

EUROPE / NORTH AMERICA

MOUNT ETNA

ITALY



WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

MOUNT ETNA (ITALY) – ID No. 1427

IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE: To inscribe the property under natural criteria.

Key paragraphs of Operational Guidelines:

77 Property meets natural criteria.

78 Property meets conditions of integrity and protection and management requirements.

1. DOCUMENTATION

a) Date nomination received by IUCN: 25 March 2012

b) Additional information officially requested from and provided by the State Party: Following the field visit, IUCN requested supplementary information on 11 October 2012 and a reply was received from the State Party on 25 November 2012.

c) Additional literature consulted: Branca, S. et al. (2011) **Geological map of Etna volcano, 1:50,000 scale**. Italian Journal of Geosciences 130: 265-291; Branca, S. et al. (2011) *Geological evolution of a complex basaltic stratovolcano: Mount Etna, Italy*. Italian Journal of Geosciences 130: 306-317. De Beni, E. et al. (2011) **⁴⁰Ar/³⁹Ar isotopic dating of Etna volcanic succession**. Italian Journal of Geosciences 130: 292-305. Dingwall, P. et al. (2005) *Geological World Heritage: A Global Framework*. IUCN, Gland, Switzerland. Giusso del Galdo, G. & Brullo, S. (2012) **Flora und Vegetation des Ätna**. Pages 162-192 in: K. Gratzl (ed.) *Ätna: Der höchste aktive Vulkan Europas*. Weishaupt Verlag, Gnas, Austria. Grabherr, G. & Messerli, B. (2011) **An Overview of the World's Mountain Environments**. Pages 8-14 in: Austrian MAB Committee (ed.) **Biosphere Reserves in the Mountains of the World: Excellence in the Clouds?** Austrian Academy of Sciences Press, Vienna, Austria. Médail, F. (2008) **A natural history of the islands' unique flora**. Pages 26-33 in: C. Arnold (ed.) *Mediterranean Islands*. Survival Books, London, UK. Médail, F. & Quézel, P. (1999) **Biodiversity Hotspots in the Mediterranean Setting Global Conservation Priorities**. *Conservation Biology* 13: 1510-1513. Mercurio, R. & Spampinato, G. (no date) **Monitoring in the strict natural reserve of the Mount Etna Park**. Ediguida, Nicolosi, Italy. Poli, E. (1965) **La vegetazione altomontana dell'Etna**. Memoria n. 5 di Flora et Vegetatio Italica, Gianasso Editore, Roma, Italy. Poli Marchese, E. (1991) **Pianti e fiori dell'Etna**. Sellerio Editore, Palermo, Italy; Poli Marchese, E. & Patti, G. (no date) *Carta della vegetazione dell'Etna*. Institute of Plant Biology and Ecology, University of Catania, Italy. Siebert, L., Simkin, T., and Kimberly, P., 2010, **Volcanoes of the World, 3rd ed.** Berkeley: University of California Press, 568 p. Smithsonian Institution (2012) **Online information of the Global Volcanism Programme**; Vogiatzakis, I.N. & Griffiths, G.H. (2008) *Island Biogeography and Landscape Ecology*. Pages 61-81

in: I.N. Vogiatzakis et al. (eds.) *Mediterranean Island Landscapes*. Springer Science + Business Media B.V. Wood, C. (2009) **World Heritage Volcanoes**. IUCN, Gland, Switzerland.

d) Consultations: 14 external reviewers were consulted. Extensive consultations were conducted during the field mission including with representatives of management agencies, administrators in municipal, state and federal governments, representatives of academic institutions and nongovernment and tourism operators.

e) Field Visit: Bastian Bertzky, 1-5 October 2012

f) Date of IUCN approval of this report: April 2013

2. SUMMARY OF NATURAL VALUES

The nominated property "Mount Etna" encompasses the 19,237 ha core zone of Etna Park, a regional nature park on the eastern coast of Sicily (Italy), the largest Mediterranean island. The nominated property is surrounded by a 26,220 ha buffer zone which is not included in the nominated area. Reaching 3,335 m above sea level, Mount Etna is the highest mountain in Italy south of the Alps, the highest mountain in the central Mediterranean and the highest mountain on any Mediterranean island. The nominated property covers the highest areas of Mount Etna and is not inhabited. Mount Etna is recorded as the most active stratovolcano, in terms of frequency of eruptions in the world. It is the highest active volcano within the geographic limits of Europe.

Mount Etna is a large basaltic composite volcano covering an area of 1,178 km² from sea level up to over 3,300 m. The volcano is characterized by almost continuous eruptive activity from its summit craters and fairly frequent lava flow eruptions from craters and fissures on its flanks. This volcanic activity has been documented at least 2,700 years. Scientific documentation of Mount Etna's volcanic phenomena dates back to the 17th century. In the 19th century, renowned European scientists such as Charles Lyell and Sartorius von Waltershausen carried out systematic studies, and Waltershausen's map from the mid 19th century became the first geological map of a large active volcano in the world. Since then Mount Etna has become one of the best-studied and monitored volcanoes in the world. It is considered a

natural laboratory for volcanologists, geophysicists and other scientific disciplines.

Today's Mount Etna is the result of a complex eruptive history which can be traced back over 500,000 years. Central-type volcanic activity in the Etna region started over 100,000 years ago. From about 57,000 years ago, intense eruptive activity formed the 3,600 m high Ellittico stratovolcano. From about 15,000 years ago, primarily effusive activity formed the most recent Mongibello volcano whose 357 lava flows now cover 88% of the entire surface of Mount Etna. The largest explosive eruption of the Mongibello volcano in Holocene times occurred in 122 BC, causing great damage to the town of Catania, a coastal town which was also affected by a large, low-altitude flank eruption in 1669. The latest geological map of Mount Etna shows 122 lava flows for the historical period from 122 BC to the present. Today Mount Etna has four summit craters and dozens of cinder cones on its flanks. The most prominent morphological feature of Mount Etna is however the Valle del Bove, a large depression on the eastern flank of the volcano, which was created by a flank collapsed several thousand years ago and now provides a window into the volcano's history. Despite its frequent volcanic activity, very few people have been killed by eruptions of Mount Etna. In over 2,000 years, there have been less than 100 casualties that can be directly attributed to eruptions, largely because Mount Etna's eruptions are rarely violently explosive and its lava flows tend to move slowly enough to allow people to leave before the lava front arrives.

3. COMPARISONS WITH OTHER AREAS

IUCN's theme study on volcanoes (2009) showed there are already 27 World Heritage properties with active (Holocene) volcanoes. The study noted, however, that the World Heritage List does not yet contain many of the volcanoes that might be commonly recognised by the general public. The study concluded that "iconic volcanoes" are poorly represented on the List and identified a number of world-renowned volcanoes that could potentially help filling this gap. The study recommended considering inscription of these volcanoes based on their notoriety, scientific importance, and cultural and educational value. The iconic volcanoes identified by the study included Mount Etna, Santorini (Greece), Tambora (Indonesia), Mount Fuji (Japan), Paracutin (Mexico) and Mount St. Helens (USA). However, none of the iconic volcanoes identified are included on current Tentative Lists, except for Mount Fuji (under cultural criteria) and Mount Etna.

Mount Etna is nominated under criteria (vii), (viii) and (ix). Although criterion (viii) is most commonly used to recognize volcanic and other 'geoheritage' values, a number of volcanic World Heritage properties have also been inscribed under other natural criteria in recognition of their natural beauty, superlative phenomena and/or biodiversity values. Tongariro National Park (New Zealand), Jeju Volcanic Island and Lava Tubes (Republic of Korea), Pitons Management Area (Saint Lucia) and Teide National Park (Spain) are

all inscribed under (vii) and (viii). Ujung Kulon National Park (Indonesia), which includes Krakatoa, and the Pitons, cirques and remparts of Reunion Island (France) are however inscribed under (vii) and (x). Finally, while the Volcanoes of Kamchatka (Russian Federation) are inscribed under all natural criteria, the Aeolian Islands (Italy) and Hawaii Volcanoes National Park (USA) are only inscribed under (viii).

In relation to criterion (vii), whilst Mount Etna is significant on a regional scale, on a global scale there are many volcanic sites inscribed on the World Heritage List that exceed the scale and scenic impact of Mount Etna under this criteria, including areas noted above. Furthermore, the proposed boundaries of the nominated property provide for the protection of approximately the top third of the cone whereas the bottom two thirds has been significantly impacted by human occupation resulting in a loss of natural attributes.

In relation to criterion (viii), Mount Etna stands out as one of the world's most active volcanoes. Despite the number of comparators already included on the World Heritage list (i.e. Sangay National Park, Ecuador; Teide National Park, Spain and Volcanoes of Kamchatka, Russian Federation), Etna is outstanding as it is the most active volcano globally (Siebert et al. 2011) in terms of frequency of recorded eruptions. Mount Etna has recorded at least 193 historical eruptions whereas Kilauea, a shield volcano within the Hawaii Volcanoes National Park, USA has the second most recorded eruptions.

Mt Etna has a long history of recorded eruptions, and due to its location, a long history of research. While most Holocene volcanoes were active only sporadically during the last millennia (e.g. Fuji, Krakatoa, Santorini, St. Helens, Tambora and Teide), Mount Etna has a history of over 3,000 years of almost continuous eruptions. This exceptional volcanic activity has been documented by humans for at least 2,700 years, making it one of the world's longest documented records of historical volcanism. For centuries, Mount Etna has attracted visitors including scientists and students, and today it is one of the best-studied and monitored volcanoes in the world (together with the volcanoes in the Hawaii Volcanoes National Park). This is also evident from the exceptional number of scientific studies of Mount Etna that have long influenced the fields of volcanology, geophysics, geology and geomorphology.

In summary, Mount Etna is an outstanding example of ongoing geological processes and volcanic landforms. In relation to all of the criteria noted in the IUCN volcanic theme study (notoriety, scientific importance, and cultural and educational value), Mount Etna is of global significance when compared to other volcanoes that are iconic for their scientific values. Nearby, the Isole Eolie (Aeolian Islands, Italy) have been inscribed only under criterion (viii) as an "outstanding record of volcanic island building and destruction and on-going volcanism". Etna has similar volcanic activity however its morphology and genesis are unrelated to the Aeolian Islands.

In relation to criterion (ix), comparative analysis by IUCN and UNEP-WCMC shows that Mount Etna supports important terrestrial ecosystems and communities. Isolated volcanoes, especially on islands, provide an interesting array of phenomena such as successions and reaction of biotic communities to recurrent disturbance. The study also noted that island volcanoes such as Mount Etna, Teide and the Hawaiian volcanoes host a unique endemic flora and fauna. Although there are unique ecosystems present at Mount Etna, the proposed property with boundaries limited to only the top one third of the stratocone significantly reduces the property's capacity to represent outstanding ecological and biological processes in the evolution and development of terrestrial ecosystems and communities of plants and animals. The proposed boundaries of the nominated property do not include the entire volcano and the ecological and biological processes at the base of the volcanoes have been negatively impacted by human occupation.

In summary, IUCN considers a case can be made for Mount Etna meeting criterion (viii), the case for the other nominated criteria is not compelling compounded by the fact that integrity requirements are not met.

4. INTEGRITY, PROTECTION AND MANAGEMENT

4.1. Protection

Parco dell'Etna was established as a Regional Nature Park by Decree of the President of the Sicilian Regional Authority in March 1987. The Decree defined the boundaries of the park, subdivided the park area into four general zones, and determined the activities permitted / prohibited in each zone. The four zones are: A (integral reserve), B (general reserve), C (protection) and D (control). The nominated property encompasses only the most strictly protected part (Zone A) of Etna Park. In addition, nine Natura 2000 sites overlap the nominated property to various degrees, providing additional protection for 77% of the nominated area under European legislation.

The regulations provided within the Decree provide for adequate protection of the key values of the nominated property. Since the completion of a land acquisition process in 2010, 97.4% of the nominated property's area is in public ownership (region or communities). The remaining 2.6% (500 ha) is in private ownership and still used as traditional pistachio groves. In contrast, 56.6% of the buffer zone is privately owned.

IUCN considers the protection status of the nominated property meets the requirements set out in the Operational Guidelines.

4.2 Boundaries

The boundaries of the nominated property (19,237 ha) are clearly defined and encompass the most outstanding values of the property in relation to criterion (viii). The small size of the nominated property, relative to the entire stratocone, does not

capture features that would enable consideration for inscription under criteria (vii) nor (ix). Furthermore the ecosystems on the lower flanks of the volcano have been negatively impacted by human development activities. The nominated property includes very little infrastructure: a few forest / mountain tracks, a number of basic mountain shelters along the main forest tracks, and over 50 small seismic monitoring stations and an observatory. Funding has been secured for a complete overhaul of the observatory which is scheduled to start in 2013. The boundaries of Zone A are clearly marked on maps of the park and in the field (along forest tracks and trails).

The nominated property is surrounded by a buffer zone (26,220 ha) which consists of the park's Zone B and two tourism zones (classified as Zone C *Altomontane*) that predate the establishment of Etna Park. The tourism zones include accommodation (hotels, huts), car parks, restaurants, cafes, a cableway, chair and drag lifts for ski tourism, information points, and ticket kiosks for guided drives / hikes and horse / donkey safaris. These areas as well as the rest of the park area (Zone C *Pedemontane* and Zone D) are not suitable for natural World Heritage status as they do not meet the conditions of integrity and protection and management requirements at present.

IUCN considers that the boundaries of the nominated property meet the requirements set out in the Operational Guidelines.

4.3 Management

The management of the nominated property is coordinated by *Ente Parco dell' Etna* and carried out first and foremost according to the regulations of *Parco dell'Etna* provided in the Decree of the President of the Sicilian Regional Authority in March 1987. *Ente Parco dell' Etna* was established as the managing authority of Etna Park by Decree of the President of the Sicilian Regional Authority in May 1987. The management authority is led by the park president, or commissioner, who is *Ente Parco's* legal representative, appointed by the President of the Sicilian Regional Authority, and chairs the Park Council. The Park Council, a political body, includes the President of the Catania Provincial Authority and the mayors of the 20 towns that have a share in the park's territory. The park's Executive Committee, a technical body, is in charge of decisions concerning the park's budget, administration and management. The park director leads the day-to-day administration and management of Etna Park. The park receives technical and scientific advice from the Regional Advisory Body on Natural Heritage Protection (*Consiglio Regionale per la Protezione del Patrimonio Naturale, CRPPN*). *Ente Parco* manages the park, including the nominated property, in close cooperation with the Regional Authority of State Forests and the Regional Corps of Forest Rangers (*Corpo Forestale*).

The management of Etna Park, including the nominated property, is guided by a long-term management plan and Triennial Intervention Programmes. Presently, the Triennial Program

2011/2013 is in force; however content related to criteria (viii) or the geological processes needs to be strengthened.

The management structure of the property is evolving such that the role for the government (in terms of funding and governance) is minimized with a non-government body to assume onsite management responsibility. Staffing and funding are adequate for current operations however they may be short of the levels required as World Heritage site. Ente Parco receives its annual core funding from the Sicilian Regional Authority. From 2006 to 2011, this support amounted to circa 4.5 million Euros per year, covering personnel and core management cost. In addition, Ente Parco receives substantial support from other sources including the Italian State and European Union, for management activities and interventions. Additional financial and technical support is needed for example to improve the environmental education and ecotourism facilities in the property, and tourism facilities in the buffer zone and wider park area. Although there are 48 staff members for managing the Ente Parco, at present there is limited human resource capacity with respect to volcanology or ecology in the staffing complement. The lack of onsite coordinated management presence creates some safety concerns and upgrading is required to improve the presentation of natural heritage values to the visiting public and to provide ease of access and ensure visitor safety.

Programming and interpretation is through private operators and coordinating the presentation of the natural heritage values through the managing organization is essential. Financial and technical support is required to improve educational and tourism facilities in the property. The park may want to consider implementing regular management effectiveness assessments and/or participation in relevant certification schemes (e.g. European Diploma of Protected Areas).

IUCN considers the management of the nominated property meets the requirements set out in the Operational Guidelines.

4.4 Community

IUCN notes that the World Heritage nomination was developed through a participatory process with support and involvement of many organizations and individuals. Overall the field visit confirmed overwhelming support for the World Heritage nomination from a wide range of stakeholders although concerns over potential restrictions were expressed by a concessionaire in the tourism zone (buffer zone). Some of the stakeholders would have liked to see a larger area included in the nomination; however, it was widely acknowledged that overall the nominated property represents the most outstanding values of Mount Etna, with integrity issues limiting a potentially larger nomination. IUCN also notes the cultural significance of Mount Etna. For more than 2,000 years, Mount Etna has played an important role in legends, folklore, literature and arts.

4.5 Threats

The nominated property has no permanent population, is free of roads, and its use restricted to research and recreation. Vehicle access to the limited network of forest and mountain tracks appears to be strictly controlled (e.g. through gates and fences) and is only permitted for park management purposes and authorised activities such as research and organized 4x4 drives on the main track from the tourism facilities in the buffer zone to the INGV observatory. Except for the above mentioned overhaul of the observatory, no construction projects are permitted or planned within the nominated property. For the past two years, public access to the top of Mount Etna has been officially prohibited for safety reasons, but this regulation has been difficult to enforce.

Many of the basic mountain shelters do not have toilets, thus creating a human waste problem which needs to be addressed. Organized recreational activities such as mountain biking and horse / donkey riding require advance authorisation. Although they appear to be limited at present, they need to be well monitored and managed to avoid negative impacts such as erosion and disturbance of wildlife.

No dogs are allowed in the nominated property and illegal hunting appears to be under control. Low-intensity grazing is permitted and occurs in parts of the nominated property in the summer season. Limited silvicultural interventions are implemented in the nominated property to reduce the risk from forest fires and maintain access routes. Climate change has the potential to increase the risk of forest fires in the region and impact the species and communities on Mount Etna. Natural hazards resulting from the volcanic activity of the nominated property will always pose a risk to certain features and facilities of the park and beyond. Overall, however, the Outstanding Universal Value of the nominated property is not threatened at present.

The buffer zone is less strictly protected and includes a public road network as well as large areas that are used for traditional agriculture and more intense grazing. As noted above, the tourism zones within the buffer zone include accommodation (hotels, huts), car parks, restaurants, cafes, a cableway, chair and drag lifts for ski tourism, information points, and ticket kiosks for guided drives / hikes and horse / donkey safaris. Some of these facilities do currently not meet international standards and require improvements. More generally, there seems to be potential for the park's visitor facilities to be further improved, taking into account best practice and lessons learned at other comparable World Heritage properties. However, the environmental impacts of potential developments need to be carefully assessed, monitored and controlled. Illegal hunting occurs more frequently in the buffer zone than in the nominated property. The nominated property and buffer zone are free from any industrial activity, garbage dumps and mining (quarries). Due to its location in a densely populated region, parts of the wider park area are threatened by urban expansion,

pollution including from illegal garbage dumping, and inappropriate development.

In summary, IUCN considers the nominated property does meet the conditions of integrity as outlined in the Operational Guidelines.

5. ADDITIONAL COMMENTS

The IUCN World Heritage Panel debated carefully the continued issue of the listing of volcanic World Heritage Sites, which has been the subject of past consideration by the World Heritage Committee. Whilst IUCN recommends inscription of Mount Etna, this inscription raises continued concern regarding the emphasis on volcanic listings, which are not in balance with other types of heritage. In addition there is an impression that there is a possible overemphasis of the concept of “iconic volcanoes” and also of nominations in Europe of volcanoes that are important examples of early scientific advances.

The IUCN World Heritage Panel noted that it would be desirable to revise the current thematic guidance on volcanic World Heritage areas, including a range of review input from all regions to better advise States Parties on priorities that will lead to a finite and regionally balanced list of the volcanic sites with the highest potential for inclusion on the World Heritage List.

6. APPLICATION OF CRITERIA

Mount Etna has been nominated under criteria (vii), (viii) and (ix).

Criterion (vii): Superlative natural phenomena or natural beauty and aesthetic importance

Mount Etna is an imposing stratovolcano towering distinctively over the island of Sicily. The diverse and complex landscape around the central volcano, the colourful juxtaposition of volcanic substrates, forest and non-forest vegetation is combined with the far-reaching views over Sicily and the Mediterranean Sea. Although this volcano is significant on a regional scale, globally there are other volcanoes currently inscribed on the World Heritage List that have greater significance under this criterion. Mount Etna does not compare with many other volcanic sites which are larger (taller, wider), more complex, more dramatic and more pristine in terms of development up the flanks.

IUCN considers that the nominated property does not meet this criterion.

Criterion (viii): Earth’s history and geological features

Mount Etna is one of the world’s most active and iconic volcanoes, and an outstanding example of ongoing geological processes and volcanic landforms. The stratovolcano is characterized by almost continuous eruptive activity from its summit craters and fairly frequent lava flow eruptions from craters and fissures on its flanks. This exceptional volcanic activity has

been documented by humans for at least 2,700 years – making it one of the world's longest documented records of historical volcanism. The diverse and accessible assemblage of volcanic features such as summit craters, cinder cones, lava flows, lava caves and the Valle de Bove depression have made Mount Etna a prime destination for research and education. Today Mount Etna is one of the best-studied and monitored volcanoes in the world, and continues to influence volcanology, geophysics and other earth science disciplines. Mount Etna’s notoriety, scientific importance, and cultural and educational value are of global significance.

IUCN considers that the nominated property meets this criterion.

Criterion (ix): Ecosystems / communities and ecological / biological processes

As an isolated island volcano in the Mediterranean Basin biodiversity hotspot, Mount Etna supports important terrestrial ecosystems and communities, including a unique endemic flora and fauna. Mount Etna’s frequent and intense volcanic activity makes it a natural laboratory for the study of ecological and biological processes such as adaptation, colonization, competition, disturbance, speciation and succession. However these values are secondary to the iconic values of Mount Etna for geosciences, and, due to the limited size of the nominated property (essentially the top third of the volcano) the significant ecological/biological processes are not captured within the proposed boundaries and the lower slopes have been negatively impacted by development.

IUCN considers that the nominated property does not meet this criterion.

7. RECOMMENDATIONS

IUCN recommends that the World Heritage Committee adopt the following draft decision:

The World Heritage Committee,

1. Having examined Documents WHC-13/37.COM/8B and WHC-13/37.COM/INF.8B2;
2. Inscribes **Mount Etna, Italy**, on the World Heritage List under criterion (viii);
3. Adopts the following Statement of Outstanding Universal Value:

Brief synthesis

Mount Etna World Heritage Site (19,237 ha) comprises the most strictly protected and scientifically important area of Mount Etna, and forms part of the Parco dell’Etna Regional Nature Park. Mount Etna is renowned for its exceptional level of volcanic activity, and the documentation of its activity over at least 2,700 years. Its notoriety, scientific importance, and cultural and educational value are of global significance.

Criteria

Criterion (viii)

Mount Etna is one of the world's most active and iconic volcanoes, and an outstanding example of ongoing geological processes and volcanic landforms. The stratovolcano is characterized by almost continuous eruptive activity from its summit craters and fairly frequent lava flow eruptions from craters and fissures on its flanks. This exceptional volcanic activity has been documented by humans for at least 2,700 years – making it one of the world's longest documented records of historical volcanism. The diverse and accessible assemblage of volcanic features such as summit craters, cinder cones, lava flows, lava caves and the Valle de Bove depression have made Mount Etna a prime destination for research and education. Today Mount Etna is one of the best-studied and monitored volcanoes in the world, and continues to influence volcanology, geophysics and other earth science disciplines. Mount Etna's notoriety, scientific importance, and cultural and educational value are of global significance.

Integrity

The boundaries of the property are clearly defined and encompass the most outstanding geological features of Mount Etna. The property includes very little infrastructure: a few forest / mountain tracks, a number of basic mountain shelters along the main forest tracks, and over 50 small seismic monitoring stations and a scientific observatory.

A buffer zone of 26,220 ha surrounds the property, including parts of Mount Etna Regional Nature Park, and two tourism zones. These tourism zones include accommodation (hotels, huts), car parks, restaurants, cafes, a cableway, chair and drag lifts for ski tourism, information points, and ticket kiosks for guided drives, hikes and horse/donkey safaris.

Protection and management requirements

The Parco dell'Etna (Etna Park) was established as a Regional Nature Park by Decree of the President of the Sicilian Regional Authority in March 1987. The property includes part of this Park, comprising the zone defined as an integral reserve. In addition, nine Natura 2000 sites overlap the property to various degrees, providing additional protection for 77% of the area under European legislation.

The regulations provided within the Decree provide for adequate protection of the key values of the property. Since the completion of a land acquisition process in 2010, 97.4% of the property's area is in public ownership (region or communities). In contrast, 56.6% of the buffer zone is privately owned.

The management of the property is coordinated by Ente Parco dell' Etna, established as the managing authority of Etna Park by Decree of the President of the Sicilian Regional Authority in May 1987, working in close cooperation with the Regional Authority of State Forests and the Regional Corps of Forest Rangers (Corpo Forestale). Management is guided by a long-term management plan and Triennial Intervention Programmes.

The property has no permanent population, is free of roads, and its use restricted to research and recreation. Vehicle access to the limited network of forest and mountain tracks appears to be strictly controlled (e.g. through gates and fences) and is only permitted for park management purposes and authorised activities such as research and organized 4x4 drives on the main track from the tourism facilities in the buffer zone to the INGV observatory. Except for possible maintenance of the observatory, no construction projects are permitted or planned within the property. Public access to the top of Mount Etna may be officially prohibited for safety reasons, although this regulation has been difficult to enforce. Organized recreational activities such as mountain biking and horse / donkey riding require advance authorisation. Although they appear to be limited at present, they need to be well monitored and managed to avoid negative impacts such as erosion and disturbance of wildlife. No dogs are allowed in the property and illegal hunting appears to be under control. Low-intensity grazing is permitted and occurs in parts of the property in the summer season. Limited silvicultural interventions are implemented in the property to reduce the risk from forest fires and maintain access routes. Climate change has the potential to increase the risk of forest fires in the region and impact the species and communities on Mount Etna. Natural hazards resulting from the volcanic activity of the property will always pose a risk to certain features and facilities of the park and beyond. Strengthened park visitor facilities are needed, taking into account best practice and lessons learned at other comparable World Heritage properties.

4. Commends the local, regional and national government authorities, park staff, forest rangers, cooperating scientists and scientific institutions, and non-governmental organizations for their commitment and support to the nominated property;

5. Requests the State Party to coordinate regional and national authorities to maintain and strengthen their support to the property, to further increase the management capacity of the property;

6. Recommends the State Party to review and update the management plan, to:

- a) Strengthen harmonization between the various management organizations and private sector partners in the use of the proposed property to ensure that the outstanding geological features are not adversely impacted by increasing tourism pressures.
- b) Strengthen mechanisms to monitor visitor use that balance the protection of natural heritage values with enhanced visitor experience and safety.
- c) Encourage improved research and monitoring of the values with the inclusion of technical staff (geologist, geomorphologist and volcanologist) as an integral part of the management team on the site.
- d) Encourage the exchange of management experience and promotion of scientific and

educational opportunities between Mount Etna and Isole Eolie (Aeolian Islands, Italy).

7. Also recommends the park, regional and national authorities work together with relevant funding and technical partners in order to enhance the visitor experience of the property. This should include improvements to the environmental education and ecotourism facilities in the property, and tourism facilities in the buffer zone and wider park area;

8. Encourages the State Party improve the integration of the property and its buffer zone into the wider landscape, to recognize and promote existing education, monitoring, research and training activities, and to improve the prospects for sustainable

development of the region, including through possible adoption of experience from the UNESCO Man and Biosphere Programme;

9. Recalling its decision 31 COM 8B.12 of 2007, reiterates that “there is increasingly limited potential for further inscriptions of volcanic sites on the World Heritage List”, and further requests IUCN to revisit and update its thematic study on “World Heritage Volcanoes”, with input from reviewers expert in volcanic sites, to clearly articulate a short and appropriately balanced list of the strongest remaining candidate volcanic sites with potential for inscription on the World Heritage List.

Map 1: Nominated property location in Sicily, Italy



Map 2: Nominated property and buffer zone

