

REPORT IUCN ADVISORY MISSION

West Norwegian Fjords - Geirangerfjord and Nærøyfjord (Norway)

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Table of Content

1. Background and purpose of the mission.....	5
2. The attributes of the OUV	6
3. Management plan	7
4. Impacts of infrastructure development projects	9
4.1. <i>Spatial planning projects with ongoing EIA processes</i>	<i>10</i>
4.1.1 Aqua-culture facility and associated infrastructure.....	10
4.1.2 Holmen Mine and Gudvangen Cargo terminal	12
4.2. <i>Projects in planning.....</i>	<i>16</i>
4.2.1 Geohazard prevention in Åkerneset.....	16
4.2.2 Underground parking in Geiranger	17
4.2.3 Road and tunnel in Flydalen-Dalsnibba area	17
4.2.4 Visitor center in Aurlandsvangen.....	17
4.2.5 Deepening of the fjord for boat route.....	18
4.2.6 Hotel extension in Flåm	18
4.2.7 Cable car in Flåm.....	18
4.3. <i>Cumulative impacts.....</i>	<i>20</i>
5. Other issues observed during the mission	21
5.1 <i>Visitor management.....</i>	<i>21</i>
5.2 <i>Wider setting and buffer zone.....</i>	<i>21</i>
6. The State of Conservation	23
7. Conclusions and recommendations	24
ANNEX I Terms of Reference.....	26
ANNEX II Programme of the mission as implemented	27
ANNEX III List of people met	31
ANNEX IV Statement of Outstanding Universal value (SOUV)	34
ANNEX V Maps	36
ANNEX VI Photos	38

Abbreviations

EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
HIA	Heritage Impact Assessment
IUCN	International Union for Conservation of Nature
OUV	Outstanding Universal Value
SEA	Strategic Environmental Assessment
SOUV	Statement of Outstanding Universal Value
ToR	Terms of Reference for the mission
UNESCO	United Nations Educational, Scientific and Cultural Organization

1. Background and purpose of the mission

The West Norwegian Fjords - Geirangerfjord and Nærøfjord (hereinafter the property) was inscribed on the World Heritage List in 2005 under criteria (vii) and (viii). A retrospective Statement of Outstanding Universal Value (SOUV) was adopted by the World Heritage Committee in 2014 (Annex IV)¹. Information on the property is available at the following link: <https://whc.unesco.org/en/list/1195>.

In December 2021, the State Party of Norway sent a letter to the UNESCO World Heritage Centre requesting an IUCN Advisory Mission to seek guidance on planning activities regarding various major development projects that are under consideration within and in the vicinity of the property, which may potentially have an impact on the OUV, as well as the revision of the management plan for the property, and interpretation of the attributes of OUV. The Advisory mission visited the property from 29 June to 1 July 2022, represented by Ms. Susanna Lindeman. This was the first IUCN mission to the property since its inscription in 2005. In the same letter, the State Party also requested early advice on the development of a land-based aquaculture facility and associated infrastructure within and in the immediate vicinity of the property. In response, IUCN completed a short technical review with recommendations, which was transmitted to the State Party by the World Heritage Centre in May 2022.

The purpose of the Advisory mission is to provide technical advice according to the Terms of Reference (ToR) agreed upon between the State Party of Norway and IUCN (Annex I), which are summarized below and addressed in the report as follows:

- Provide advice on how to understand the attributes of the property's SOUV with regard to criteria (vii) and (viii), as well as the integrity, and protection and management (see Chapter 2).
- Review the current management plan and make recommendations on any improvements to be considered in the revised plan (see Chapter 3).
- In relation to the assessment of potential impacts of development projects on the OUV of the property (see Chapter 4):
 - Give advice regarding the IUCN World Heritage Advice Note on Environmental Assessment and new Guidance and Toolkit for Impact Assessment in a World Heritage Context, including specifically, how to assess overall impact and cumulative effects.
 - Give supplementary advice regarding specific spatial planning projects (land-based aquaculture facility, land fill in Holmen mine, etc).
 - Give advice on issues in relation to the present and future underground mining operations.
- Share, if any, relevant management examples from other World Heritage properties (see Chapter 3).
- Give advice on any other relevant issue observed during the mission (see Chapter 5).

¹ World Heritage Committee (2014). Decision 38 COM 8E. Adoption of Retrospective Statements of Outstanding Universal Value - West Norwegian Fjords – Geirangerfjord and Nærøfjord.

2. The attributes of the OUV

The mission was requested to provide advice on how to understand the attributes of the property's SOUV with regard to criteria (vii) and (viii). During the mission, the State Party informed that the development of a list of attributes conveying the OUV has been initiated but remains to be finalised. The identification of attributes allows managers and decision makers to ensure effective planning and decision-making for the long-term protection, management and monitoring of the OUV. For example, detailed knowledge and understanding of the attributes are needed for the assessment of planning applications and the planning of projects or other interventions within the property or in its wider setting. Additionally, the mission would like to emphasise that the identification of the attributes makes the OUV more tangible and consequently more understandable for local stakeholders.

The SOUV is the main source for the identification of attributes. Other documents such as the nomination file² and the IUCN Evaluation report³ can be used as secondary sources. Furthermore, new scientific information, such as landscape analysis, geological surveys and inventories of species and habitats are useful sources to further elaborate the broader information provided in the SOUV, which does not convey a complete and detailed list of the attributes. Additionally, since the fjord is an essential part of the property, both the land and seascapes should be included in the attribute analysis. To facilitate the finalisation of a list of attributes, the mission has highlighted several key words in the SOUV that would inform an attribute analysis (Annex IV).

Regarding the interdependency between criteria (vii) and (viii), it is clear that the geological aspects (criterion (viii)) are the foundation for the scenic value (criterion (vii)), a relationship setting the framework for the attribute analysis. Therefore, the same attribute can convey the OUV for both criteria. Species, habitats and some cultural aspects contribute to the scenic value and are potential attributes connected to criterion (vii). Natural attributes are especially important for the integrity and protection of the property. For example, could population and distribution changes for species sensitive to disturbance and/or climate change be indicators for management efficiency or the carrying capacity of a nature trail. Additionally, the attribute analysis should recognize the strong connection between the integrity of the scenic value (criterion (vii)) and the intactness of the natural land- and seascape. In essence this connection is: higher intactness equals a higher scenic value. Consequently, factors such as pollution, extractive activities, land exploitations and disturbance of wildlife have a negative impact on the scenic value.

The mission recommends that the list of attributes and their geographical location are identified and whenever possible quantified, and that this is used to inform the revision of the management plan (see Chapter 3) and facilitate the various impact assessment processes related to proposed development projects (Chapter 4). The use of technical tools, e.g. developing GIS maps of attributes would further facilitate the monitoring and successful long-term protection of the OUV. In this regard, the mission notes that the Geological Survey of Sweden⁴ recently undertook a qualitative and quantitative assessment of geological attributes of the OUV in the Swedish part of the High Coast / Kvarken Archipelago.

The mission was informed of an ongoing project called “Twin Fjord” led by the Norwegian University of Science and Technology, which aims to produce an interactive 3D model of the property. The use of a 3D-model for the distribution of the attributes within the property could potentially be an excellent tool for an adaptive management approach and serve as a best-practice example for other World Heritage properties.

² Ministry of the Environment of Norway (2004). Nomination “West Norwegian Fjords – Geirangerfjord and Nærøyfjord” for inscription on the UNESCO World Cultural and Natural Heritage List.

³ IUCN (2005). World Heritage Nomination – IUCN Technical Evaluation: West Norwegian Fjords – Geirangerfjord and Nærøyfjord.

⁴ SGU (2021). Available at: <https://highcoastkvarken.org/wp-content/uploads/SGU-rapport-2039-Forvaltning-och-klassificering-av-geologiska-naturvarden-i-varldsarvsomradet-Hoga-kusten.pdf>.

3. Management plan

The State Party advised that a revision of the current management plan for the property is being undertaken in 2022 and requested the mission to review the current plan and make recommendations on any improvements to be considered in the development of the new plan.

The management framework for the property includes many actors. On a national level, it is the Ministry of Climate and Environment, the Directorate for Cultural Heritage and the Norwegian Environment Agency that are responsible for the implementation of the World Heritage Convention. Since the property is inscribed for natural criteria, the Norwegian Environment Agency has a central role in providing guidance to the regional and local management. On a regional level, it is the County Governor and the County council in Møre and Romsdal (the Geiranger component) and the County Governor and the County council in Vestland (the Nærøyfjord component) who are the central actors. The County Governors are responsible for the overall implementation of national policy and decisions. Each county has a protected area council and protected area managers employed by the County Governor, who are responsible for the management plan of the property. The two County councils are responsible for the regional management and development, and within the World Heritage context especially cultural heritage. On a local level, it is the municipalities of Vik, Voss, Aurland, Lærdal, Fjord and Stranda that are responsible for the overall management and development. Additionally, the property has a local World Heritage Council, which aims to facilitate the cooperation between the two Geirangerfjord and Nærøyfjord components as well as promote issues of importance for the property. This advisory Council consists of members from the County Governors, the County councils and the municipalities, as well as several observers from both national authorities and local stakeholders. Each component has a World Heritage site coordinator, and they function as a secretariat for the World Heritage Council. The coordinators are not responsible for the management, but they serve as a link between the local, regional and national level, and have a special task to monitor the status of the property. Both the coordinators and the World Heritage Council are funded by the Norwegian Environment Agency.

Currently the property has two management plans that were adopted in 2008, one for the Geirangerfjord component and one for the Nærøyfjord component. Around 96% of the property is comprised of nature conservation areas, and the protected area managers (from each component) are coordinating the revision of the management plan with stakeholders and local communities, including the World Heritage Council and the two World Heritage site coordinators. A joint management plan for the two components has so far not been completed. The mission noted that the revision of the management plans was initiated separately in each component in 2020-21, and has proceeded independently and with different timeframes, which reflects a relatively limited level of cooperation between the components, echoing the organization of the current management system described above. The rather separate management approach of the two components is also reflected in the fact that there are separate webpages: <https://www.fjordsenter.com> (Geiranger) and <https://www.naroyfjorden.no> (Nærøyfjord). However, there is also a joint web portal for the property at <https://www.vestnorskfjordlandskap.no/>, which could be developed into a common communication platform facilitating a more harmonized management approach and be used for stakeholder engagement.

The coordination role of the joint World Heritage Council for the two components is commendable, but the mission notes that certain aspects, such as the current division of tasks between the protected area managers and the World Heritage site coordinators employed by different bodies, combined with the separation into two components, could be improved to ensure effective management. The mission encourages the State Party to take the opportunity of the revision process to further strengthen collaboration and ensure a harmonization of the two management plans, as well as ensuring a strategic approach to the management of the whole property. A stronger level of collaboration between the two components on the management and protection of the shared OUV would allow for increased synergy and efficiency.

The mission learnt that there are management challenges with increased traffic and visitors (see also Chapter 5), as well as conflicts between different activities and user groups. These challenges are also

reflected in the property's management plans and in a report on visitor management of the property⁵. Examples raised during the mission include the use of jet skis versus canoeing on the fjord, and tension between residents and visitors during the high tourism season. The zoning mechanism in the current management plans is a good framework for dealing with these issues. In the revision of the management zones, the aim should be to enhance a sustainable carrying capacity throughout the property and especially in areas with tensions between user groups. For example, could the introduction of so-called "silent zones" during high seasons for tourism promote both environmentally friendly activities and strengthen relations between tourism and local communities. Silent zones can have regulations or recommendations regarding noise level, light pollution, speed limits, allowed activities and means of transport. If silent zones are placed both in easily accessible areas and in more remote parts of the property, their effect on socio-economic issues and the protection of the OUV is likely higher.

For the ongoing revision of the management plans for the two components, the mission recommends the following:

- Strengthen the overall presence of the OUV in the management plan.
- Start the process with the identification of the attributes conveying the OUV to inform the revision process (see Chapter 2).
- Ensure a harmonization of the management plans for the two components and consider the possibility to have only one management plan for the whole property, or at least a joint vision and strategic goals. Consider consulting other serial World Heritage properties, such as the Waddensea or the High Coast/Kvarken Archipelago, which has three components and where work recently started on a joint management plan.
- Use the Enhancing our Heritage (EoH) toolkit⁶. Several World Heritage properties have successfully used this toolkit to facilitate the management plan process, such as Finland and Switzerland. It is encouraged to translate (at least parts of) the toolkit to Norwegian for an inclusive participation of local stakeholders. Not all tools may be relevant and some adaptation to the local circumstances is recommended. The Advisory Bodies ICCROM, IUCN and ICOMOS are currently revising the EoH toolkit and the updated version is expected in 2022.
- Include an assessment of the current condition, trends, threats and prospects for the OUV based on the attributes of OUV. The EoH toolkit includes tools to facilitate such an assessment. For reference, a benchmarking process undertaken for Australian World Heritage properties could provide a useful point of reference.
- Include a chapter on monitoring and key indicators for the state of conservation, which should be guided by the attribute analysis, the assessment above and the commitments made at the time of inscription (i.e. *Chapter 6. Monitoring* in the nomination file⁷).
- Keep the current zoning mechanism used in the management plans but consider revising the zones with the aim to further reduce friction between user groups/activities, ensure a sustainable carrying capacity in the whole property and enhance the protection of the OUV.

⁵ Norwegian Institute of Transport Economics (2017). Besøksforvaltning og lokalsamfunnsutvikling i verdensarvområdene Nærøyfjorden og Geirangerfjorden.

⁶ UNESCO World Heritage Center (2008). Enhancing our Heritage Toolkit. Assessing management effectiveness of natural World Heritage sites.

⁷ Ministry of the Environment of Norway (2004). Nomination "West Norwegian Fjords – Geirangerfjord and Nærøyfjord" for inscription on the UNESCO World Cultural and Natural Heritage List. <https://whc.unesco.org/en/list/1195/documents/>.

4. Impacts of infrastructure development projects

The State Party has advised that a number of major development projects are under consideration within and in the vicinity of the property. These include where impact assessment processes have been initiated to evaluate whether the measures can be implemented without having a negative impact on the OUV, as well as new proposed projects. The authorities advised that the number and scale of the projects makes the assessment of the overall impact and the cumulative effects challenging.

The mission received information for, and inspected on-site, development projects with ongoing spatial planning and impact assessment processes (see Chapter 4.1) as well as several initiatives for future projects (see Chapter 4.2). All projects are marked and numbered on the maps in Annex V, and each project's map numbers are included in brackets after the corresponding headings below. The aim of this chapter is to provide a brief overview of the various projects, an initial assessment of their potential impact on the OUV and to provide advice according to the mission ToR (see Annex I).

It is important to emphasise that, considering impact assessment processes remain to be undertaken for the various projects, any guidance provided by IUCN in this report constitutes early high-level advice, and does not replace the requirement for, nor pre-empt the findings of, a full and comprehensive assessment of impacts of these projects on the OUV, to be undertaken in line with the new *Guidance and Toolkit for Impact Assessments in a World Heritage Context*, and submitted to the World Heritage Centre (Paragraph 172 of the *Operational Guidelines*) for review by IUCN.

Additionally, considering that there are multiple development projects being proposed within and in the wider setting of the property, it will be important to consider not only the impacts of individual projects, but also to assess the potential cumulative impacts of multiple projects on the OUV of the property. The mission recommends that the State Party undertake an assessment of the cumulative impacts of all the projects on the OUV of the whole property (see Chapter 4.3).

The recently published *Guidance and Toolkit for Impact Assessments in a World Heritage Context* provides a clear framework for best-practice impact assessment in relation to World Heritage and OUV. It replaces the existing *IUCN World Heritage Advice Note for Environmental Assessment* and the mission recommends that this document be used as a guiding tool for the assessment of development proposals and decision making for the property going forward.

In Norway, all major development projects must follow a strictly regulated spatial planning process, which includes impact assessments and takes several years. The municipality is the responsible planning authority and a project cannot proceed without approval of the municipality. The process includes several public consultations, which aim to gather opinions from stakeholders including authorities and local communities. Additionally, the County Governor - a regional authority, has the possibility to oppose the decision taken by the municipality, in which case the national government then takes the final decision. However, usually the municipality and the regional authorities find an agreed outcome through dialogue during the planning process.

The Norwegian system uses the term *impact assessment* for both EIA and ESIA, in other words a Norwegian impact assessment includes both social and environmental aspects. Moreover, the mission learnt that it is the intention of the municipalities and the State Party to include potential impacts on the OUV (also called Heritage Impact Assessment, HIA) in the impact assessments for projects that could have an impact on the property. In this report, the term EIA is used to refer to impact assessment processes for projects related to the property, in line with the established international terminology.

4.1. Spatial planning projects with ongoing EIA processes

4.1.1 Aqua-culture facility and associated infrastructure (Annex V, number 1, 2, 3)

An aqua-culture facility is being proposed for development within a decommissioned mine. The project's planning area is located partly inside the property and its immediate vicinity at a decommissioned mining area (see Figure 1 and Annex V 2 and 3) and at a nearby village Eidsdal (Annex V, number 1). The project entails among other things the construction of sea-side buildings, a tunnel for transport, parking space, a dock and underground halls (see Figure 2). The aqua-culture facility would be land-based situated inside the old mine and new underground halls would need to be excavated for this purpose. The aqua-culture facility if realized according to current plans would add an industrial activity (around 300 employees) in the property's north entrance area (see Figure 8 in Annex VI). All boat traffic to and from the Geiranger village would pass the aqua-culture facility.

The project plan including an EIA was submitted for public consultation in the winter 2021/2022, and the State Party requested early technical advice in a letter to the World Heritage Centre (dated 15 December 2021). In response, IUCN provided a short technical review of the project with answers to specific questions from the proponent (World Heritage Salmon), which was transmitted to the State Party in May 2022. The review stated that it is essential that any proposed activities are first assessed specifically for their potential impacts on the OUV and that any negative impacts on the property should be avoided. The project plan and EIA are currently being revised based on the response received from various authorities and stakeholders during the public consultation.

The mission received updated information on the project from the EIA consultant (Nordplan), the proponent, the municipality of Fjord and regional authorities. Additionally, the mission had the opportunity to see parts of the planning area (Annex V, number 3) from a boat. In statements from the public consultation process and in presentations given during the mission, concerns were raised about potential negative environmental effects, and possible socio-economic benefits were also stressed. Especially the prospect of a new relatively big workplace operating the whole year (not seasonal as the tourism sector) was considered as an important positive impact by the municipality. The consultant and the proponent were confident that the project could be done without significant negative impacts on the environment.

The mission considers that, due to the proposed aqua-culture facility's operational concept, size and location along the fjord it is likely to have an impact on both the property and its wider setting, and stresses the following:

- The EIA submitted for public consultation was not completed in line with the requirements set out in the *IUCN World Heritage Advice Note on Environmental Assessment*. For example, it does not include a separate chapter on World Heritage and assessment of the potential impacts on the OUV.
- The EIA should be revised to include an assessment of potential impacts on the OUV (i.e. the attributes, integrity, and protection and management), in line with the new *Guidance and Toolkit on Impact Assessments in a World Heritage Context*. This assessment should consider the results of the cumulative impact assessment referred to in Chapter 4.3, including impacts from all aqua-culture (present and future) in the fjord.
- The mission considers that there is potential for the project to impact on the OUV for both criteria (vii) and (viii), specifically regarding the integrity of the land- and seascape (e.g. scenery, biodiversity, water quality), as well as the encroachment in the property's bedrock (geological and geomorphological integrity). Impacts are likely during both the construction phase and the aqua-culture's operational phase. Examples of impacts are emissions to the air and water, noise and light disturbance and physical changes in the land- and seascape. These matters need to be carefully considered in the assessment process and the final recommendation on whether the project should proceed.

- Furthermore, instead of implementing a new industrial activity within the property and its immediate vicinity, the restoration of the decommissioned mining area would be preferable. The mining area is surrounded by a natural landscape and does not belong to an inhabited area with associated infrastructure. A well-planned restoration project could strengthen the OUV, as the property is inscribed on the World Heritage List for its “outstanding natural beauty”.

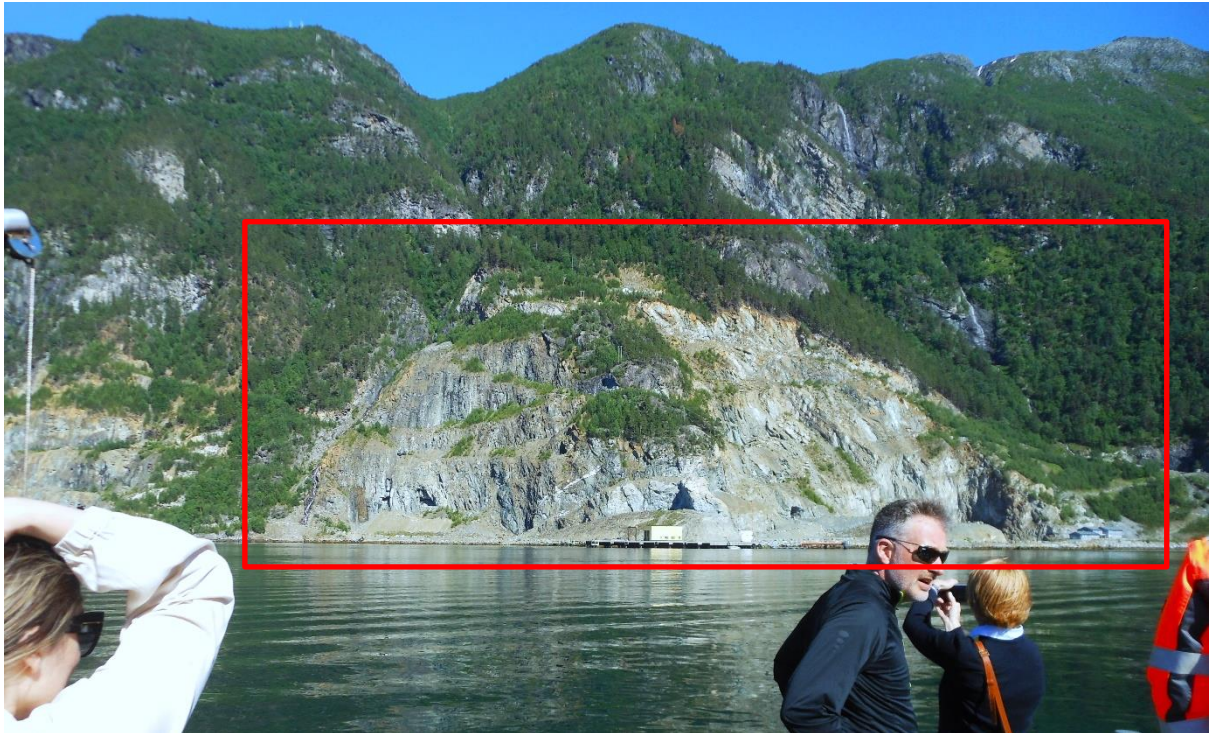


Figure 1. Sea-side view of the decommissioned mining area. © IUCN/Susanna Lindeman, 2022.

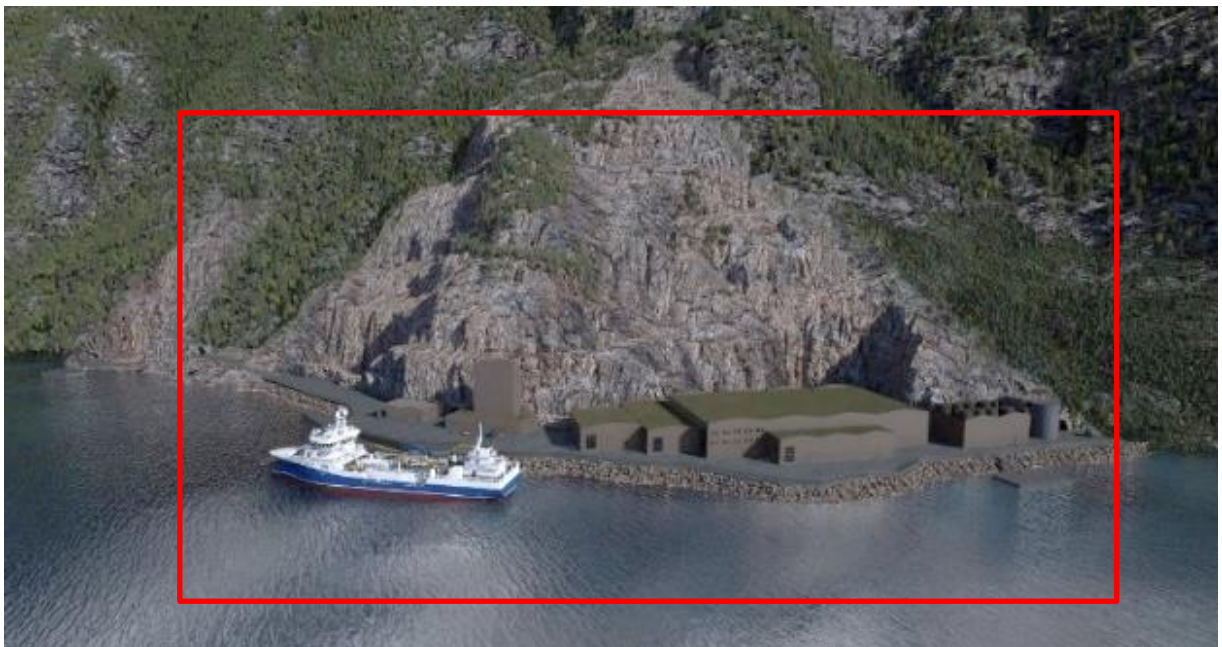


Figure 2. The proponent's vision of the aqua-culture facility. © Nordconsult, 2022.

4.1.2 Holmen Mine and Gudvangen Cargo terminal

The Holmen mine is an existing underground excavation of anorthosite for commercial purpose (mainly used for the production of rockwool insulation) located within the Nærøyfjord component (Annex V, 15), which existed at the time of inscription. The mission recalls that at this time, the IUCN Evaluation of the nomination raised following concerns regarding mining and quarrying⁸:

“The one activity that is considered to be of more concern is mining and quarrying.”

“Within the Nærøyfjord nominated area an underground excavation of anorthositic rock takes place which may also expand in future. Though not directly adjacent to the fjord itself, the quarry has a visual impact when seen from the road to Gudvangen.”

“Any expansion of underground quarrying would require an environmental impact assessment. This would need to address concerns over the direct impact of any such operation and about the arrangements for the export of the mined material and the need for related infrastructure.”

Furthermore, in its Decision **29 COM 8B.7**, the World Heritage Committee also⁹:

“Requests to be kept informed by the State Party of any proposals for expansion of quarrying activities within the property and of measures taken to limit impacts of existing quarries. Close monitoring will be required, as such activities, if not carefully considered, could have significant impacts on the visual quality of the site;”

In 2020, in line with paragraph 172 of the *Operational Guidelines* the State Party of Norway informed the World Heritage Centre of the planned development of the mine to a combined mine and hazardous waste disposal facility (Annex V, 15) and the construction of a cargo terminal for mining products and hazardous waste at the harbour of Gudvangen located within the same component 8 km from the mine (Annex V, 12). In response, the World Heritage Centre requested the State Party to ensure that the OUV is considered in the EIA process and that the EIA is submitted for review and comments by the WHC and IUCN before any decision is taken.

The mission learnt that the Holmen mine has doubled its yearly underground extraction of anorthosite from around 250 000 tonnes¹⁰ in 2005 to around 500 000 tonnes in 2021¹¹, and the mining company is planning to further increase the yearly extraction. The mission requested the details of the exploitation concession and the current permit, however at the time of writing the information had not been provided. In November 2022 the mining company (Gudvangen Stein) provided the concession document, which does not entail any limit on time or extraction amount. Outside the mine (within the property) a rock crusher plant is located (see Figure 3), where the anorthosite is crushed and loaded into trucks for an 8 km road-transport to the export harbour (Gudvangen) within the property. The export harbour is a tourism hub with two hotels and a ferry jetty. In the harbour, the anorthosite is reloaded for a 25 km long boat transport through the Nærøyfjord component of the property.

⁸ IUCN (2005). World Heritage Nomination – IUCN Technical Evaluation: West Norwegian Fjords – Geirangerfjord and Nærøyfjord – ID No. 1195.

⁹ World Heritage Committee (2005). Decision 29 COM 8B.7. Nominations of Natural Properties to the World Heritage List (West Norwegian Fjords - Geirangerfjord and Nærøyfjord, Norway).

¹⁰ The 2005 level of extraction was included in a presentation given by the County Governor of Vestland during the mission.

¹¹ According to the publicly available planning program for the development project, the current extraction is around 500 000 tonnes/year, but the mission was told by the mine company's (Gudvangen Stein) representative that the extraction was 430 000 tonnes in 2021.



Figure 3. The rock crusher plant outside the Holmen mine within the property. © IUCN/Susanna Lindeman.

During the mission, the State Party advised that two separate planning “programmes” have now been finalised and approved by the municipality in 2020-21, one for the developments in the Holmen mine and one for the relocation and development of the cargo terminal in the harbour of Gudvangen. The mission received a lot of detailed information from the stakeholders and had the opportunity to visit both locations, the Holmen mine and the harbour of Gudvangen. The proponents are Gudvangen Stein (mine company) and Norsk Gjenvinning (waste disposal company). The approved planning programmes include the requirement for an EIA and an assessment of potential impacts on the OUV in line with the *IUCN World Heritage Advice Note on Environmental Assessment*. Four consultants are so far involved in the impact assessments: Opus, Norconsult, Asplan viak and Rådgivende Biologer AS. At the time of the mission, the impact assessments are ongoing and will later include a public consultation process.

1. Mining and hazardous waste disposal at the Holmen mine (Annex V, number 15)

The project’s main objective is to continue mining and use the return cargo traffic from exporting mining material from the Holmen mine for the transportation and subsequent storage of waste materials in the mine, instead of returning with empty ships and trucks. According to the proponent, the expert opinion is that the hydrogeological properties of the Holmen mine’s bedrock makes the abandoned mining halls suitable for solid mineral hazardous waste disposal and similarly suitable locations are rare. The hazardous waste planned to be deposited in the mine, would mostly be of domestic origin but the import of hazardous waste is also possible.

The mission learnt that three alternatives are being assessed. All alternatives include a 10-15 % annual increase of anorthosite extraction. The decommissioning of the mine and restoration of the mining area is not included in any alternative. Two alternatives include the combination of mining and hazardous waste disposal inside the mine. One alternative includes the relocation of the rock crusher plant from outside the mine (see Figure 3) to inside the mine. During the mission, questions were raised by participants especially regarding risks connected to the hazardous waste disposal. The proponents

advised that the regulations regarding disposal and transport of hazardous waste are rigorous in Norway and they are confident that the project overall will result in more sustainable operations.

2. Cargo terminal for mining products and hazardous waste at Gudvangen (Annex V, number 12)

The current export and reload of mining products from trucks to ships takes place in a small harbour and tourism hub (see Annex VI, Figure 4 and Figure 10). These activities have different needs and goals, which the mission considers the harbour under current conditions cannot provide. The mission witnessed a chaotic traffic situation in the harbour and received information of safety issues for both the general public and the employees of the mining company (e.g. a higher risk of traffic incidents and landslides above the cargo terminal). As stated above, the Holmen mine has doubled its yearly extraction of anorthosite since the inscription in 2005 and at the same time the tourism pressure has increased significantly (see Chapter 5.1, Figure 7). Hence, it is not surprising that issues occur when these two activities compete for the same space. From a management perspective, the carrying capacity of the Gudvangen harbour has likely been exceeded. The main current issues are related to increased traffic, seasonal over-crowding and associated socio-environmental factors.

The aim of the project is to assess alternatives to relocate the cargo terminal further away from the current harbour area and improve both traffic safety and environmental conditions (dust, noise from reloading). The mission learnt that three alternatives will be assessed; A) Export of anorthosite and import of hazardous waste continues at the present dock, B) Construction of a new cargo terminal at the western shore with a mountain hall for storage and C) Construction of a new cargo terminal inside the mountain for docking, reloading and storage at the eastern shore. The three alternatives' approximate location is displayed in Figure 4. Alternative B and C would both include construction of new road tunnels and road crossings.



Figure 4. Aerial photo of the Gudvangen harbor area with a view of the property's Nærøyfjord component. The red color and letters indicate the approximate location of; A) The current dock for exporting mining products, B) The alternative to build a new cargo terminal at the western shore and C) The alternative to build a new cargo terminal inside the mountain at the eastern shore. The photo is retrieved from visitnorway.com and modified based on a presentation made by the project's consultant Opus.

The mission stresses the following:

- The Holmen mine existed at the time of inscription in 2005. Concerns regarding mining and quarrying were raised at the time and any further expansion would need to be assessed with a new EIA.
- The yearly extraction has reportedly doubled since inscription and the impact of the increase on the OUV has not been assessed. This assessment needs to be included in the ongoing project with a special emphasis on cumulative impacts since 2005.
- The proposal does not include a “no project” option, and there is considerable potential for the proposed project alternatives presented to the mission to impact on the OUV for both criteria (vii) and (viii). Specifically, concerns include potential impacts on the integrity of the land- and seascape in the Nærøyfjord component from transport associated to mining and waste disposal combined with the steadily increased extraction of the property’s bedrock with an irreversible loss of geological and geomorphological integrity.
- A joint EIA including potential impacts on the OUV is recommended, since the two projects (Holmen mine and Gudvangen cargo terminal) are closely linked.
- Since commercial extractive mining activities are not considered to be compatible with World Heritage status, it is recommended that instead of considering the further expansion of commercial mining within the property, a plan is implemented to phase out existing mining activity as soon as possible and restore mining areas, in consultation with IUCN and the World Heritage Centre.
- The mission strongly recommends that solutions for long-term storage of hazardous waste are not considered within the property. Other feasible locations for the disposal of hazardous waste should be explored and compared to the Holmen mine, before any decisions are made. Furthermore, the overall operations of combined mining and hazardous waste disposal would lead to more industrial activity within the property not less.
- The cargo terminal project’s alternatives, as presented to the mission, are all likely to have impacts on the OUV for both criteria (vii) and (viii). Only alternative B and C (see Figure 4) seem to address the carrying capacity issues in Gudvangen harbour, but they will at the same time weaken the intactness of the natural landscape with the construction of new infrastructure, excavations in the bedrock and by increasing the accessibility of the property.
- For a more sustainable carrying capacity in the harbour of Gudvangen the industrial use could be further regulated by, for example, restricting times for reloading and speed limits. However, the overall goal should be to phase out industrial activities that are not compatible with the World Heritage status. Regarding increased tourism pressure see Chapter 5.
- Alternatives for using less or no fossil fuels for heavy transports should be further investigated and prioritized.
- The rock crusher plant should be moved inside the mine as soon as possible.

4.2. Projects in planning

4.2.1 Geohazard prevention in Åkerneset (Annex V, number 4)

The municipality of Stranda informed the mission of a geohazard situation in the Åkerneset mountain within the Geirangerfjord component (). It was reported that the mountain has a fracture that is widening by 2-8¹² cm each year and, according to scientists, will eventually slide into the fjord. There is concern that such a rock avalanche into the Sunnylvsfjorden would create a tsunami that could threaten several local communities along the fjord. The fracture is constantly under surveillance and actions have been taken to reduce surface water reaching the fracture, which could potentially result in further risk of an avalanche. The authorities have prepared detailed plans for quick evacuation and other measures, such as zones along the shores where new constructions are prohibited.

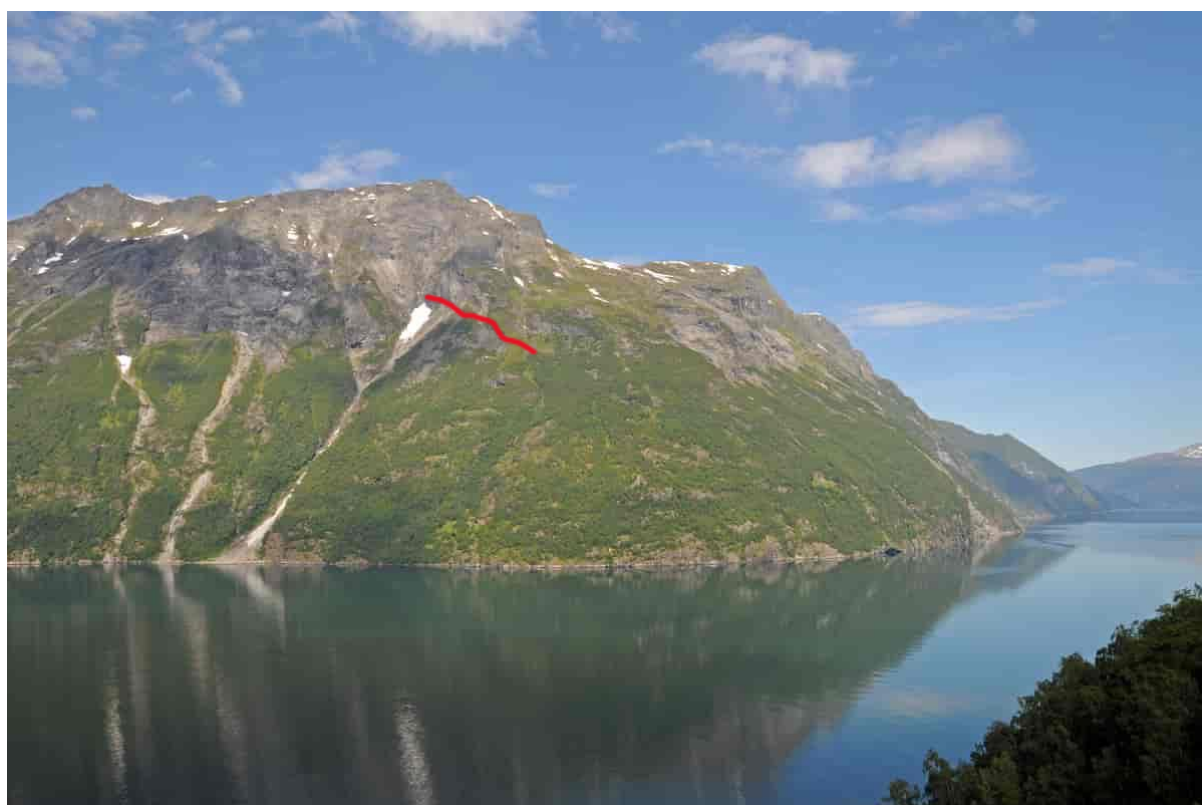


Figure 5. The fracture (red line) in the Åkerneset mountain for which concerns have been raised regarding an eventual rock avalanche followed by a tsunami in the fjord. © Photo Store Norske Leksikon.

The municipality of Stranda had received information regarding a new technique that may make it possible to further postpone or even prevent an avalanche by draining the mountain of water by drilling several long vertical tunnels through the mountain, creating an octopus-shaped tunnel system inside the mountain. Limited details were provided to the mission.

The mission recognises the concerns raised regarding the potential risk of this situation for the local communities and the fundamental need for management authorities to ensure public safety. Regarding the protection and management of the OUV, it will be important that any decision-making process to address the issue, including the aforementioned proposal to drill into the mountain, adequately assess the potential impacts on the OUV in considering the most appropriate actions prior to taking any decisions. The mission recalls that the essence of the property's OUV is a landscape foremost shaped

¹² <https://www.nve.no/naturfare/overvaking-og-varsling/fjellskredovervaking/kontinuerlig-overvaakede-fjellpartier/%C3%A5knes/>

by geological processes, and that the aforementioned technology would constitute a major physical intervention in the property which would likely have a negative impact on the OUV and would need to be appropriately assessed and considered.

4.2.2 Underground parking in Geiranger (Annex V, number 5)

The village of Geiranger is one of the most popular tourism sites within the property (see Figure 7) and has challenges with tourism traffic and seasonal over-crowding¹³. The responsible management authorities have for several years worked towards a more “green destination”. However, the progress is slowed by the available space in a small village combined with increasing tourism that still is very dependent on transportation run on fossil fuels¹⁴.

The mission received brief information regarding an initiative to build an underground parking space and sidewalk in the Geiranger village. The aim is to have less vehicles along the narrow roads and provide a safer environment for pedestrians. No detailed plans were presented to the mission and the current status in the planning system of the Stranda municipality is unclear.

Regarding the construction of an underground parking space, it will be important to consider factors such as a potential weakening of the intactness of the property related to criterion (viii) and the geological and geomorphological integrity, as well as impacts (both positive and negative) for tourism management. The mission recommends that the potential construction of new tourism infrastructure be considered at a broader strategic level in the context of managing tourism pressure within the property.

4.2.3 Road and tunnel in Flydalen-Dalsnibba area (Annex V, number 6 and 7)

The road accessibility to the village of Geiranger is limited during the wintertime due to the high risk of avalanches. A new road tunnel has recently been built north of Geiranger to allow road access from the north, however the only road access from the south crosses the mountains at high altitude. According to the site manager, the limited accessibility has a range of socio-economic effects on the inhabitants and negatively affects the tourism industry. The Stranda municipality informed the mission of initial plans to build a new road and tunnel in the Flydalen-Dalsnibba area, located partly within the property, which would make the Geiranger village accessible by car from the south also during the winter. According to the information received, the new road cannot be built without drainage of a wetland in Opplendskedalen (see Figure 9).

The mission considers that a new road and tunnel project of this magnitude has the potential to impact on the OUV. Specifically, concerns such as the visual, the geological and geomorphological integrity of the property, the drainage of the wetland and the increased accessibility to a part of the property that already has high tourism pressures and associated cumulative impacts described in Chapter 4.3, need to be thoroughly assessed before any decision is taken to proceed with this project. The mission recommends that potential impacts are assessed in line with the *Guidance and Toolkit for Impact Assessments in a World Heritage Context*.

4.2.4 Visitor center in Aurlandsvangen (Annex V, number 8)

The management authorities informed the mission of plans to build a new visitor centre in the immediate vicinity of the property. No detailed plans were presented and the current status in the planning and building permit system of the municipality is unclear. The intention is to make use of an older building (see Annex VI, Figure 11) and with the help of innovative and environmentally friendly techniques

¹³ Norwegian Institute of Transport Economics (2017). Besøksforvaltning og lokalsamfunnsutvikling i verdensarvområdene Nærøyfjorden og Geirangerfjorden.

¹⁴ SINTEF, SUSTRANS Project (2019). Tourist transportation preferences in Geirangerarea.

create a modern and sustainable visitor centre. An illustration of the centre was retrieved from the property's webpage (see Annex VI, Figure 12).

The mission welcomes initiatives to, in a sustainable manner, enhance the communication and public awareness of the property among visitors and the local community. However, it will be particularly important to consider the potential visual impacts, both positive and negative, given the proposed location of the development, as well as factors related to visitor management and tourism pressure.

4.2.5 Deepening of the fjord for boat route (Annex V, number 9)

The mission received information from the municipality of Aurland and the management authorities regarding an initial plan (called planning program in the Norwegian system) to deepen a shallower part of the Aurlandsfjord within the property. The mission was informed that the deepening of the fjord would allow a safer boat route for larger ships, however no details were provided at this stage. The initiative was approved for further assessments in 2017 by the municipality, but its current status is unclear.

The mission considers that the deepening of the seafloor of the fjord could weaken the property's intactness and it may have potential impact on several attributes of the OUV. According to the initial plans¹⁵, the project would require blasting of the sea-floor bedrock. Impacts from dredging and underwater blasting are usually known to be both localized and of a temporary character (such as increased sedimentation, less water visibility), as well as having long-term effects on habitats and species in the larger sea-scape. Additionally, the blasting of the sea-floor needs to be considered in relation to the impact on the geological and geomorphological integrity of the property. The mission recommends that an EIA is undertaken in line with the *Guidance and Toolkit for Impact Assessments in a World Heritage Context*.

4.2.6 Hotel extension in Flåm (Annex V, number 10)

The municipality of Aurland informed the mission of a proposal to extend the existing hotel Fretheim located in the immediate vicinity of the Nærøyfjord component, with a 90-meter-high building (see Annex V, Figure 13 and Figure 14). The municipality has decided to proceed with the proposal within its planning system, which will include an assessment of potential impacts on the OUV.

Considering the size and location of the hotel extension as well as the current tourism pressure and associated cumulative impacts described in Chapter 4.3, it will be important to ensure that any potential negative impact on the OUV is adequately assessed. Recalling that the property is inscribed for its aesthetic values, the visual integrity of the property, as well as potential impacts from increased visitation are important issues to be thoroughly assessed. The mission recommends that an EIA is completed in line with the *Guidance and Toolkit for Impact Assessments in a World Heritage Context*.

4.2.7 Cable car in Flåm (Annex V, number 11)

The municipality of Aurland informed the mission of an initiative to build a cable-car in the Flåm area with at least one end station at a mountain top within the property. No detailed plans were presented to the mission and the current status in the planning system of the municipality is unclear.

Considering the inscription of the property for its aesthetic values, there is potential for a cable car in the Flåm area to impact on the OUV. It will be important to thoroughly assess factors such as potential impacts on the visual integrity of the property, the increased accessibility to the property, managing

¹⁵<https://www.aurland.kommune.no/planprogram-for-detaljreguleringsplan-for-innsegling-til-flaam-er-godkjent.6047166-550255.html>

tourism pressure, and associated cumulative impacts described in Chapter 4.3, through an EIA in line with the *Guidance and Toolkit for Impact Assessments in a World Heritage Context*.

4.3. Cumulative impacts

Cumulative impacts on the environment can be described as the collective effect of several development projects and other human activities in combination with natural processes. These effects can combine with each other in space and time, together exceed thresholds for irreversible changes and are both larger as well as more unpredictable compared to the effects from a single project. For a World Heritage property, it is the potential cumulative impacts on the OUV that should be assessed.

In general, the EIA/ESIA context is not well equipped for the assessment of cumulative impacts and the mission learnt that this is also relevant in the Norwegian context. The State Party advised that a Strategic Environmental Assessment (SEA) directive has been implemented in the Norwegian EIA system which requires an SEA to be completed for overall plans (e.g. municipal plans or regional plans), however the system does not necessarily require a SEA in relation to the assessment of several individual development projects.

As stated regarding the state of conservation expressed in Chapter 6, especially cumulative impacts related to mining, traffic and tourism are a challenge for the property. In this case with several on-going development projects and many new initiatives in planning, which are geographically dispersed across both components (see Annex IV), an SEA for the whole property is a useful tool to address this challenge. In Figure 6, the difference between an EIA/ESIA and an SEA is highlighted, for more information see the *Guidance and Toolkit for Impact Assessments in a World Heritage Context*.

Considering the high likelihood of cumulative impacts from existing and potential new development projects described in this report, the mission recommends that an SEA is undertaken to assess the cumulative impacts of the various pressures, encouraging the State Party to go beyond requirements in the national legislation in its implementation of the World Heritage Convention.

Factor	EIA/ESIA	SEA
Scale	Small - a single project	Large – multiple projects
Approach	Identification and detailed quantification of impacts	Proactive, strategic and overarching
Cumulative effects	Limited review	Scenarios, trends and thresholds
Responsible actor	Proponent of the project	Planning authority

Figure 6. The main differences between EIAs and SEAs.

5. Other issues observed during the mission

5.1 Visitor management

The property was a popular tourism destination at the time of inscription and, as shown in Figure 7, tourism and particularly cruise-ship passengers have increased significantly since 2002. Furthermore, a continuous visitor growth of 60% is foreseen until 2030¹⁶. In 2017, the Norwegian Parliament passed a resolution requiring zero emissions and overall stronger environmental considerations from cruise ships within the property by 2026. The mission learned that the technical capacity and buy-in of the cruise industry to make the necessary technical adaptations to meet the new requirements is uncertain. Since cruise ships that do not meet these new requirements will not be able to access the property, this may result in an increase in road vehicles to transport cruise ship passengers from harbours outside the property into the property.

TOURISM	year 2002	year 2019	Increase (%)
Cruise ships	308	328	6.5%
Cruise-ship passengers	265 585	617 545	132.5%
Overnight stays Stranda and Norddal	200 000	346 000	73.0%
Overnight stays Aurland and Lærdal	198 400	321 000	61.8%

Figure 7. The development of tourism in the property provided to the mission by the management authorities.

The local and regional management actors continue to actively engage in visitor management, however the property lacks a strategic tourism plan with the overall aim to strengthen the protection of the OUV. A strategic tourism plan should be implemented with a detailed action plan to address the identified visitor management challenges. Combined with the zoning mechanisms already implemented in the property's management plans it would enhance the protection of the OUV. A strategic tourism plan and action plan should be based on an assessment of the property's carrying capacity. Hence, the mission recommends that the management authorities, in consultation with the tourism operators and local communities, assess the carrying capacity of different parts, routes and popular sites within the property. Noteworthy, is that the carrying capacity of a place is not best-defined by an exact number of visitors, because this number can vary a lot depending on the time of year and which activities occur. Further information regarding sustainable tourism development is available on the UNESCO website at: <http://whc.unesco.org/sustainabletourismtoolkit>¹⁷.

5.2 Wider setting and buffer zone

During the mission, the municipalities raised questions about the difference between a *buffer zone* and the property's so called *wider setting* in the context of considering necessary impact assessments for a project. These terms are defined in the articles 104, 112 and 118bis of the *Operational Guidelines*¹⁸. This property does not have a buffer zone, but like all World Heritage properties it has a wider setting. In essence, applying the wider setting in this context entails that the OUV can be impacted by activities or projects located outside the property's boundary but within its wider setting. For example, the construction of a dam development several kilometres upstream of a property may impact on its natural values if this alters the hydrology of a connected river system; the construction of a large building outside but near a property may impact on its scenic values; or an industrial facility located in the wider seascape of a marine ecosystem may impact the OUV through pollutants impacting biodiversity.

¹⁶ Nærøfjorden verneområdestyre (2021). Besøksstrategi for verneområde i Nærøfjordområdet. Available at <https://www.nasjonalparkstyre.no/Naroyfjorden/publikasjoner/besoksstrategi>.

¹⁷ Pedersen A (2002). Managing Tourism at World Heritage Sites a Practical Manual for World Heritage Site Managers UNESCO.

¹⁸ World Heritage Centre (2021). Operational Guidelines for the Implementation of the World Heritage Convention.

Consequently, the need for an assessment of potential impacts on the OUV for a project should not be solely defined by the geographical location or physical footprint of the project or planning area, but by the potential impact on the OUV.

6. The State of Conservation

The mission expert also takes the opportunity to note the following observations regarding the overall state of conservation of the property. The mission found the property to be in good condition and mainly echoing the assessment of the 2020 IUCN World Heritage Outlook,¹⁹ which assessed the overall conservation outlook of the property as “good”. In general, the state of conservation has not deteriorated since the time of inscription on the World Heritage List in 2005. This is mostly due to a well-implemented legal protection, an adequate management system and the fact that a large part of the property is less accessible mountainous terrain. However, there are concerns that the state of conservation is facing increased pressure and may already be weakened due to developments in the more accessible parts of the property. The reason for this concern is the increase in mining activity, traffic, visitors and associated built infrastructure reported by the site managers, representatives from the municipalities, regional authorities and the mining company met during the mission.

The increased pressure from traffic and tourism on the property is likely connected to new infrastructure such as roads and road tunnels built after inscription on the World Heritage List. According to the responsible management authorities, the justification for this infrastructure includes safety reasons (geohazards), and the municipalities concerned emphasized during the mission that the developments have improved the socio-economic sustainability for the local communities.

The pressures on the property listed above are mainly derived from activities and developments in the inhabited parts (1,4 % of the property) and the fjord (9 % of the property²⁰). However, the land- and sea-routes cut throughout the property’s landscape and as a result the effects from increased traffic and tourism cannot be described as localised. Hence, the increased pressure on the property since the time of inscription has likely negatively affected (e.g. pollution, noise, disturbance of wildlife, encroachment of natural areas) the intactness of the natural landscape and consequently probably weakened its scenic value. Even though the tourism pressure varies greatly during the year with the highest peak for three summer months, the impact on the OUV and especially its natural attributes may have long-term effects. Additionally, the reported increased mining activity is a concern for the geological and geomorphological integrity of the property. Ongoing projects as well as new initiatives (see Chapter 4) could lead to an even greater pressure on the property in the future if not strategically and effectively planned and managed. Considering all of the above, it is important that the potential cumulative impacts of these pressures on the integrity of the OUV are assessed. These impacts need to be thoroughly assessed in relation to the OUV, including criteria (vii) and (viii), the integrity, protection and management, and addressed accordingly, before any decisions are made for ongoing and new development projects.

The integrity of a natural World Heritage property is related to the intactness of the attributes needed to express the OUV²¹. According to paragraph 90 in the *Operational Guidelines*²² the “*biophysical processes and landform features should be relatively intact*” but notes that “*human activities may be consistent with the OUV of the area where they are ecologically sustainable*”. Hence, the ecological aspects are setting the overall framework in which infrastructure solutions and activities are possible, but the socio-economic aspects need consideration as well – such as the mitigation of conflicting interests between user groups. The mission noted with satisfaction, that decisions already taken by the State Party²³ and the property’s visitor management are heading towards this direction.

To conclude, the mission has concerns but notes a commendable commitment to protect the property conveyed repeatedly during the mission by regional and local stakeholders as well as the State Party.

¹⁹ IUCN. (2020). West Norwegian Fjords – Geirangerfjord and Nærøyfjord Conservation Outlook Assessment.

²⁰ UNEP-WCMC (2011). ‘West Norwegian Fjords – Geirangerfjord and Nærøyfjord’. UNEP-WCMC World Heritage Information Sheets.

²¹ World Heritage Centre (2010). Guidance on the preparation of retrospective Statement of Outstanding Universal Value for World Heritage Properties.

²² World Heritage Centre (2021). Operational Guidelines for the Implementation of the World Heritage Convention, 31 July 2021.

²³ Norwegian Maritime Authority-News (2019). New environmental requirements in the world heritage fjords. Available at <https://www.sdir.no/en/news/news-from-the-nma/new-environmental-requirements-in-the-world-heritage-fjords/>.

The future state of conservation of the property will depend on how well the management system can effectively address existing pressures on the OUV, such as mining, traffic and tourism, as well as proactive and strategic planning and decision making regarding future planned projects.

7. Conclusions and recommendations

The mission found both components of the property to be well managed and overall, in good condition. However, there are concerns that impacts, including cumulative impacts from developments in the more accessible parts of the property such as mining, traffic and tourism, linked to an increased accessibility facilitated by planned and already implemented infrastructure projects, pose an increased pressure on the property.

In order to ensure a proactive and strategic planning and management approach that enhances the protection of the OUV and avoids negative impacts from ongoing and planned development projects, the mission's main recommendations are as follows, with further detail included in the report:

- a. Complete a thorough SEA of cumulative impacts on the OUV for the whole property that considers the multiple pressures including mining, tourism, aquaculture, and infrastructure development since the time of the property's inscription on the World Heritage List, including all existing and planned development projects.
- b. Ensure that the assessment of potential impacts of individual development projects on the OUV through ongoing EIA processes rigorously follows the requirements set out in the new *Guidance and Toolkit for Impact Assessments in a World Heritage Context* (which replaces the *IUCN World Heritage Advice Note on Environmental Assessment*), including an assessment of impacts on the attributes of OUV.
- c. Regarding the revision of the management plan for the property:
 - To strengthen the overall presence of the OUV in the management plan.
 - To finalise the list of attributes to the OUV and with the help of GIS-layers visualise their geographical location and distribution.
 - To ensure a harmonization of the management plans for the two components and consider having a single management plan for the whole property or at least a joint vision and strategic goals for the two components.
 - Include an assessment of the current condition, trends, threats and prospects for the OUV based on the attributes of OUV.
 - To include a chapter on monitoring and key-indicators for the state of conservation in the management plan.
 - To consider revising the management zones with the aim to further reduce friction between user groups/activities and enhance the protection of the OUV.
- d. To complete a strategic tourism plan with the overall aim to strengthen the protection of the OUV based on an assessment of the carrying capacity of popular visiting sites and routes within the property.
- e. To refrain from any new or increased incompatible industrial activities that would weaken the property's integrity.
- f. To refrain from any actions that would further increase negative pressure from traffic and tourism on the property.

- g. To phase out the mining activity within the property as soon as possible and to restore mining areas, in consultation with IUCN and the World Heritage Centre.
- h. To refrain from long-term storage of hazardous waste within the property.

ANNEX I Terms of Reference

IUCN Advisory Mission to the West Norwegian Fjords – Geirangerfjord and Nærøyfjord: 29 – 01 (28-02 incl travel to/from) June/July 2022

The West Norwegian Fjords was inscribed on the World Heritage List in 2005 based on criteria (vii) and (viii). The impacts of climate change and land use change on the OUV are challenges that the six municipalities, the two counties and the state level must address through sound implementation of national laws and regulations.

This year the West Norwegian Fjords is revising its management plan. Currently a number of major development projects are under consideration in, and in the vicinity of, the World Heritage area. These include projects where environmental impact assessment processes have been initiated to evaluate whether the measures can be implemented without having a negative impact on the Outstanding Universal Value (OUV). The number and scale of the projects makes the assessment of the overall impact and the cumulative effects challenging.

An Advisory mission may contribute to decisions related to spatial planning as well as enhancing the management plan providing the best possible basis for ensuring the conservation of World Heritage values in the next planning period.

To secure national decision making that takes into account the provisions in the *Operational Guidelines* of the World Heritage Convention and policies of the World Heritage Committee, the State Party of Norway seeks advice and guidance in matters concerning the management of the property's OUV.

The letter of invitation for this mission was sent to the UNESCO World Heritage Centre by the State Party of Norway on 23 February 2022. The expert who will represent the Contractor for this Advisory mission is Ms Susanna Lindeman.

On invitation by the Norwegian Ministry of Climate and Environment the Advisory mission will undertake the following tasks:

- Visit both sub-areas of the property and meet with local and regional authorities
- Provide advice on how to understand the attributes of the property's SOUV with regard to criteria (vii) and criteria (viii), as well as the integrity, and protection and management, as required.
- Review the current management plan and based on information provided during the field mission make recommendations on any improvements to be considered in the revised plan
- In relation to the assessment of potential impacts of development projects on the OUV of the property:
 - Give advice regarding the IUCN World Heritage Advice Note on Environmental Assessment and new Guidance and Toolkit for Impact Assessment in a World Heritage Context, including specifically, how to assess overall impact and cumulative effects
 - Give supplementary advice regarding specific spatial planning projects (ref previous para 172 letters to UNESCO concerning land based aquaculture facility in Raudbergvika/ Eidsdal, land fill in Holmen mine etc).
 - Give advice on issues in relation to the present and future underground mining operations
- Share, if any, relevant management examples from other world heritage properties
- Give advice on any other relevant issue observed during the mission.

In preparation for the Advisory mission, the State Party shall provide IUCN, prior to the mission, with all necessary background technical material and relevant information to consider the present conservation status of the property. These documents shall be provided in English as one of the working languages of the Convention. In case of substantial documents, at least summaries shall be provided in English. However, since the mission expert has a strong working knowledge of Norwegian, it is recommended that documentation is also provided in original language.

Based on site visits, the assessment of available information and discussions with the State Party representatives and stakeholders, IUCN will prepare a concise report on the findings and recommendations of this Advisory mission within six weeks of completing the field visit. The timeline can be shortened or extended, if appropriate and upon the agreement of both parties. Advice will be given based on IUCN's expertise, knowledge and understanding of best practice World Heritage management, available/assessable written information about the specific cases in question, and presentations given during the field visit.

ANNEX II Programme of the mission as implemented

Programme Day 1: 29 th June 2022		
Time	Location	Programme
09:05	Ålesund Airport	Arrival 09:05 (Norwegian) (early flight from OSL)
	Vigra	Pick up rental car (Europcar +47 457 39 963)
09:50	Quality Hotel Ålesund	Meet with Susanna Lindeman, IUCN. (Lindeman arrives late Tuesday night from Gothenburg)
10:00	Ålesund – Valldal	By car from Ålesund to Valldal (approx. 1 h 30 min)
12:00	Valldal Fjordhotell	Lunch
13:00	Valldal Fjordhotell	Meeting with management authorities and stakeholders in the Geirangerfjord sub-area. Agenda (see below)

Draft agenda - Meeting in Valldal (Geirangerfjord area) 29 th June - 13:00 - 15:30			
Chair Knut Fossum, Norwegian Environment Agency			
approx	Item		PP-No
5 min	Welcome	Fjord municipality - <i>Mayor Eva Hove</i>	
20 min	Setting the stage. The purpose of the Advisory mission to the West Norwegian fjords – the Terms of Reference	Norwegian Environment Agency - <i>Gaute Sønstebo</i>	1
10min	The management system in Norway	Ministry og Climate and Environment - <i>Siri Kloster</i> Directorate for Cultural heritage – <i>Atle Omland</i>	2
10 min	Management framework - The existing world heritage management plan – content and planned review - Municipal Master plans and the World Heritage – relevant provisions (the parts of the WH-property that are not nature protected areas)	Protected area manager - <i>Ingild Hansen Nystad</i> Head of Planning department in Stranda Municipality – <i>Einar Lied</i>	3 4
25 min	The two World Heritage municipalities – Stranda and Fjord --our mission to protect World Heritage	Fjord Municipality – <i>Mayor Eva Hove</i> Stranda Municipality – <i>Mayor Jan Ove Tryggestad</i>	

	Selected cases		
20 min	"Omstillingsprosjektet" in Geiranger" – a project on adapting to a new situation (0-emission)	Møre og Romsdal County Council - <i>Nils-Andreas M. Ramsli</i> (Projectleader)	5
20 min	The Environment Impact Assessment (EIA) of the Land based aquaculture facility in Raudbergvika/ Eidsdal	Nordplan, EIA consultant - <i>Heidi Hansen</i>	6
15 min	Assessment of the planning proposals and our work on WH in general (managing WH)	Møre og Romsdal County Council - <i>Susanne Busengdal</i>	7
15 min	Assessment of the planning proposals and our work on WH in general (managing WH)	County Governor of Møre og Romsdal - <i>Linda Aaram</i>	8
10 min	Questions and further comments		

Time	Location	Programme Day 1 - 29 th June 2022 (continues)
15:30	Break	
16:00	Survey by boat	Environment Agency/Fjord municipality organizes survey by boat on Tafjorden, Sunnlyvsfjorden and Geirangerfjorden: Valldal- Eidsdal- Raudbergvika- Geiranger
	Eidsdal	Short stop in Eidsdal, short briefing by the proponent
	Raudbergvika	Short stop in Raudbergvika. 30 min briefing by proponent
	Raudbergvika to Geiranger	Åkneset and mitigation of geohazard in general - Briefing by Mayor Tryggestad
		Talks about how to understand the SOUV (as we are sailing)
18:30	Arrival Geiranger	Various plans regarding infrastructure/geohazard/traffic in Geiranger - Briefing by Mayor Tryggestad
		10 min hike to the hotel – Fossevandringa (stairs along the river)
20:00	Hotel Union Geiranger	Dinner

Time	Location	Programme Day 2: - 30 th June 2022
08:00	Hotel Union Geiranger	Breakfast and debrief at hotel
09:00	Departure Geiranger	By car from Geiranger over the mountains to Stryn – Aurland, (approx 5 hours).

14:30	Arrival Fretheim Hotel Flåm	
15:00	Fretheim Hotel Flåm	Meeting with the management authorities and stakeholders in the Nærøyfjorden sub-area. Draft Agenda (see below)

Draft agenda - Meeting in Flåm 30th June 2022- 15:00 - 18:00 <u>Chair Knut Fossum, Norwegian Environment Agency</u>			
<i>approx</i>	<i>item</i>		PP- No
5 min	Welcome	Aurland Municipality - <i>Mayor Trygve Skjerdal</i>	
20 min	Setting the stage. The purpose of the Advisory mission to the West Norwegian fjords – the Terms of Reference	Norwegian Environment Agency – <i>Gaute Sønstebo</i>	9
10min	The management system in Norway	Ministry of Climate and Environment – <i>Siri Kloster</i> Directorate for Cultural heritage – <i>Atle Omland</i>	2
10 min	Management framework -The existing world heritage management plan – content and planned review -Municipal Master plans and the World Heritage – relevant provisions (the parts of the WH-property that are not nature protected areas)	Protected area manager - <i>Anbjørg Nornes</i> Aurland Municipality Planning department - <i>Anja Marken</i>	10 11
45 min	The four World Heritage municipalities. -our mission to protect World Heritage (<i>Aurland 15 min, Vik 10 min, Voss 10 min, Lærdal 10 min</i>)	Aurland Municipality – <i>Mayor Trygve Skjerdal</i> Voss Municipality – <i>Mayor Hans Erik Ringkjøb</i> Vik Municipality – <i>Deputy mayor Marta Sofie Vange</i> Lærdal Municipality – <i>Deputy mayor Jan Olav Fretland</i>	12
	Selected cases		
40 min	Planning initiative – Nærøyfjord new dock (in Gudvangen)	Opus/ EIA consultant <i>Siren Therese Sælemyr</i>	13
	Planning initiative – Holmen mine and waste disposal facility (Gudvangen stein)	Norsk Gjenvinning - Proponent waste disposal facility <i>Ida Nilsson</i> (teams)	

15 min	Assessment of the planning proposals and our work on WH in general (managing WH)	Vestland County Council <i>Ingunn Skjærdal and Hallvard Trohaug</i>	14
15 min	Assessment of the planning proposals and our work on WH in general (managing WH)	County Governor of Vestland <i>Eline Orheim</i>	15
10 min	Assessment of landfill-applications in Norway	Environment Agency <i>Ine Merete Lorgen</i>	16
10 min	Questions and further comments		

Time	Location	Programme Day 2: - 30 th June 2022 (continues)
18:00	Flåm	looking at the various initiatives and proposals in Flåm
19:00	Fretheim Hotel Flåm	Dinner

Time.	Location	Programme Day 3 – 1 st July 2022
08:00	Fretheim Hotel Flåm	Breakfast
09:30	By boat from Flåm to Gudvangen	On the Aurlandsfjord and the Nærøyfjord (Ship - Future of The Fjords, electrical)
11:30	Gudvangen kai	20 min briefing on the Quay / the proponent (20 min) Frode Øvsthus and Anders Øvsthus, Gudvangen Stein
	Nærøydalen	By car - Short stop to look at actions for preventing damage on farm from geohazard
	Glashammaren	Short stop outside a closed mine.
12:30	Gudvangen Stein -the mine	Briefing outside and a look inside the mine/ the proponent (20 min) Frode or Anders Øvsthus, Gudvangen Stein
13:30	Stalheim Hotell	Lunch (Important viewpoint)
14:30	Stalheim	Debrief/summing up
15:00	Departure Stalheim –	2 hours 20 minutes by car to Bergen airport
17:30	Arrival Bergen airport	End of Advisory mission

ANNEX III List of people met

Participants Geirangerfjord area - 29 th -30 th June					
Name	Affiliation / Title	Meeting /lunch	Boat	Dinner	UNION hotel
Susanna Lindeman	IUCN / Expert	C	C	C	C
Eva Hove	Fjord Municipality /Mayor / Chair WH Management council for the West Norwegian Fjords	C	C	C	C
Jan Ove Tryggestad	Stranda Municipality / Mayor	C	C	C	-
Siri Kloster,	Ministry of Climate and Environment / Policy director	C	C	C	C
Knut Fossum	Norwegian Environment Agency / Head of Protected Areas section	C	C	C	C
Gaute Sønstebo	Norwegian Environment Agency / senior adviser	C	C	C	C
Atle Omland	Directorate for Cultural Heritage/senior adviser	C	C	C	C
Katrin Blomvik Bakken	World Heritage / Site coordinator	C	C	C	-
Linda Aaram	County Governor Møre og Romsdal /	C	-	-	-
Jorunn Mittet Eriksen	County Governor Møre og Romsdal / senior adviser	C	C	-	-
Ingvild Hansen Nystad	Protected area manager	C	-	-	-
Nils-Andreas Ramsli	Møre og Romsdal County Council /	C	-	-	-
Susanne Busengdal	Møre og Romsdal County Council / Adviser archaeologist	C	-	-	-
Kai Andre Birkhol	Fjord Municipality/ DG administration	C	C	-	-
Daria Klymenko	Fjord Municipality/ Planning Department	C	C	-	-
Emma Kuskemoen	Fjord Municipality /	C	-	-	-
Åse Elin Hole	Stranda Municipality / DG administration	C	C	-	-
Einar Lied	Stranda Municipality, Head of Planning Department	C	C	-	--
Inge Bjørdal	Stranda Municipality/ Næringssjef	C	C	-	-
Ruth Blakstad	Stranda Municipality, planner	C	C	-	-
Heidi Hansen	Nordplan – EIA consultant	C	C	-	-
Roger Hofseth	CEO Hofseth International AS	C	C	-	-
Svein Flølo	Chief Operating Officer Hofseth Aqua AS	C	C	-	-

Participants Nærøysfjord area - 30 th June – 1 st July						
Name	Affiliation / Title	Fretheim Meeting	Dinner	Fretheim hotel	Boat	Stalheim/ meeting
Susanna Lindeman	IUCN	C	C	C	C	C
Trygve Skjerdal	Aurland Municipality / Mayor Vice Chair WH Management council for the West Norwegian Fjords	C	-	-	C	C
Marta Sofie Vange	Vik Municipality / Deputy Mayor	C	C	C	C	C
Jan Olav Fretland	Lærdal Municipality / Deputy Mayor	C	C	-	-	-
Hans Erik Ringkjøb	Voss Municipality / Mayor	C	C	-	-	-
Siri Kloster	Ministry of Climate and Environment / Policy director	C	C	C	C	C
Knut Fossum	Norwegian Environment Agency /Head of Protected Areas Section	C	C	C	C	C
Gaute Sønstebo	Norwegian Environment Agency / senior adviser	C	C	C	C	C
Ine Merete Lorgen	Norwegian Environment Agency / senior adviser	C	C	C	C	C
Erling Oppheim	World Heritage Sitecoordinator	C	C	-	C	C
Atle Omland	Directorate for Cultural Heritage / senior adviser	C	C	C	C	C
Eline Orheim	County Governor Vestland /Head of Nature diversity section	C	C	C	C	C
Tom Dybwad	County Governor Vestland / senior adviser	C	C	C	C	C
Anbjørg Nornes	Protected area manager	C	C	-	-	C
Hallvard Trohaug	Vestland County Council/senior adviser	C	-	-	-	-
Ingunn Skjærdal	Vestland County Council / senior adviser	C	C	-	C	C
Anja Marken	Aurland Municipality / Planning department	C	-	-	-	-
Torbjørge Austrud	Voss Municipality / Planning department	C	-	-	-	-
Magnhild Aspevik	Lærdal municipality / head of section for agriculture	C	-	-	-	-
Siren Therese Sælemyr	OPUS –/ EIA consultant (Gudvangen Stein)	C	C	C	C	-
Ida Nilsson (on teams)	Norsk Gjenvinning - Proponent Waste disposal facility	C	-	-	-	-
Anders Øvsthus	Gudvangen Stein / proponent	C	-	-	-	-

Mission Route from Ålesund to Bergen



The World Heritage property (red)



ANNEX IV Statement of Outstanding Universal value (SOUV)

The mission has highlighted key expressions for the identification of attributes **in yellow**.

Brief synthesis

The starkly dramatic landscapes of Geirangerfjord and Nærøyfjord are exceptional in scale and grandeur in a country of spectacular fjords. Situated in south-western Norway, these fjords are among the world's longest and deepest, and vary in breadth from just 250 m to 2.5 km wide. Fjord, a word of Norwegian origin, refers to a long, deep inlet of the sea between high cliffs formed by submergence of a glaciated valley. These two West Norwegian fjords are considered to be classic and complementary examples of this phenomenon, a sort of type locality for fjords that still display active geological processes.

Numerous **waterfalls and free-flowing rivers, deciduous and coniferous woodlands and forests, glacial lakes, glaciers, rugged mountains and a range of other natural attributes combine** towards making Geirangerfjord and Nærøyfjord among the most scenically outstanding landscapes in the world. A serial property covering an area of 122,712 ha, of which 10,746 ha is sea, these two fjords are separated from each other by a distance of 120 km. They form part of the West Norwegian fjord landscape, which stretches 500 km from Stavanger in the south to Åndalsnes in the north-east. Several inhabited villages and valleys are found along the fjords and inside the boundaries, and the landscape is supplemented (although not dominated) by remnants of its human historical past, which adds further interest and value to the property.

Criterion (vii): The Geirangerfjord and Nærøyfjord areas are considered to be among the most scenically outstanding fjord areas on the planet. Their outstanding natural beauty is derived from **their narrow and steep-sided crystalline rock walls** that rise up to 1400 m direct from the Norwegian Sea and extend 500 m below sea level. Along the sheer walls of the fjords are numerous **waterfalls** while **free-flowing rivers** run through **deciduous and coniferous forest** to **glacial lakes, glaciers** and **rugged mountains**. There is a great range of supporting natural phenomena, both terrestrial and marine **such as submarine moraines and marine mammals**. Remnants of old and now **mostly abandoned transhumant farms** add a cultural aspect to the dramatic natural landscape that complements and adds human interest to the area.

Criterion (viii): The West Norwegian Fjords are classic, superbly developed fjords, considered as the type locality for fjord landscapes in the world. They are comparable in scale and quality to other existing fjords on the World Heritage List and are distinguished by the climate and geological setting. The property displays a full range of the inner segments of two of the world's **longest and deepest fjords**, and provides well-developed examples of young, active glaciation during the Pleistocene ice age. The ice- and wave-polished **surfaces of the steep fjord sides** provide superbly exposed and continuous three-dimensional sections through the bedrock. The record of the postglacial isostatic rebound of the crust and its **geomorphic expression in the fjord landscape** are significant, and represent key areas for the scientific study of **slope instability** and the resulting geohazards.

Integrity

The two fjord areas include all features that typically characterise a fjord landscape and its geological evolution. These include **deep rock basins reaching depths far below sea level, prominent rock thresholds, high and steep cliffs, slide scars and avalanche deposits, moraines, till deposits, hanging valleys, so-called fish-hook or agnor valleys (formed by river capture), glaciers, rivers, waterfalls and surrounding mountain and catchment areas**. Each fjord has a different morphology and geology and displays a different range of **geomorphological features**. Taken together, the Nærøyfjord and Geirangerfjord areas provide most of the features in their natural relationship that could be expected of a fjord landscape and its geological evolution. The boundaries of the serial property are appropriately defined to protect the **geological features** and the areas required to maintain the **scenic qualities** of the

property. Legislation, staffing, budget and institutional structures in place are adequate to ensure its integrity.

Of the 200 fjords along the west coast of Norway, Nærøyfjord and Geirangerfjord are the least affected by human activity such as hydroelectric dams and infrastructure. Peridotite is currently quarried outside, but close to the Geirangerfjord component of the property and plans exist for another quarry nearby. These impacts are localized, and restoration will take place when extraction ceases. Underground extraction of anorthosite takes place in the Nærøyfjord area, and this may expand in the future. Though not directly adjacent to the fjord itself, the plant has a visual impact from the road in the Nærøydalen valley.

Protection and management requirements

The majority of the property is protected as an IUCN Category V “Protected Landscape” and several small areas within this are Category I “Strict Nature Reserve”. The legislative regulations embodied in the Norwegian Nature Diversity Act provide long-term protection for the full range of natural values. While private lands make up 85% of the property, inhabited parts are carefully controlled under the Planning and Building Act and mechanisms such as County, Municipal and Local Development Plans.

An effective management system includes advisory committees and a management council that meets regularly to facilitate the necessary management cooperation and co-ordination. A “Declaration of Intent” signed by all the relevant national agencies and the Borough Councils, County Councils and County Governors outlines the cooperative measures and “guarantees that the values in the area will endure.”

A comprehensive management plan addresses management objectives and includes guidelines for activities to preserve the Outstanding Universal Value in a long-term perspective. The existing monitoring system needs to be further developed.

Tourism pressures are intense in both fjords, but impacts are limited as most visitors access the property on cruise ships during a short visitor season. Adequate tourism management plans are an important tool for the long-term conservation of the property’s Outstanding Universal Value.

Mining and underground quarrying is a concern, and any expansion of these activities will not be permitted without an environmental impact assessment. This would ensure that any potential impact, including the export of the mined material and the need for related infrastructure, would not affect the property’s Outstanding Universal Value.

Geohazards are a concern for inhabited areas and existing infrastructure within the property. If more measures to protect people’s lives are to be implemented, detailed environmental impact assessments will need to be performed to ensure solutions and measures that will be compatible with the property’s Outstanding Universal Value. Risk-preparedness plans integrated in the overall management plan are essential for this property.

ANNEX V Maps

West Norwegian fjords - Geirangerfjord sub-area

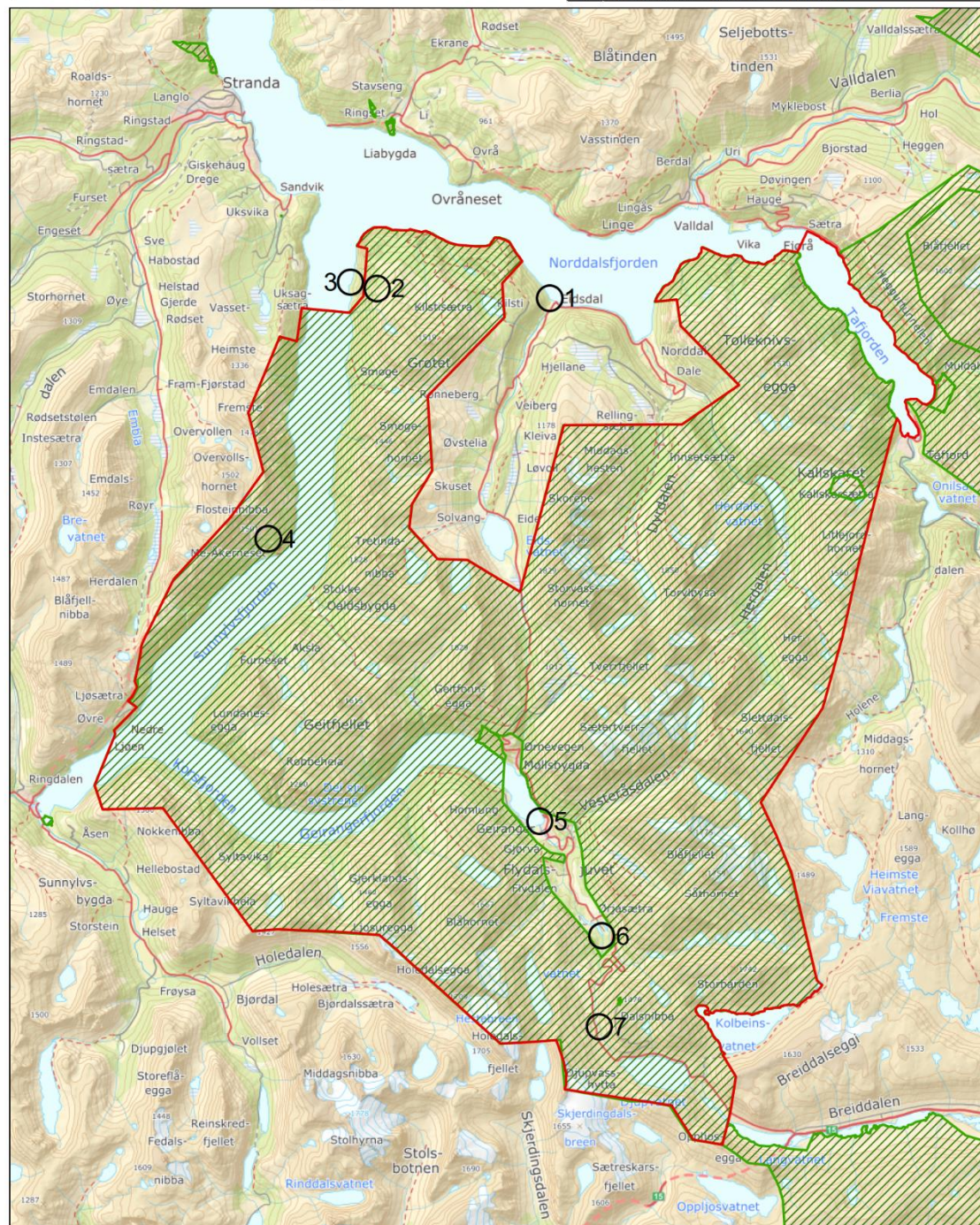


- World Heritage boundary
- Nature protected area

Scale 1: 125 000

0 2 500 5 000 10 000
Meters

No	Initiative
1	Eidsdal – tunnel opening to Raudbergvika and parkinglot
2	Subsurface aquaculture-facility and tunnel to Eidsdal
3	Raudbergvika – open-air facility (land-based hatchery)
4	Åkneset – landslide/geohazard
5	Geiranger – underground parking / sidewalk
6	Flydalen – elevation of terrain (deposit of material from tunnel)
7	Dalsnibba area – new Fv 63. Tunnel (2033)



West Norwegian fjords - Nærøyfjord sub-area

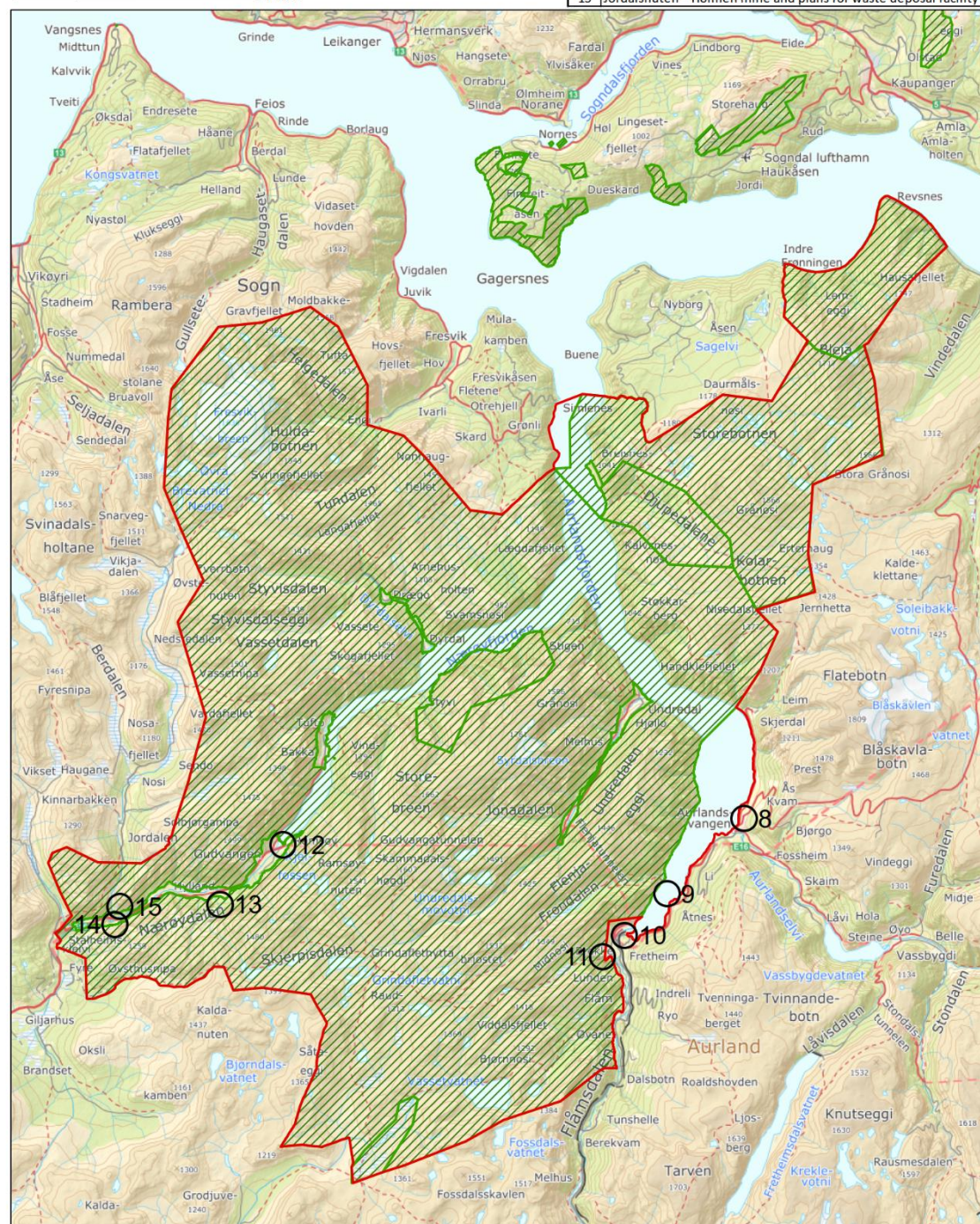
 World Heritage boundary

 Nature protected area

Scale 1: 150 000

0 2 500 5 000 10 000
Meters

No	Initiative
8	Aurlandsvangen – visitor centre
9	Aurlandsfjord - deepening shallow waters (dredging)
10	Flåm – hotel (high rised)
11	Flåm – cable car
12	Gudvangen – cargo dock
13	Skjerping – avalanche prevention (completed)
14	Glashamaren – closed mine (completed)
15	Jordalsnuten – Holmen mine and plans for waste deposal facility



ANNEX VI Photos



Figure 8. Approaching the planned aqua-culture facility (red square) from the north, view of the World Heritage site's north gateway towards Geiranger. © IUCN/Susanna Lindeman, 2022.



Figure 9. The Opplendskedalen area where there are plans for a new road and tunnel. © IUCN/Susanna Lindeman, 2022.



Figure 10. Photos inside the property of the current dock at Gudvangen for the export of mining products. © IUCN/Susanna Lindeman.



Figure 11. The building is planned to be transformed to a modern visitor center (see below). © IUCN/Susanna Lindeman.



Figure 12. Illustration of the new visitor center which will have a sea front view towards the property, the shoreline is the World Heritage boundary. © Mad arkitekter.



Figure 13. The Fretheim hotel in the vicinity of the property with the schematic placement of the extension. The mountain top to the right is inside the property. ©IUCN/ Susanna Lindeman.



Figure 14. Illustration of the planned 90-meter-high extension of the Fretheim hotel. © Jensen & Skodvin Arkitekter.