

EUROPE / NORTH AMERICA

CHAINE DES PUYS - LIMAGNE FAULT TECTONIC ARENA

FRANCE



Aerial view looking towards Puy de Dôme © IUCN / Josephine Langley

WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

CHAINE DES PUYS - LIMAGNE FAULT TECTONIC ARENA (FRANCE)

ID N° 1434 Rev

IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE: To inscribe the property under natural criterion (viii).

Key paragraphs of Operational Guidelines:

Paragraph 77: Nominated property meets World Heritage criterion (viii).

Paragraph 78: Nominated property meets integrity, protection and management requirements with respect to criterion (viii).

Background note: The nominated property has been the subject of lengthy consideration by IUCN and the World Heritage Committee through a process of two referrals and extensive dialogue between IUCN and the State Party with procedural advice from the World Heritage Centre. The property was originally nominated as the “Tectono-volcanic ensemble of the Chaîne des Puys and Limagne Fault” under criteria (vii) and (viii) and considered by the World Heritage Committee at its 38th Session in Doha, Qatar, 2014. The Committee, through Decision 38 COM 8B.11, referred the nomination back to the State Party to specify more precisely the interaction of geological elements contributing to the proposed Outstanding Universal Value (OUV) and to provide additional information about the management of the site. The Committee also requested a “deepening of the dialogue” with respect to this nomination between the State Party and IUCN, with the support of the specialist earth science organisations. The Committee additionally requested that the State Party invite a mission to “implement the upstream process which is considered to assist in relation to complex proposed nominations”. An Independent Technical Mission (ITM) took place 4-8 October, 2015.

In response to decision 38 COM 8B.11, the State Party submitted a substantial complementary dossier with annexes at the end of January 2016 which was evaluated by IUCN and considered by the Committee at its 40th Session in Istanbul. The Committee, in Decision 40 COM 8B.13, noted that the ITM had confirmed the scientific value of the site. The Committee furthermore considered that the nominated property had the potential to meet criterion (viii) and again referred the nomination back to the State Party to resolve issues related to the exclusion of active quarries from the nominated area; improving awareness among stakeholders of regulations affecting the property; and strengthening regulation on private properties.

On 30 November 2017 the State Party submitted additional material responding to the Committee’s requests arising from Decision 40 COM 8B.13, and focused only on criterion (viii). Based on advice from the State Party, it was clarified that the resubmitted material replaced sections of the original nomination and provided updated maps and annexes. The material comprised a mixture of the originally submitted 2013 nomination adjusted for boundary and naming issues; a new Part 3 (justification for the inscription); amendments arising from the referrals (January 2016 and November 2017), and advice that pages 49 to 106 of the January 2016 dossier were no longer to be taken into consideration. In essence the evaluation hereunder relates to a dossier which is a hybrid between the originally submitted material and significantly changed parameters including a new name proposed for the nominated property; changed boundaries and surface area; changed criteria under which the property is nominated; a reframed description of the proposed OUV; and a new comparative analysis.

The Committee’s attention is drawn to IUCN’s previous evaluations of this nominated property in 2014 (WHC-14/38.COM/INF.8B2) and 2016 (WHC/16/40.COM/INF.8B2.Add) in order to avoid repeating information.

1. DOCUMENTATION

a) Date nomination received by IUCN: Original nomination received on 20 March 2013. Complementary information subsequent to Decision 38 COM 8B.11 was received on 02 February 2016 with IUCN noting at the time the large volume of information submitted (685 pages), unprecedented within the framework of a referral. Complementary information subsequent to Decision 40 COM 8B.13 was submitted to the World Heritage Centre on 30 November 2017.

b) Additional information officially requested from and provided by the State Party: Exceptionally, in the framework of a referral, the State Party informally submitted information on 30 November 2017, via the World Heritage Centre, and ahead of IUCN’s Panel meeting from 4-8 December, 2017. This provided an opportunity for the IUCN Panel to review the material prior to its submission in accordance with the statutory deadlines. On 16 January 2018 IUCN provided an interim report to the State Party, again noting the exceptional nature of this given the nominated property’s two previous referrals. IUCN noted the significant changes to the nomination as outlined

above and advised its intention to seek wider external expert reviews to assess the fundamentally amended expression and case made for the proposed OUV and supported by a new comparative analysis. IUCN also requested additional information concerning the rationale for the proposed change of name for the property; advice on the documentation constituting the nomination as resubmitted; clarification of the methodology used to conduct the new comparative analysis; confirmation that all attributes under criterion (viii) were included within the redrawn boundaries for the nominated property; a request to provide higher resolution maps to indicate the changes to the property's configuration and the resulting revised areas; and clarification of anomalies in the information regarding the extent of the "site classé" level of protection for the property.

c) Additional literature consulted: An extensive list of references was reviewed and documented during the evaluation of both the original 2013 nomination and second 2016 evaluation of the referral material.

d) Consultations: Previous evaluations have taken into consideration a total of 19 desk reviews. 12 additional reviews of the resubmitted nomination were obtained to ensure a solid review base. These included a range of reviewers who had previously reviewed the property as previously nominated, and a larger number who had never previously considered the nominated property.

e) Field Visit: Original field mission undertaken by Josephine Langley and Thomas Casadevall, 15-21 September 2013.

f) Date of IUCN approval of this report: April 2018

2. SUMMARY OF NATURAL VALUES

Whilst the boundaries of the nominated property have been slightly redrawn to exclude two quarries (discussed further in Section 4.2 below), the Chaîne des Puys - Limagne fault tectonic arena is advanced with virtually the same area as previously nominated. The overall nominated area of 24,223 ha has been reduced by c. 27 ha. This change in area relates to the exclusion of the two quarries with these areas now being included in a new, slightly enlarged, buffer zone for the overall property of some 16,307 ha.

The nominated property has been described in previous evaluations and will not be repeated in any detail here. The attributes of the site advanced in support of criterion (viii) are: the Plateau des Dômes, remnant of the ancient Hercynian mountain chain; the 30-km-long Limagne fault escarpment as the expression of continental break-up, subsidence and sedimentation which took place between 37 and 25 Ma (million years ago); and the inverted relief of the Montagne de la Serre, an important expression of the uplift phase. These elements have been re-interpreted in the new information to present a different approach to the site's claimed Outstanding Universal Value (OUV); in the words of the nomination, to "attain a

better definition of the potential outstanding universal value, as acknowledged by the World Heritage Committee in its decision 40 COM 8B.13." The resubmitted property is nominated under criterion (viii) only, as criterion (vii) has been withdrawn from further consideration. IUCN supports the removal of this criterion from the nomination, as it is clearly not met. Following the Committee's 2016 referral decision, IUCN has undertaken dialogue with the State Party to clarify the basis of previously unfavourable evaluations, including issues related to a confused foundation for OUV in the nomination, perceived weaknesses in the previous comparative analysis methodology and the divergent views clearly evident within the scientific community on the global significance of the nominated property. Whilst not prejudging the case for OUV, IUCN provided advice on the principle considerations which the State Party needed to account for in reframing the case for OUV. Lastly, advice was provided on issues related to choice of criteria, criterion-specific integrity, and aspects of protection and management.

Concerning criterion (viii), a significantly revised approach and re-interpretation of the value attributes has been taken compared to the two earlier nominations. In the past the emphasis was on understanding the relative value of each of the geomorphological features of the rifting instead of the whole process itself. Previous nominations also overstated the significance of the volcanic aspects of the site. With this resubmission the State Party has clarified and integrated the claimed OUV of the property to move beyond a collection of geological features to a cohesive story of how these elements together express the continental break-up process. At its simplest, the nomination considers that the globally significant value of the Chaîne des Puys - Limagne fault tectonic arena lay in its presentation of a "complete sequence of the processes that give rise to continental break-up".

A more logical context has also been developed by the State Party to position the nominated property within the complete plate tectonics cycle as defined by Wilson, including a positioning of the nomination under Theme 1 of the 2005 IUCN Geological Framework for Geological World Heritage ("Tectonic and structural features"). To that end, a simpler, clearly expressed and more plausible case has been made that the limited number and large scale of global rift systems makes it challenging to encapsulate in one site all of the key elements that contribute to understanding this multi-dimensional process. On the basis that most global rift systems are many thousands of kilometres long, the nomination contends that it is therefore necessary to identify exemplary sections of very large rifting systems that best tell this planetary-scale and continuous story. The State Party has formally advised of a name change for the nominated property to better reflect its core value as an exemplary arena of activity demonstrating continental break-up, noting a site with a similar naming in Switzerland. The tectono-volcanic assemblage including the long Limagne fault, the scenic alignment of the Chaîne des Puys volcanoes, and the inverted relief of the Montagne de la Serre

together demonstrate how the continental crust cracks, then collapses, allowing deep magma to rise, causing widespread uplift at the Earth's surface.

3. COMPARISONS WITH OTHER AREAS

The nomination includes a completely new comparative analysis predicated on the reformulated case for OUV as outlined above. The comparative analysis is modelled on that used in the nominations of the Stevns Klint (Denmark) and Swiss Tectonic Arena Sardona (Switzerland) World Heritage sites and is presented in a clear and logical manner. It reviews sites on the basis of a set of assessment prerequisites. A selection of sites is then subject to ranking against a set of indicators. The rankings are subject to peer review and finally to an in-depth comparison. The nomination dossier notes there are 10 major continental rift systems visible on the Earth's surface. From this, and based on a logic that smaller representative segments of larger rift systems is the only feasible option, the comparative analysis examines 13 pre-selected sites from different global rift systems. The analysis examines the process of continental rifting in its entirety and is not restricted to the most common geomorphological expressions (escarpments and grabens). Volcanic and uplift features, as inherent parts of the continental break-up process, are considered important associated features alongside tectonic structures. Special attention is also paid to the connectivity, diversity and clarity of expression of related features. Representative segments of the following major rift systems have been selected for comparison: Rio Grande rift (USA); Basin and Range Province (USA); Central American rift (Nicaragua); Dead Sea rift (Israel, Lebanon, Syria); Baikal rift (Russia); Western European rift (3 rifts segments in Czech Republic, Germany and the nominated property in France); and the East African rift (5 rift segments in Malawi, DR Congo, Rwanda, Kenya, Ethiopia and Eritrea).

The comparative analysis uses a series of assessment indicators covering five dimensions: 1) faulting and subsidence; 2) magmatism; 3) uplift; 4) connectivity and 5) science. A scoring system is then employed to assess the 13 pre-selected sites. On the basis of this, the Chaîne des Puys - Limagne fault tectonic arena is ranked as the highest regarding the cumulative indicator values. The methodology of the comparative analysis also uses a peer review system. The State Party, in supplementary information, has clarified that the group of site level experts did not review the indicator values assigned to all other sites but did review and agree with the overall findings including the conclusion that the nominated property ranked as the top site in terms of the assessment criteria selected. IUCN notes that several of these indicators still pertain to the educative value of the site and thus favour places where the features relating to continental rifting are accessible and expressed in relatively close proximity.

IUCN was concerned in previous evaluations about the choice of assessment indicators which related to accessibility, exposure, compactness and educative value. Whilst valid measures of importance, these are not primary indicators of OUV. In this case, there are still some debatable indicators relating to proximity of features and value to science. It is also clear, from the now quite large number of expert reviewers who have commented upon this nomination, that opinions remain polarized within the specialist community. Unusually divergent views continue to be expressed with some reviewers wholly supportive of the site's proposed OUV and others who do not consider the arguments are convincing. Different opinions were also expressed within the IUCN Panel process on the approach taken of selecting concentrated segments of larger rifting systems as a basis for OUV. This again relates to the focus of value being on educational merit versus those places with inherently outstanding value albeit challenging to experience in one place.

In light of the above, IUCN carefully assessed all reviews expressed in earlier evaluations and through the ITM, and has also sought a further range of reviews from both previous and new reviewers. The majority of reviews received was in favour of recognising the global significance of this property, when viewed through the reformulated lens of OUV which has been proposed within this revised nomination. Some experts had changed their previous opinion, being now more convinced by the arguments put forward in the revised nomination and backed by the new peer-reviewed comparative analysis. Finally IUCN notes, as confirmed by the State Party, that all experts involved in the new comparative analysis verified and agreed to the findings as a whole which placed the Chaîne des Puys - Limagne fault tectonic arena at the top of this list of 13 sites. Thus, whilst a notable weight of opinion continues to express doubt about the foundation of the nomination, the revised approach now attracts a majority of support for inscription on the World Heritage List.

Nonetheless, in IUCN's view, it is evident that there are other candidate sites which would warrant strong consideration for nomination using the same arguments as put forward for the Chaîne des Puys - Limagne fault tectonic arena. The State Party itself acknowledges this in the latest nomination material noting firstly that the nominated property is the first site nominated primarily for its values related to continental separation, notwithstanding several other properties on the World Heritage list also possess significant rift systems. Secondly, the State Party recognises that more than one site would be needed to fully represent the variety of (rifting) expressions, and their comparative analysis helps to identify some of the major candidates that could be considered as universal expressions of divergent tectonics.

IUCN analysis and inputs from reviewers point to a number of sites with high potential for further examination in relation to World Heritage potential, for example within the East African rift and in Thingvellir

National Park, a listed World Heritage site under cultural criteria, which is on the Tentative list of Iceland for possible renomination under natural criteria, which exhibits a rare terrestrial expression of the largely submerged, largest rifting system on Earth: the Mid Atlantic Ridge.

In conclusion IUCN considers that, while there are other more spectacular individual expressions of continental break-up such as sites in the imposing East African Rift Valley, the nominated property does substantiate a distinctive claim in relation to the completeness of the record, diversity and concentration of features which illustrate the overall continental break-up process and, thus, may be considered to fill a gap on the World Heritage List with regard to the theme of continental rifting.

4. INTEGRITY, PROTECTION AND MANAGEMENT

A critical change with regard to integrity, protection and management concerns the withdrawal of criterion (vii) from this nomination. This changes the focus of these issues as they now relate to the protection of the site's geological values rather than questions of naturalness and aesthetics, which clearly are not at the level appropriate for a natural World Heritage Site. In addition, the property is now nominated with revised boundaries, which remove the two active pouzzolane quarries (according to the nomination less than 0.1 % of the nominated property).

4.1. Protection

As IUCN noted in its 2014 and 2016 evaluations, the nominated property is located within Auvergne Volcanoes Regional Natural Park (PNRVA), established in 1977 and considered an IUCN category V Protected Landscape. The nominated property is subject to various State, Regional, Departmental and communal laws and regulations which govern the environment, urban development, quarries, tourism, natural resource management (forestry, water, soils) and agriculture. A range of regulations, explained in the nomination, are designed to ensure the balance between the needs of populations and the protection of the environment, preservation of areas allocated to agricultural and forestry activities, and the protection of important geological sites. The State Party has provided additional information with regard to the Mountains Act (Loi de Montagne) and the Quarries Plan (Schéma de carrières), which regulate new construction and prevents the opening of new quarries.

The nominated property is also covered by a range of legal land tenures including privately owned land (individuals or private companies), public land (State, Region, Municipality, or Commune) and commons. The complementary dossier provides additional information in response to the Committee decision 40 COM 8B.13 concerning: a) reinforcing the tools allowing local stakeholders to better understand the different regulations applying to the nominated property and its buffer zone, and b) strengthening the implementation of existing regulations on private

properties. This includes information tools, training for outdoor guides, enhanced control/ranger services as well as projects to develop management tools for private lands. These mechanisms assist in managing and minimizing impacts but the system is highly complex and stakeholders will continue to be challenged to understand the different regulations in different areas of one single World Heritage property, should it be inscribed.

The State Party has clarified previously confusing figures regarding the percentage of the site covered by "site classé" and "site inscrit" protection status. 66.3 % of the nominated property is designated as "inscribed site" or "classified site" under French law. IUCN considers the "classified site" level of protection as equivalent to IUCN Category III (Natural Monument). Whilst the nomination claims that "the nominated property is protected under the strongest level of protection for natural sites in France", at least three other levels are understood to offer higher levels of protection for natural sites, namely the "Réserve naturelle", "Réserve intégrale" and "Parc National". However, for a site under criterion (viii), taking into account various protection levels and laws in place, this level of protection seems adequate. That said, IUCN also notes that one of the key areas of the nominated property, the inverted relief of the Montagne de la Serre, falls outside the "site classé/inscrit" designation. It is considered important to bring this area also into line with the "site classé" level of protection.

IUCN previously raised concerns about the timeframes of protection. It is understood that Natural Regional Parks in France are established upon a national decree based on agreement between regional governments and the local communities for a maximum period of 12-15 years (Loi pour la reconquête de la biodiversité - Article 53, Parks Charter). This is not ideal however, given the long existence of Auvergne Volcanoes Regional Natural Park and the strong support for the protection and management of the site by local/regional stakeholders, IUCN considers this constitutes an acceptable, stable long-term protection regime for a property inscribed under criterion (viii) for its tectonic and landscape scale geological values. Such values are likely to be more resilient to land use impacts than a site inscribed under criterion (vii) for natural beauty and landscape aesthetics which, as IUCN previously concluded, were severely compromised.

IUCN considers the protection status meets the requirements of the Operational Guidelines.

4.2 Boundaries

IUCN in its previous evaluations raised concerns about the unusual configuration of the boundaries including the inclusion of heavily modified landscapes which significantly challenged the concept of naturalness and were problematic, in particular to arguments advanced in relation to criterion (vii) and landscape aesthetics. The withdrawal of criterion (vii) from the current nomination has moderated these concerns. The State

Party, in its supplementary information, has confirmed that all of the attributes necessary to portray the proposed OUV under criterion (viii) are inside the property and the majority of review information received during IUCN's evaluation confirms this appears to be the case.

The additional information provided detail on how the management authority is working to allow land owners and other stakeholders to better identify the boundaries on the ground in what is a complex land tenure situation, for example with the aid of information available in an online portal supported by geographical information systems.

Supplementary information also confirms that the nominated property's revised boundaries remove the two active pouzzolane quarries from the nominated area and are now located within small internal buffer zones. It is worth noting that if the State Party wishes to include these areas back into the property at a later stage (after activity has ceased and the quarries have been rehabilitated), this will need to follow the procedures outlined in Paragraphs 163-165 of the Operational Guidelines concerning boundary modifications.

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

4.3 Management

IUCN in its previous evaluations has detailed the somewhat complex management and governance systems which apply to this landscape and the people living in and around it. Whilst recognizing that the complex management arrangements across different land tenures and levels of protection are appropriate for a multi-use protected landscape, the evaluation concluded that these were not adequate for a World Heritage property inscribed under natural criteria [especially criterion (vii)] and that this did not fully meet the requirements of the Operational Guidelines.

The State Party has provided additional information with respect to improved implementation of regulations on private properties which include: specialised training for guides; enhanced presence of park rangers; contractual agreements with private landowners; integration of private landowners into a unifying association; as well as reinforced management agreements between the State, the department and the Regional Natural Park.

IUCN notes that the timeframe of the management plan extends to a 5 year period (2015-2020) and is linked to a series of contracted actions which will end in 2020. An update of the management plan will be needed shortly to ensure clear plans beyond 2020.

Additional information has also been forthcoming on resourcing for the nominated property. Staffing levels have remained the same as noted in the 2016 evaluation, however, over a five year period, a total of nearly EUR 18 million will be invested in the property

(personnel, running costs and investment). An additional EUR 46.5 million are provided by the Departmental Council and EUR 700,000 sponsored by companies. These levels of support are reassuring and appear adequate to manage a site of this extent and complexity and proposed under criterion (viii).

IUCN considers that the management of the nominated property meets the requirements of the Operational Guidelines.

4.4 Community

IUCN in past evaluations noted a largely positive situation regarding the strong and successful efforts to engage local communities and a range of diverse stakeholders to collectively support the conservation of the nominated property. This culture of stewardship appears to still be very strong for the site and augurs well for the future. The State Party has reasserted that local communities covering the site have adopted a series of complementary protective measures across the nominated property. This reinforces the nature of the participatory governance and management arrangements that are in place across this landscape. IUCN has not undertaken any field mission since the original nomination, and so is not in a position to advise on the current status regarding community attitudes to the nomination, but has not received any objections to the listing.

4.5 Threats

The 2014 evaluation noted a number of threats to the nominated property and additional information provided at that time detailed threats, externalities, impacts on scientific and educational values and management responses. IUCN notes that threats to values in relation to criterion (viii) continue to be of some concern for the long-term preservation of the nominated property. These relate to quarries, urbanization, erosion/tourism and afforestation potentially masking geological features. A similar list of threats has been reiterated via the State Party's response to the supplementary information request.

In past evaluations, IUCN concerns arose around the issue of quarries within the nominated property. This represented a fundamental issue of incompatibility between the objectives of World Heritage and extractive industry within a nominated property. When located inside the property, the operation of active pouzzolane quarries seemed particularly incompatible with the proposed OUV particularly with regard to criterion (vii). Additional information has now confirmed that no new quarries will be permitted and that the permits for the two active quarries, now located in enclaves in the buffer zone of the nominated property, will cease in 2018 and 2030 respectively and will not be renewed. The exclusion of the still active quarries from the nominated property can be accepted provided that the State Party ensures that the quarrying operations are conducted at the highest technical and

ecological standard to safeguard the values the nominated property. Furthermore, after closure of the quarries, clear rehabilitation plans need to be developed and implemented.

IUCN reiterates its assessment of 2014 that the landscape within the nominated property has been subject to a long history of human use and exhibits a number of impacts which are the legacy of that use. Whilst many of these impacts were critical with regards to the evaluation under criterion (vii), IUCN notes that for a property nominated under criterion (viii) the key geological features are massive elements within the landscape and less prone to these impacts, although many past impacts are indeed noted in past evaluation reports. The future management of the quarries likely remains the most significant threat to these areas although this affects only a very small part of the nominated property. Another potential threat that requires careful monitoring and considered action is the ongoing management of high visitor numbers with the potential for erosion. Similar challenges exist with the management of forest cover on geological features to balance exposure with erosion protection. On visitor management, the additional information informed of new training opportunities for tour guides regarding private properties, an online-reservation system for school visits, as well as enhanced presence of park rangers.

In conclusion, IUCN considers that the management arrangements across different land tenures and levels of protection are appropriate for the protection of the values recognized in the revised nomination, and can be accepted as meeting the requirements of the Operational Guidelines.

5. ADDITIONAL COMMENTS

5.1 Use of the referral mechanism

IUCN is deeply concerned about the manner in which the referral process has been used (and essentially misused) in the case of this nomination. The evaluation of this nomination has been lengthy, spanning five years and involving a disproportionate level of human and financial resources. IUCN has documented some 16 meetings and exchanges with the State Party and the World Heritage Centre between the 2014 referral, and then a further 11 meetings and exchanges between the 2016 referral decision and this resubmitted nomination. The property has been referred twice and both times generated substantial changes requiring additional evaluation effort well beyond the scope of a normal referral. In 2016, some 685 pages of documentation were submitted with limited time available to evaluate this documentation. Following the 2016 referral decision, the property has been renominated with a new name, changed boundaries, changed criteria, a reframed case for OUV and a new comparative analysis. Over the course of an evaluation process spanning five years, only one evaluation field mission has been able to be undertaken.

IUCN wishes to draw these concerns to the Committee's attention, and suggests the Committee should refrain in the future using the referral mechanism to address fundamental issues within a nomination which requires significant work to bring it back to the Committee. In such cases a deferral is the more appropriate and constructive mechanism to engender dialogue between the State Party and Advisory Bodies. IUCN considers that in this case the misuse of the referral mechanism has also worked against the nomination, effectively forcing an upstream process to take place within the severe limitations of a referral framework, and resulting in repeated referrals and considerable discomfort to all the actors involved in the process.

IUCN also draws to the Committee's attention the intensive nature of this exercise which has diverted resources away from other more compelling priorities in line with the strategy towards a credible balanced World Heritage List, notably the support available for States that are currently little represented on the World Heritage List. IUCN notes furthermore that the resourcing of the type of dialogue engaged in is only feasible for well-resourced countries, which are typically also amongst the most-represented countries on the World Heritage List. Thus it creates an additional issue that acts against the goal of achieving a balanced and representative World Heritage List, with equality of access for all States Parties.

IUCN notes that the most similar case to the nominated property, the Swiss Tectonic Arena Sardona, was originally submitted and recommended to not be inscribed. The State Party of Switzerland, in that case, withdrew the nomination and undertook a substantial revision that was then positively evaluated as a new nomination. Such a course of action was open to the State Party and the Committee in the case of the present nomination and in the view of IUCN would have served the interests of the credibility of the Convention, instead of the improvised and resource-consuming process that has been followed.

5.2 Assessment of OUV for nominations with divergent expert opinion

IUCN notes that despite the improvements made to this nomination, the intense dialogue and the deepened scientific review, it remains a proposal where there are greatly divergent, and to some extent polarized opinions, amongst the relevant expert and scientific community. This is despite a range of activities that have been organized by the proposers of the nomination, across a number of years, to seek specific support for it. The IUCN Panel, which aims to work by consensus wherever possible, also hosts strongly differing views on the merits of the nomination, and with the eventual recommendation to the Committee to inscribe the nominated property taken by a slim majority of Panel members, and a minority view for non-inscription. In IUCN's experience, and also considering the past consideration of the nomination, this level of divergence is rare and concerning with regard to the standards of unquestioned universal value which the World

Heritage List aspires to. In this case, it appears to IUCN that the inscription, if accepted by the World Heritage Committee, would represent a basis for establishing the lowest point of interest with respect to the justification of the criteria that define Outstanding Universal Value.

6. APPLICATION OF CRITERIA

Chaîne des Puys - Limagne fault tectonic arena has been nominated under natural criteria (viii). Previous evaluations have concluded the nominated property does not meet criterion (vii), and that criterion has been withdrawn from further consideration.

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

Continental drift, manifested through plate tectonics, is an essential paradigm for the history of the Earth as it explains the current make-up of oceans and continents and their past and future movements. The nominated property is an exceptional illustration of the phenomenon of continental break-up, or rifting, which is one of the five major stages of plate tectonics. The Chaîne des Puys - Limagne fault tectonic arena presents a coincident view of all the representative processes of continental break-up and reveals their intrinsic links. The geological formations of the property, and their specific layout, illustrate with clarity this planet-wide process and its effects on a large and small scale on the landscape. This concentration has a demonstrated global significance in terms of its completeness, density and expression and has contributed to the site's prominence since the 18th century for the study of classical geological processes.

IUCN considers that the nominated property meets this criterion.

7. RECOMMENDATIONS

The World Heritage Committee,

1. Having examined Documents WHC/18/42.COM/8B.ADD and WHC/18/42.COM/INF.8B2.ADD;
2. Recalling decisions 38 COM 8B.11 and 40 COM 8B.13;
3. Inscribes the **Chaîne des Puys - Limagne fault tectonic arena (France)** on the World Heritage List under natural criterion (viii);
4. Adopts the following Statement of Outstanding Universal Value:

Brief synthesis

The Chaîne des Puys - Limagne fault tectonic arena, situated in the Auvergne-Rhône-Alpes Region in the centre of France, is an emblematic segment of the West European Rift, created in the aftermath of the formation of the Alps 35 million years ago. The property comprises 24,223 ha with a 16,307 ha buffer

zone configured to provide strategic protection in key areas. The boundaries of the nominated property were drawn up to include geological features and landscapes which characterise the tectono-volcanic assemblage and include the long Limagne fault, the scenic alignment of the Chaîne des Puys volcanoes, and the inverted relief of the Montagne de la Serre. Together these demonstrate how the continental crust cracks, then collapses, allowing deep magma to rise, causing widespread uplift at the surface.

The property is an exceptional illustration of the processes and characteristic features of continental break-up, a fundamental phenomenon in the Earth's history. It is globally significant in terms of its completeness, density and clarity of topographic expression, providing distinctive evidence of the genetic and chronological links between the rifting features. Densely grouped and clearly interconnected, these features provide focused access to a planetary scale geological phenomenon and its overall understanding.

Criteria

Criterion (viii)

Continental drift, manifested through plate tectonics, is an essential paradigm for the history of the Earth as it explains the current make-up of oceans and continents and their past and future movements. The property is an exceptional illustration of the phenomenon of continental break-up, or rifting, which is one of the five major stages of plate tectonics. The Chaîne des Puys - Limagne fault tectonic arena presents a coincident view of all the representative processes of continental break-up and reveals their intrinsic links. The geological formations of the property, and their specific layout, illustrate with clarity this planet-wide process and its effects on a large and small scale on the landscape. This concentration has a demonstrated global significance in terms of its completeness, density and expression and has contributed to the site's prominence since the 18th century for the study of classical geological processes.

Integrity

Due to its size, continental break-up creates rift systems several thousands of kilometres long. The property's boundary incorporates all the elements necessary for a full presentation of this process. All the most impressive and best preserved examples are included in relatively close proximity.

The property includes the most impressive section of the fault, which forms a marked border between the flattened continental basement and the wide adjoining graben. It also contains a young volcanic field, relatively unaffected by erosion, exhibiting the complete spectrum of typical magmas in rift zones. Lastly, the long lava flow of the Montagne de la Serre, from an earlier phase of volcanism, straddles the basement and the sedimentary basin, which it overlooks. This inverted topography is a characteristic indicator of the wide-spread uplift which affects rift zones.

The landscape setting for the property's geological attributes has a long history of conservation measures; it is sparsely inhabited, with the main population being concentrated on the adjacent Limagne Plain. The geological features encompassed by the property's boundary are fundamentally intact: they are preserved from urbanisation; the erosion is very superficial and has not altered the structures; and past quarrying activity has affected only a minor part of the property. Overall, human impact remains limited and does not compromise the geological value of the Chaîne des Puys - Limagne fault tectonic arena concerning the integrity of the property in relation to criterion (viii).

Protection and Management requirements

The property has been subject to management and preservation measures for nearly one hundred years, under the impetus of local actors and supported by the State. Critical to protecting the property's Outstanding Universal Value is preventing any degradation to the geological features and maintaining, even accentuating, their visibility in the landscape. The main potential threats are thus the quarries, urbanisation, encroachment of forest masking the geological features, and erosion of soils linked to human action. All of these threats are managed via a combination of regulatory measures, an integrated management plan, and the availability of dedicated human and financial means.

The property is part of the Auvergne Volcanos Regional Natural Park (IUCN Cat.V protected area) which provides a management framework legally subject to review and renewal every 12 years. The property is subject to strong national legislature which applies to both public and private land and prohibits in particular the opening of any new quarries, mandates State authorization for any changes to the site, and prohibits or strictly limits construction. In addition there are local regulations which reinforce and add greater precision to these environmental, landscape and urban

protection measures. Continued efforts should be directed toward engaging with private landholders to raise awareness, ensure compliance with regulations and incentivize good stewardship practice.

Proactive management measures are also applied to the property through a tailored management plan which is focused towards the preservation of the geological features and their clarity of outline, management of visitor numbers, enabling traditional local activities, and interpreting the property's Outstanding Universal Value to the public.

Care is needed to manage the balance between forest cover and pasture when seeking to optimize the exposure of the property's geological features. It is important to ensure the property is protected against erosion and visitor impact.

5. Requests the State Party to:

- a) continue its efforts to strengthen engagement with private landholders to raise awareness, ensure compliance with regulations and incentivize good stewardship practice, in particular to secure formal agreements with the Department of the Puy-de-Dôme and the Auvergne Volcanoes Natural Park to ensure enforcement;
- b) adhere to the proposed schedule for closure of the two active pouzzolane quarries which were formerly inside the nominated area, ensure quarrying operations are conducted at the highest technical and ecological standard to safeguard the Outstanding Universal Value of the property and furthermore to develop and implement clear rehabilitation plans and submit these plans to the World Heritage Centre and IUCN for review;
- c) strengthen the level of protection applying to the Montagne de Serre area of the property.

Map 1: Nominated area and buffer zone

