criterion:(vii)**

The exceptional beauty of the Teide National Park (TNP) is the result of the combination of several factors: The landscape is shaped by a volcanic complex formed by a 3718 m asl stratovolcano (Teide Volcano), the third tallest volcanic structure in the world, nested inside a collapse caldera (Las Cañadas Caldera), and one of the best exposed and accessible volcanic calderas on Earth. The visual impact is emphasized by atmospheric conditions that create constantly changing textures and tones in the landscape and a 'sea of clouds' that forms a visually impressive backdrop to the mountain (World Heritage Committee, 2007). The volcanic system has the right proportions to allow an overall view of the ensemble from many viewpoints, particularly spectacular from the summit of Teide and from the Caldera rim.

► **Exceptionally clear skies, the changing tonalities and shades**

**Criterion:(vii)**

Exceptionally clear skies during most of the year have promoted the deployment of some of the most relevant international day-time (solar) telescopes. Clear skies also emphasize the colours and the changing tonalities of the volcanic landscapes and features according to the time of day, the spectacular shadow of the Teide during sunset and sunrise being particularly appreciated. Observation of the night sky above Teide Volcano is an important value of the Park and has become a significant attraction for visitors. Pictures and timelapses of the TNP night sky have received international awards e.g. NASA Astronomy Picture of the Day (Daniel López, [www.elcielodecanarias.com](http://www.elcielodecanarias.com)). At the northern

flank of Teide, the humid northeasterly trade winds condense at the base of the volcano forming the impressive backdrop of the 'sea of clouds' (Durbán Villalonga et al., 2006).

## Other important biodiversity values

### ► Mountain ecosystems with associated flora and fauna

In addition to its geological and scenic values, Teide National Park, including its buffer zone, comprises peculiar Macaronesian ecosystems characterized by high plant endemism and a less diverse but equally interesting fauna. Among them is the unique Canarian summit scrub and peak ecosystem, which has particularly high plant and invertebrate endemism, including the emblematic Teide White Broom *Spartocytisus supranubius*. The property has eleven Habitats of Community Interest (75% of the territory of the park) according to the EU Habitats Directive, including vegetation on the recent volcanic flows, cliffs and craters, Mediterranean scrubs, open endemic *Juniperus* forest, and Macaronesian pine forest. The park's flora comprises more than 200 vascular plant species (31 of them endemic to the Canary Islands and 33 endemic to Tenerife, including 6 species found only in the national park) (Durbán Villalonga et al., 2006; IUCN Consultation, 2020), as well as 74 species of mosses, 8 of liverworts and 100 of lichens (UNEP-WCMC, 2011). The avifauna of the park contains only 20 species but more breed in the buffer zone, including the endemic Blue Chaffinch *Fringilla teydea*. Five species of bats (including the endemic *Plecotus teneriffae*) are the only native mammals. There are also populations of the endemic (to the archipelago) Canary Lizard *Gallotia galloti*. About 50% of the estimated 1,400 invertebrate species are endemic to the islands, and many to the park itself (Durbán Villalonga et al., 2006; IUCN Consultation, 2020).

## Assessment information

### Threats

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#### Current Threats

Low Threat

The main threats to the geological values of the Park (e.g. Residential and commercial infrastructures) are prior to the inscription of TNP as a World Heritage site and further development prohibition is effectively enforced, while far-sighted and effective management strategies applied in recent years have significantly reduced the impact of increasing visitor numbers on the geological features of the property. Therefore geological values are not at present, significantly threatened. However, the natural beauty and biodiversity values continue to be threatened by intensive although well-managed visitation, invasive alien species, occasional forest fires and the visual impact of the small-scale but nonetheless visible tourism infrastructure inside the site.

#### ► Tourism/ visitors/ recreation

Low Threat

*(High number of tourists)*

Inside site, widespread(15-50%)

Number of visitors poses a very limited threat to the scenic values of the TNP apart from localised groups of visitors and road traffic that may disturb quiet observation of nature. Geological values of the site are apparently not affected by tourists, but the high number of visitors - 4 million in 2016, averaging over 11,000 daily (El Día, August 1, 2017) - have localized impacts on important and most visited geological features (erosion, disturbance). Two recent films were produced on Teide and there is a history of filming in the World Heritage site, and this leads to some increase in visitation. However, this does bring economic benefits to the site (Europa Press 2018). The policy of the TNP managers in recent years has been aimed at providing viewpoints with parking and other facilities (e.g. information panels) in the most popular and visited sites, effectively confining and reducing the degradation caused by visitors. This strategy is complemented with an extensive network of trails in the TNP that provide controlled access to most of the interesting spots, bearing in mind criteria of safety for the visitors and the least possible impact on biodiversity and geological values. Visitor management outside of park ranger working hours remains limited, since the park is not closed to visitors as it is crossed by a National Road.

► **Fire/ Fire Suppression**

*(Wildfires/Forest fires)*

**Low Threat**

Inside site, localised(<5%)

Outside site

Wildfires mainly affect the biodiversity and ecosystem values of the property, and secondarily its outstanding natural beauty. Wildfires are known to have occurred for centuries and is generally localised and rare. The scrub vegetation of Teide National Park is less susceptible to fires than the forests of the buffer zone (IUCN, 2007), but fires have reached the park in the past (e.g. El País, 2012) and the values of the buffer zone cannot be separated fully from those of the park itself. Fire risk management appears to be effective (Durbán Villalonga et al., 2006). Outside the TNP forest fires are relatively frequent and may affect visibility in the buffer zone.

► **Invasive Non-Native/ Alien Species**

*(Invasive plant and animal species)*

**Very Low Threat**

Inside site, widespread(15-50%)

Outside site

Biodiversity in the property, particularly of endemic fauna and flora species, are threatened by alien invasive species that were introduced for hunting in the past e.g. rabbit (*Oryctolagus cuniculus*) and Corsican Mouflon (*Ovis gmelini musimon*), and significant predation by feral cats on Canary Lizard and other reptiles (Nogales et al., 2006). The impact of the strong grazing fauna on endemic is flora has already been shown to be significant (Nogales et al., 2006). Most of the 70-80 invasive alien plant species are concentrated in nitrogen rich areas near tourism infrastructures, and have not spread throughout the site. Important measures to control herbivores and invasive plant species are underway (Durbán Villalonga et al., 2006).

**Potential Threats**

**Data Deficient**

The management strategies applied in recent years are likely to be as effective to potential threats to the geological values of TNP as they are to current threats. Possible new volcanic eruptions, the natural processes that formed the Park, may in fact add to its geological value and boost its general and scientific interest. However new eruptive events and climate change could affect the scenic beauty and ecosystem and biodiversity values, but the potential impact of these modifications is difficult to estimate.

► **Volcanic activity**

*(Possibility of new volcanic eruptions)*

**Very Low Threat**

Inside site, throughout(>50%)

Volcanic activity is the natural process that has constructed the TNP, formed entirely by volcanism. Any future eruption will certainly resurface and reshape parts of the Park within the area of the eruption, but this may contribute towards increasing, rather than undermining, the scenic values of the Park.

► **Temperature extremes**

*(Increasing temperatures)*

**Data Deficient**

Inside site, extent of threat not known

Outside site

At present there is no evidence that increasing temperatures have any significant influence on the scenic values of the Park e.g. flora, sea of clouds, increasing frequency of African dust intrusions affecting clear skies.

However, Teide National Park has been characterized as one of the 19 natural World Heritage sites most susceptible to climate change (Perry, 2011). Although a 1.5-2 degree mean temperature increase has been predicted for the Canary Islands for the coming 100 years, its exact magnitude and impact is still difficult to estimate (Durbán Villalonga et al., 2006). Much research is therefore needed to understand the full implications of the changing climate.

► **Tourism/ visitors/ recreation**

*(Increasing number of visitors)*

**Low Threat**

Inside site, throughout(>50%)

Strategies already adopted for the present 4 million annual visitors should be efficient to prevent a significant increase in the impact on scenic and geological values of the TNP even for moderate growth in the number of visitors. The impact of visitors on endemic flora is likely to be very limited due to

efficient strategies of control e.g. viewpoints and trails.

► **Tourism/ visitors/ recreation**

**Very Low Threat**

*(Increasing human population and night lighting)*

Inside site, extent of threat not known

Strategies in street lighting (e.g. use of redder, warmer colours) are likely to be progressively adopted and will probably progress towards a reduction in light pollution inside the TNP.

**Overall assessment of threats**

**Low Threat**

The geological values of the park appear to be well managed and robust against anthropogenic impacts, and therefore is not significantly threatened at present. However, the natural beauty and ecosystem and biodiversity values are affected by intensive although well-managed visitation, invasive alien species, occasional forest fires and the visual impact of the limited but significant tourism infrastructure inside the site.

## Protection and management

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### Assessing Protection and Management

► **Management system**

**Mostly Effective**

The management is regulated by the Teide National Park Management Plan (which was scheduled to be renewed in 2008), which has 11 overall management objectives and is legally enforced. Many specific management tasks under this plan are outsourced by the management authority to private companies (Durbán Villalonga et al., 2006). The National Park received the European Diploma for Protected Areas of the Council of Europe in 1989, which testifies its high management level (IUCN, 2007). As of 2010, the responsibility of Teide's management was transferred from Spain's national government to the regional authority, the Comunidad Autónoma de Canarias (Millet, 2014). A new transfer of powers of Teide NP to Tenerife's Island Council (Cabildo de Tenerife) was effected as of 2016 (El Día, 2015). Although it seems that this move involves a delegation of powers rather than a complete transfer of responsibilities (Millet, 2014), this remains to be seen. Further follow-up is necessary to determine whether the current management system is threatened in any way.

► **Effectiveness of management system**

**Highly Effective**

Although no formal management effectiveness assessment of the site has been published since its inscription, both the park's annual reports and the reports produced annually for the European Diploma for Protected Areas of the Council of Europe include some information on management effectiveness (Durbán Villalonga et al., 2006). According to these reports (for 2004) and the IUCN evaluation (IUCN, 2007), management of the site is highly effective. In 2019, the Council of Europe renewed the European Diploma for Protected Areas awarded to the Teide National Park (Committee of Ministers, 2019).

► **Boundaries**

**Mostly Effective**

The boundaries of the World Heritage site are consistent with natural boundaries (Protected Planet, 2012) and existing protected area, and are considered adequate. There is also an adequate buffer zone with appropriate restrictions (e.g. on construction) and an effective zoning system of the National Park (Durbán Villalonga et al., 2006, IUCN, 2007). However, the western part of the North West Rift Zone is outside the present limits of the Park. This area is formed by a linear cluster of Holocene Strombolian vents and basaltic lava flows, including two of the historical eruptions of the island: the Boca Cangrejo Volcano, the eruption reported by Columbus in 1492, and the 1909 Chinyero Volcano, the latest eruption of Tenerife (Carracedo and Troll, 2016). This sector is a deserted and impracticable lava field ("malpaís"), and is the obvious zone for any future extension of the TNP to effectively adapt the Park

limits to the natural (geological) boundaries

► **Integration into regional and national planning systems** **Highly Effective**

The management plan of the site is complementary to the General Plan for the Public Use of the Island of Tenerife Insular Planning Document and the Tenerife Insular Tourism Planning Special Territorial Plan (Durbán Villalonga et al., 2006). The integration of outstanding universal value (OUV) protection into the insular planning framework appears to be highly effective.

► **Relationships with local people** **Mostly Effective**

The TNP is well communicated with the neighbouring population and offers important facilities for conservation and to the visitors (4 million in 2016). Only three people reside legally and permanently inside the park and its buffer zone, and the population in the immediate vicinity of the site is limited to a few mountain villages like Vilaflor. However, there are a number of permanent buildings inside the Park boundary for different services of the PNT: forest fire and first help, Visitor Centers (2), offices, ethnographic museum. Private businesses have long been operative inside the park boundaries and are now legalized by use: road restaurants at the northern entrance to the Park, the Parador Nacional de Las Cañadas, the Altavista Refuge. Another important facility is the cable car that services up to La Rambleta, at the base of the summit cone (access from there to the highest point of the summit is not allowed without a special permit). The Park is crossed by the public road TF-21, an efficient shortcut to connect the north and south of the island and crucial to connect the town of Vilaflor, as well as TF-24 (La Laguna - El Portillo) and TF-38 (Chío - Boca Tauce). The National Park also runs a dedicated communication, education and public awareness raising programme for the local population (Durbán Villalonga et al., 2006). However, the formal participation of nearby inhabitants in the management and decision making about the park is unclear from the available documentation. There are several important constraints in the effectiveness of the protection of the TNP, mainly legal residents inside the Park and the public road TF-21 that crosses the Park, still profusely used to connect the north and south of the island and crucial to connect the town of Vilaflor.

► **Legal framework** **Highly Effective**

Teide National Park is based on national legislation such as the 1989 Law on the Conservation of protected Natural Spaces and Wild Fauna and Flora of Spain, and legislation specific to the park, such as the 1954 decree that created it and Decree 153/2002 approving the management plan of the park (Durbán Villalonga et al., 2006). The legal framework was considered highly effective prior to the transfer of TNP to the Cabildo de Tenerife, the local government of the island (IUCN, 2007). Further information is needed to determine if and how this may affect enforcement of the national park's regulatory framework.

The boundaries of the World Heritage site are consistent in general with natural boundaries (Protected Planet, 2012) and the existing protected area, and are considered adequate. There is also an adequate buffer zone with appropriate restrictions (e.g. on construction) and an effective zoning system of the National Park (Durbán Villalonga et al., 2006, IUCN, 2007).

► **Law enforcement** **Data Deficient**

Data deficient

► **Implementation of Committee decisions and recommendations** **Data Deficient**

Decision 31 COM 8B.17 (2007) includes five recommendations regarding harmonization of tourism planning, visitor monitoring, enhanced research on climate change impacts on the site, intensified cooperation between the three World Heritage sites in the Canary Islands and improved cooperation between the Spanish and Canary Islands Governments (WHC, 2007). It is unclear to what extent these recommendations have been followed. No recent Committee decisions have been adopted.

► **Sustainable use** **Mostly Effective**

Only very limited use is now made of biodiversity resources of the park (e.g. apiculture). This use is managed in an adequate manner (IUCN, 2007).

► **Sustainable finance** **Mostly Effective**

The 2005 annual budget of the site (from the State budget) was ca. 4.9 Million EUR. About 10-15% of these funds were given not to the administration of the park but to local municipalities, businesses and NGOs (Durbán Villalonga et al., 2006). Funding is considered adequate (IUCN, 2007).

► **Staff capacity, training, and development** **Some Concern**

The national park has 28 staff, 13 of them permanent and 15 contracted (IUCN Consultation, 2020). Another 110 staff members worked for companies that have been contracted to fulfill specific management tasks in 2006. They are adequately supported with their professional development in an adequate way. There is also a park-certified guide training course for freelance guides since the late 1990s (Durbán Villalonga et al., 2006). Staffing and staff training level are considered adequate (IUCN, 2007). However, it is noted that a lack of geoheritage and geoconservation specialists in the management structure of the Park, which is essentially defined by its overall geological value, represents an important management weakness. Such expertise are required to identify the main geological sites to be preserved and locations where tourists should go to observe, enjoy, and learn from the extraordinary geological beauty of the Park, including signage and education (IUCN Consultation, 2020).

► **Education and interpretation programs** **Some Concern**

In addition to tourism related interpretation programmes (see below), there is an official educational programme, and there are also dedicated information and training courses for schools and teachers, educational excursions and workshops, and courses for the local population, for instance on management, interpretation and herbivore control. A wide range of education and interpretation materials is available, and there is an Environmental Education Support Service that is available to 113,000 students on the island. These offers are considered highly effective (Durbán Villalonga et al., 2006). However, educational programs related to geological values of the park should be strengthened, including to improve outreach and scientific documentation, in order to provide visitors, park staff and tourist guides with accurate and updated information on the exceptional geological values of the National Park (IUCN Consultation, 2020).

► **Tourism and visitation management** **Mostly Effective**

In 2017, 2018 and 2019, the number of visitors to the national park reached 4,3, 4,3 and 4,4 million people, respectively (IUCN Consultation, 2020). The management plan of the park includes prescriptions for visitor management. The park has 2 visitor centres, a botanical garden, a nature activities centre (outside the park), and a wide range of tourism interpretation materials and products such as guided tours (Durbán Villalonga et al., 2006). Since 2017, the network of trails in the park has been extended and now includes 41 trails stretching about 190km (IUCN Consultation, 2020). Additional tourism infrastructure not run by the park includes a cable car and several restaurants and hotels. Overall, visitor management is considered effective, in spite of the high tourism numbers.

► **Monitoring** **Highly Effective**

The establishment of a dedicated monitoring programme based on 11 indicators organized by the administration of the National Park was foreseen at the time of inscription (Durbán Villalonga et al., 2006). In addition, the site reports annually on its environmental performance (e.g. Gobierno de Canarias, 2010) and overall work and participates in the UNFCCC Global Change Monitoring Network (IUCN, 2007).

► **Research** **Mostly Effective**

The site has supported the production of an impressive body of scientific work on volcanology since the times of von Humboldt, von Buch and Lyell, and continues to be studied in terms of seismology,

earthquakes, palaeomagnetism, geochronology, and especially volcanology. Due to its location and atmosphere, it is also important for astronomy and atmospheric sciences, with the Izaña Astrophysical Laboratory nearby (UNEP-WCMC, 2011). However, dissemination of the wealth of the extraordinarily interesting information derived from scientific research in the TNP is still limited. In addition, there is scientific research supporting space exploration that is ongoing at Teide. This is seen as compatible with and supporting the geological values for which the site is listed (ESA, 2017).

### Overall assessment of protection and management

Mostly Effective

The protection and management of the site have improved over time with great efforts undertaken by the local administration as well as insular and national authorities. The park is well funded and staffed and its management is mostly effective. A lack of geoheritage and geoconservation specialists in the management of the Park, which is essentially defined by its overall geological value, should be addressed and such capacity strengthened to ensure the geological World Heritage values. It must also be noted, that management powers have been transferred from the regional to the local level making it unclear as to whether this effective management will be affected.

#### ► Assessment of the effectiveness of protection and management in addressing threats outside the site

Mostly Effective

The main threats to the natural beauty of the site originating from the outside are invasive species and forest fires; whereas the geological values and the volcanic landscape are less susceptible to being affected by that, particularly considering that the damage to the geological values was mainly caused prior to the inscription of TNP as a WH site and the strategies applied since the inscription have been effective in significantly reducing these threats. Considerable efforts (culling and eradication, monitoring) are made to control invasive species, with significant success and an improvement of the conservation status of endemic flora since the establishment of the National Park. Although fire risk management is officially the responsibility of the Cabildo de Tenerife, Teide National Park has its own system to prevent and extinguish fires on its territory (Durbán Villalonga et al., 2006).

#### ► Best practice examples

1. The park's Environmental Education Support Service appears to be a highly effective institution with a high numerical capacity and excellent links to formal education institutions on Tenerife, which could be replicated in comparable sites elsewhere.

## State and trend of values

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### Assessing the current state and trend of values

#### World Heritage values

##### ► Exceptional volcanic system of outstanding geodiversity

Good  
Trend:Stable

The important damage to the geological values of the site, mainly derived from touristic infrastructures was carried out prior to the inscription of TNP as a WH site and which are at present prohibited by law. Management strategies aimed to direct visitors to selected viewpoints and trails have been effective in minimizing the geological impact of heavy visitation on the Park. Consequently, these strategies continue to be in the good and stable state of previous years (IUCN, 2007).

##### ► Volcanic landscape of outstanding natural beauty and diversity

Low Concern  
Trend:Stable



The extraordinary natural beauty of the volcanic landscape at Teide National Park is not affected by anthropogenic factors and is effectively preserved. However, heavy visitation, which tends to concentrate in a few small areas of the site, has at times made it difficult to enjoy this exceptional beauty, and it is furthermore impacted by changes to the biodiversity that contributes to the experience of the site, and occasional forest fires particularly in the buffer zone (Durbán Villalonga et al., 2006).

► **Exceptionally clear skies, the changing tonalities and shades**

**Good**  
**Trend: Stable**

Currently this value is not significantly affected and are being addressed adequately, particularly from the tourism angle. Future potential impacts from climate change however remains unclear.

## Summary of the Values

► **Assessment of the current state and trend of World Heritage values**

**Good**  
**Trend: Stable**

Because of their inherent robustness against anthropogenic impact as well as the effective management and adequate boundaries of the site, the overall state of the World Heritage values is good and remains stable.

► **Assessment of the current state and trend of other important biodiversity values**

**Low Concern**  
**Trend: Improving**

Since the cessation of intensive biodiversity resource use in 1954 and the successive efforts of the Teide National Park authorities aimed at the management/eradication of invasive alien species, fire risk management and visitor management, most of the autochthonous biota and ecosystems of the site have shown an impressive recovery (Durbán Villalonga et al., 2006). However, a few species (such as the Egyptian Vulture *Neophron percnopterus*, EN – IUCN, 2012) have been locally lost and others remain in a negative conservation state. Overall, the state and trend of the mountain ecosystems/biota of the property can be assessed as “Low Concern” and “Improving”.

## Additional information

### Benefits

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#### Understanding Benefits

► **Direct employment**

The property provides more than 130 jobs for the management and maintenance of facilities alone. In addition, a significant number of jobs (hundreds to thousands of jobs in tourism) indirectly benefit from the attractiveness of the OUV and biodiversity of the property (Durbán Villalonga et al., 2006).

► **Outdoor recreation and tourism**

There are 4 million visitors to the property annually (Diario de Avisos, 2017), a large number of whom come from abroad, and nature-based tourism is practised at a high intensity (Durbán Villalonga et al., 2006). The site offers a unique opportunity to experience an extraordinary landscape with its associated geological features and biodiversity. This contributes significantly to income generation and socio-economic development in the vicinity of the property.

► **Importance for research**

The site has critically contributed to the scientific understanding of volcanology since the late 18th century, and continues to support extensive scientific research and publications (UNEP-WCMC, 2011). In addition, new know-how on the long-term impact of climate change on ecosystems is generated and

tested by the institutions managing the property.

#### ► **Contribution to education**

Based on the site's significant importance for volcanological knowledge generation and its visitor and educational programmes and facilities, it also functions as a living museum, which gives people a direct impression of the landscape forming forces of volcanism (Durbán Villalonga et al., 2006).

#### ► **History and tradition**

The extraordinary volcanic landscapes of the property have captured the imagination of artists for centuries and inspired a wide range of artistic works, including those of Luis de la Cruz de Ríos, Francisco Bonnin, Manuel Martín González (Durbán Villalonga et al., 2006). It has also been used in popular music (e.g. the compositions of Mike Oldfield) and served as a backdrop to films such as Clash of the Titans, Barbarella, and Star Wars Episode III.

### **Summary of benefits**

The main benefits of the site are tourism, education and science, with the immense socio-economic benefits that depend on them, while the site also offers globally significant nature conservation insights and extraordinary artistic importance.

## **Projects**

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### **Compilation of active conservation projects**

<b>Nº</b>	<b>Organization</b>	<b>Brief description of Active Projects</b>	<b>Website</b>
1	Ministry of the Environment, Government of the Canary Islands and Cabildo Insular de Tenerife	Responsible for most State-funded projects inside the site, including nature conservation, visitor management, and interpretation.	<a href="http://www.mma.es/parques/lared/teide/index.htm">http://www.mma.es/parques/lared/teide/index.htm</a>

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