



UNESCO World Heritage List
VIKING AGE SITES IN NORTHERN EUROPE

Hyllestad quernstone quarries

Management plan 2012–2016



Prepared by the working group for World Heritage status for Hyllestad quernstone quarries

Author: Irene Baug

First edition 2011, revised autumn 2013

Cover photos by Kim Søderstrøm and Jørgen Magnus © Directorate for Cultural Heritage

Front page: Upper: Deep quarry in Millstone Park, Myklebust. Middle: Shallow quarry in Millstone Park, Myklebust. Lower: Damaged quernstones at the seabed by the shipment harbour Otringsneset, Rønset.

Back page: Otringsneset, Rønset, unfinished quernstone still attached to the bedrock.

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Preface


The overarching objective of the management plan is to protect the Outstanding Universal Value (OUV) that is the foundation for the nomination to the World Heritage List. The landscape and its production sites must be safeguarded for the future while at the same time the sustainable development of the area and the local communities must be safeguarded. The management plan will thus function as a tool to balance the need for the protection and conservation of the cultural landscape and the accessibility and economic development of the local environment.

This management plan is based on a previous management plan for the quernstone landscape in the municipality of Hyllestad, which was prepared by Aurland Landscapeworks in 2008 (Håland and Knagenhjelm 2008). However, in conjunction with the UNESCO nomination, it has proved necessary to fine-tune the management plan more specifically towards potential World Heritage status.

The first edition of the management plan was prepared in 2011. It was worked out in cooperation between representatives from the previous foundation Norwegian Millstone Centre (now a section of the Museums in Sogn og Fjordane), Hyllestad municipality, Sogn og Fjordane county authority and the Directorate of Cultural Heritage, and was written by World Heritage coordinator Irene Baug. This present plan represents a revised edition of 2013, and is valid within the period 2012-2016.

The management plan is given as a separate appendix to the application for World Heritage status, and will only come into force if the quernstone quarries are granted such status. This is a first generation plan that has not yet been fully developed. If and when the nomination is adopted, the management plan will be valid for approximately six years, until the next periodic report to UNESCO.

Leikanger, Desember 2013



Åshild Kjelsnes

Chairman of the County Council

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1 Declaration of intent

All the administrative levels responsible for the management of the nominated sites in Norway have signed the following Declaration of Intent. (For the complete text, see annex 1.)

In connection with the preparation of the application for inscription on the World Heritage List, the municipalities of Horten, Sandefjord, Tønsberg and Hyllestad as well as Sogn og Fjordane and Vestfold county authorities and county governors together with the Directorate for Cultural Heritage, the Norwegian Environment Agency and the Ministry of Climate and Environment are in agreement on the following:

- *The intention of the World Heritage nomination Viking Age monuments and sites is to protect, preserve, disseminate and transfer to future generations the Outstanding Universal Value the sites represent.*
- *The Norwegian component part in the nomination shall help to strengthen local identity and contribute positively to experiencing the values of the cultural environments and to developing social and business activities in the municipalities.*
- *The sites shall be included in the active dissemination of World Heritage values, and the scientific values will form the basis of knowledge production through national and international research and professional network building.*
- *The Hyllestad Quernstone Quarries and the Vestfold Ship Burials shall be managed in accordance with national legislation and the intentions of the World Heritage Convention. A key objective is to achieve best practice in the management of cultural heritage and to represent Norway in a worthy manner in the transnational nomination and on the World Heritage List.*
- *A Norwegian World Heritage council will be set up for the Hyllestad quernstone quarries and the Vestfold ship burials. The council will ensure the joint management of the World Heritage values and will promote the use of World Heritage Site status in the best interests of the local communities.*
- *Norway will participate actively in the international management of the serial nomination Viking Age Sites in Northern Europe.*

2 World Heritage values in the quernstone quarries

The Hyllestad quernstone quarries form part of the transnational serial nomination *Viking Age Sites in Northern Europe*, which incorporates sites and monuments from the Viking Age.

Seven locations in five different countries have been nominated, and all represent key elements of the Viking Age. Together the nomination and the component parts selected give a broad and varied picture of the social, economic and cultural development of the Viking Age.

The quernstone quarries represent a unique industrial environment that demonstrates the development of mass production and bulk trade during the Viking Age. In this respect the stone quarries reveal a somewhat different aspect of Viking Age culture than the other component parts included in the nomination. The distribution of the quernstones shows a strong affiliation to the maritime culture, and stones from Hyllestad have been found in several of the other locations represented in the nomination.

Hyllestad represents an extensive cultural monument testifying to the use of resources and the stone industry in the Viking Age. Operations commenced in the production landscape at that time, and large-scale production on an almost industrial scale took place – with quernstones being mass-produced for bigger markets. The quernstone quarries have played a significant role far beyond the local community in the Viking Age, and large parts of Northern Europe were part of the contact network of this production area. Thus the quernstone quarries are of importance in understanding central aspects of the Viking Age – not only the use of resources and production but also the contact network and trade/bartering of goods. The quarries explicitly demonstrate the extent and significance of this, and also reflect important historical events and processes since they represent a very wide span of cultural heritage. The quarries are well preserved, visible and easily accessible. Together the traces in the landscape form a unique and extensive cultural site that provides a background for experiencing an industry that is more than 1,200 years old (Figure 1).

The range of products at Hyllestad included more than quernstones. The quarries have been a major production site for stone crosses, of which the oldest probably date back to the first period of Christianity and the transition from the Viking Age to the Middle Ages. Extraction of this kind sets the place of production in a wider context with links to regional kingdoms,

local elites and again to the major social upheavals of the Viking Age in both a concrete and symbolic manner.

The quarries within the nominated property are located in outlying areas, i.e. outside the areas of settlement at Hyllestad. As an archaeological site the vast majority of the quarries within the nominated property have remained untouched, without modern intrusions, since the production ended. Minor archaeological surveys have been undertaken which date the extraction to the Viking Age (Baug 2002; 2013). The investigations show that the production that commenced in the early Viking Age formed the basis of large-scale extraction over the following centuries.

After quernstone production was terminated, these areas have mostly been used as hayfields and grazing land for livestock. This has helped to check the regrowth of the ground flora. Only about 3% of the quarries within the nominated property have been disturbed in connection with activities in recent times such as the construction of a road, a power line and a small-scale hydropower station. The majority of the quarries and the spoil heaps remain however untouched – just as they were when the stonecutters once abandoned them (Figure 2).

The quernstone quarries at Hyllestad represent a unique production environment in respect of integrity and authenticity, and as part of the serial nomination they represent a cultural heritage of Outstanding Universal Value (OUV).

2.1 Draft Statement of Outstanding Universal Value

The following extracts are taken from the nomination dossier of the *Viking Age Sites in Northern Europe*.

Brief Synthesis

The serial transnational property Viking Age Sites in Northern Europe is an ensemble of seven component parts, from five States Parties, all of which are monumental archaeological sites or groups of sites dating from the 8th – 11th centuries AD.

During this time, commonly referred to as the “Viking Age”, the Norse people travelled from their homelands in Scandinavia – as Vikings – for the purposes of trade, raiding, exploration and the search for new lands to settle. They interacted with pre-existing local populations during the course of their sea voyages eastwards and westwards and thereby also exerted

substantial influence on areas outside Scandinavia. The nominated property includes five component parts from the core region of Scandinavia and two North European sites from the area of expansion and interaction.

The Jelling mounds, runic stones and church in Denmark and the Þingvellir National Park in Iceland are World Heritage Sites.

The Viking Age was an important transitional period in Northern Europe which, for the most part, had never been part of the Roman Empire. Made up of a network of politically unstable chiefdoms and petty kingdoms in the 8th century AD, the region became dominated by the formation of Medieval states by the 11th century AD. All the nomination's component parts are located where essential historical actions took place during the Viking Age. These actions have left various physical constructions which illuminate central themes in the making and development of Viking Age societies. The component parts are scientific keys to an understanding of this transition and the concurrent changes in economy, society and religion. This series of sites thereby constitutes an important testimony relative to the cultural-historical period of the Viking Age in the geo-cultural region of Northern Europe.

The serial property comprises the archaeological remains of a trading town and an assembly site, as well as of harbours, sites of governance, defensive structures, production sites, settlements and burial places, covering the entire duration of the Viking Age. Consequently, the series of sites testifies to the diversity of remarkable material evidence available from the Viking Age, and provides valuable information on the changing societal, economic, religious and political conditions of the time supported by contemporary written sources.

Justification for criteria

Criterion iii). In the Viking Age, local tribal societies in Northern Europe became an integral part of the civilisation of the European Middle Ages. The development of shipbuilding technology and navigational skills for sea voyages was crucial for the political, religious, social and economic processes of this transition. In the course of this transition, the people of the Viking Age became the first to inhabit the North Atlantic islands of the Faroes and Iceland. They were also the first European people to reach Greenland and even North America in historical times.

The interaction with people and power structures in Europe changed the Scandinavian societies.

Collectively, this series of the seven component parts explains the change in pagan local traditions, the shift in settlement structures and economic concepts and the development of parliamentary traditions and of lasting institutions of power in Northern Europe, characterising the transition to Medieval states, through a remarkable material heritage extending from the 8th – 11th centuries and rendering the ensemble an exceptional testimony to the Viking Age.

Criterion iv): The migration and the interaction of the Norse with other peoples in Europe led to new architectural expressions and uses of the landscape which are preserved today as impressive archaeological sites dating from the 8th – 11th centuries.

This series of Viking Age localities consists of archaeological key-sites that illustrate the emergence of Medieval societies and states in Northern Europe during the Viking Age.

It encompasses the archaeological remains of sites of governance with symbolic and religious monuments, assembly sites for deciding legal and political issues, defensive structures such as ring fortresses and border defences, production sites such as quarries, trading towns with harbours, burial places such as ship burials in large barrows and sites of cultural interaction. These types of archaeological sites are distinctive for the Viking Age in their specific form, architecture and layout, use and function and material expression and, as such, bear exceptional witness to this time of transition in Northern Europe.

Statement of Integrity

All the archaeological sites in this nomination belong to the same cultural-historic group, which is characteristic of the Viking Age in Northern Europe. They cover the entire historical period from the 8th to the 11th century AD. Due to the archaeological nature of the remains, a large number of the sites from the Viking Age have been destroyed over the course of time, whereas others still await detection. This series constitutes a selection of well-preserved Viking Age sites of great historical and scientific value, which are large enough to be able to preserve these values for the future. Together, the component parts complement each other exceptionally well, reflecting different aspects of the transition from tribal chiefdoms to Medieval kingdoms in the Viking Age and therefore serving as “scientific keys” to its understanding.

The borders of the nominated property are defined by the extent of the complete archaeological sites of the component parts. Representing all important historical building

phases and structures, the archaeological material and substance, the construction and layout and the situation and setting of these sites are adequately intact in order to convey the significance of each component part and of the property as a whole.

Statement of authenticity

The credibility and truthfulness of the evidence for the interpretation of the archaeological sites in this series for the transitional process from tribal societies to Medieval states in the Viking Age is conveyed by the genuine archaeological material, as well as the construction and layout and the situation and setting of the component parts. All archaeological remains of the nominated property have retained their authentic construction and layout since the Viking Age. The archaeological material and substance of the nominated property is also entirely authentic. All building phases, features and their remains relevant to this nomination date from the Viking Age or are likely to do so. Important topographical conditions and features, which were historically availed of in the choice of site and the layout of the structures, are still recognisable even today. Where recent repairs and restorations have been carried out, these can clearly be distinguished from the historical material and are based on complete and detailed archaeological documentation.

The credibility of the evidence has been corroborated by numerous written sources and extensive research using established archaeological and scientific methods. The theories employed in the interpretation of the sites and of historical processes in the Viking Age are derived from this research and have wide acceptance in the scientific community.

Requirements for protection and management

The values and integrity of the nominated serial property are managed and safeguarded by management systems on two levels. The integrity and values of the entire serial property are maintained within a transnational management framework, with all States Parties committed to the aims of protecting, preserving, monitoring and promoting the Outstanding Universal Value of the nominated property.

integrity and authenticity takes place on the level of the individual component part. The responsibility for the management on this level remains within each State Party.

All component parts and their buffer zones are protected according to the legal systems in place in each State Party. In addition, the majority of sites and areas are owned by public bodies. The various protection and planning mechanisms, and acts which apply directly to the

component parts, are sufficient to guarantee the protection and preservation of the Outstanding Universal Value, integrity and authenticity of the whole nominated property and its component parts.

Funding is provided by the participating States Parties or regional government for the Steering Group and the Secretariat, while the funds for the management of each component part are generally sustained by the responsible States Parties or regional authorities.

A core issue of cooperation among the partners in the serial nomination and beyond is the building of an active network between Viking Age key sites and their stakeholders which will improve management, conservation, communication and monitoring of the Viking Age heritage on an international level. Among the main tasks for this network will be to improve the overall parameters for the common monitoring system, to maintain and enhance support from regional and local communities and other stakeholders for the preservation of the sites and their settings and to secure financial support in order to improve maintenance and presentation of the sites.

Threats common to most of the sites included in this nomination, such as land use, housing developments and visitor pressure, and also natural agents like plant growth and animal activities, need to be tackled in a collaborative way. More site-specific threats, such as damage by development, specific animals or plants, or earthquakes, require additional research and training and the exchange of expertise, knowledge and mutual support.

The overall management group will consist of representatives from National Heritage Boards, Cultural Heritage Agencies and/or Ministries in the respective States Parties, according to the legal responsibilities awarded them by their respective cultural heritage laws. The respective site managers will also form part of the group.

The formation of the overall management group will take place in 2014 and the first meeting is planned for December 1st 2015.

2.2 Geology in the quarries

The quernstone quarries in the municipality of Hyllestad are situated on the Åfjorden fjord, north of the outlet of the Sognefjorden fjord in the county of Sogn og Fjordane. The natural

prerequisite for quarrying operations at Hyllestad was provided by a special type of rock which can be described as garnet-kyanite mica schist lying in a belt along the north and east sides of the Åfjorden fjord. The rock that the stones have been carved from is easy to recognise, and is thus well suited to studies of provenance (Figure 3).

In 2007, the *Geological Survey of Norway* (NGU) undertook a complete registration of the entire quarry landscape at Hyllestad. Each single quarry was mapped and recorded in databases and all the quarries were characterised on the basis of geological features, extraction techniques, morphology and size. This characterisation of the quarry area establishes that there are minor mineralogical differences within the various zones at Hyllestad. Geological factors have set the terms for extraction, and certain geological differences have been of importance in quernstone operations (Heldal and Bloxam 2007).

White mica (muscovite and sericite) is predominant among the micaceous minerals in the quarry area. Quartz is also common, as well as small quantities of staurolite and chloritoid. Within the mica schist zone, mineralogical variations between the various quarry areas have been demonstrated. The garnets vary in size and distribution, and there is evidence that there was a clear preference for operations in areas where the garnets were between 2 and 7 millimetres in size. Although kyanite also varies in distribution, this does not seem to have played a decisive role in the selection of the production area (Heldal and Bloxam 2007:15).

The mica varies in both extent and texture. The most common type is the frequently occurring coarse-grained aggregates of white mica that give the schist the silvery corrugated surface that is typical of the Hyllestad stone. This variety of mica was preferred in quarries where the quernstones were shaped and carved directly from the bedrock, and most of the quarries are located where this type of mica occurs (ibid.).

In the eastern parts of the larger quarry area at Hyllestad we find areas with less of these coarse-grained aggregates, and the coarse-grained mica occurs more frequently as isolated grains. This type is also richer in quartz and the combination results in harder rock. When gunpowder was utilised in quernstone production at a later date, this type of mica schist was preferred. Normally the garnets are less cracked and display better formed crystals than is the case with the softer type of schist. This may have ensured greater durability and improved grinding properties in the quernstones. Therefore the location of blasting quarries in this sub-

type of mica schist in more recent times may be explained by quality-related considerations. The stone was harder to carve but it may have been more suited to blasting operations than the softer type, while the quernstones may have had a higher user quality. This harder type of schist was not exploited in the Viking Age. The older production areas are all located where the softest variety of schist is found. This rock is easier to cut, which may be a key factor in the concentration of the earliest operations in these areas (ibid.).

The *cleavage* in the mica schist is the plane surface along which the schist can most easily be split. The quernstones were generally oriented along this surface, and they were loosened from the plane surface by splitting. The direction of the cleavage was often the deciding factor in the extraction of the stones. In some places the cleavage is almost horizontal while in others it is closer to vertical (Heldal and Bloxam 2007:18). As a result the quarries differ in appearance in that the stones at some quarries were extracted almost horizontally, while at others they were shaped and carved out of almost vertical rock walls. Moreover, in a few quarries the mica schist contained secondary cleavage lines, and in quarries located in such zones there might have been a higher degree of wastage and thus more unusable and damaged quernstones than in other quarries (ibid.).

Another kind of variation in quality in the quarry area is the *folding* of the mica schist. In areas where the cleavage is strongly folded it is difficult to extract quernstones.

Pervasive fracturing in the rock also created difficulties for the quarrying operations. Some cracks are filled with quartz, and too many veins of quartz in the quernstones marred the quality. This can be seen quite clearly since quarrying operations ceased in sections with a large amount of quartz. However, during extraction activities, existing cracks in the rock were used as a natural delimitation of the quarry or the extraction zones in the individual quarry.

2.3 The quarry landscape

The stone quarries are scattered along a belt on the northern and eastern side of Åfjorden. So far a total of 367 stone quarries and trial extractions have been recorded within an area of approximately 20 square kilometres, distributed among 18 different farms in the land register. The quarries are found along the edge of the fjord and up to over 200 metres above sea level. Nonetheless the majority are located along the fjord and in the adjacent sloping terrain

above, less than one kilometre from the sea (Figure 4). Thus the entire quarry landscape is superbly located in an area of great natural beauty with wide diversity. This gives visitors to the area a unique experience.

Dense vegetation in many places and the extent of the cultural landscape makes it likely that there are still undiscovered quarries. Ever since the Viking Age, large-scale production has played a role in altering the original landscape of Hyllestad, and quarrying operations must have been a key factor in shaping the identity of the local community over a period of several hundred years.

In the Viking Age the quernstones were shaped and carved directly from the bedrock, and quernstones that have not been loosened from the rock can be found in a number of the quarries (Figure 5). However, the quarry landscape is varied and manifold. The investigations undertaken by NGU provided evidence of different quernstone types with different methods of production, and the work resulted in detailed maps and databases of the stone quarries and their geology as well as of the remains of roads and infrastructure in the production landscape (Heldal and Bloxam 2007). NGU's report provides an excellent starting point for the work on the management plan and choice of the nominated property, and forms the basis of this presentation of the quarry landscape.

The quarries can be divided into a number of sub-types: *Shallow quarries*, where quernstones and millstones were split along the cleavage plane, were the most common type of quarrying in Hyllestad with a total of 130 recorded quarries (Figure 6). Here the quernstones were carved from the cleavage surface. Extraction took place one layer at a time, so that the quarry finally appeared with large cleavage planes with numerous circular depressions side by side from the quernstone extraction (Figure 8). Even though quernstones for use as both hand quernstones and larger water millstones were produced at this type of quarry, the extraction of hand quernstones predominated. We find such *shallow quarries* in the entire quarry area of Hyllestad (Heldal and Bloxam 2007:48-50).

Another sub-type is *deep quarries*, characterised by deeper extraction perpendicular to the cleavage and resulting in deeper and more precipitous quarries (Figures 7 and 8). Altogether 45 such quarries have been recorded. This kind of extraction led to tall, smoothly carved rock walls and steps where the quernstones had been hewn out, one on top of another rather than

side by side. Typical for these quarries are prominent spoil heaps forming a semi-circle around the quarry wall (Heldal and Bloxam 2007:51-54).

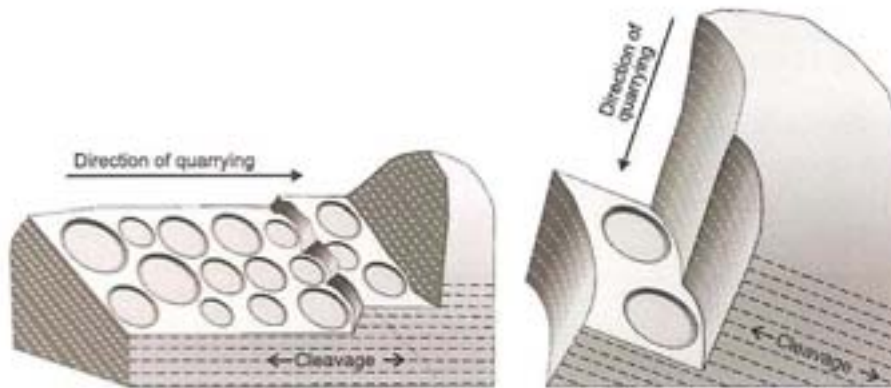


Figure 8: Principle for extracting quernstones along the cleavage plane (*shallow quarries*) and extraction in layer-wise descending quarries (*deep quarries*). (After Grenne et al. 2008 fig. 18)

This type of quarrying is concentrated in a central part of the quernstone production area, and with few exceptions the quarries are only found on two sites – on the farms of Rønset (Land Number 71) and Myklebust (Land Number 79). In comparison with the *shallow quarries* the *deep quarries* appear to represent more intensive operations and more effective land use. Both hand quernstones and water millstones were produced at this kind of quarry, but water millstones appear to play a greater role than in the case of the *shallow quarries*. In conjunction with a more concentrated localisation, this may indicate that such quarries represent a later development than the *shallow quarries* (Heldal and Bloxam 2007:54), even though both types can be dated to the Viking Age (Baug 2002:31-58).

The third relatively common type of quernstone quarry at Hyllestad is a combination of *deep and shallow quarries*, referred to as *combination quarries*, fifteen of which have been recorded. Typical for these is that a quarry starts off as a *shallow quarry* but that after some time production is carried out perpendicular to the cleavage so that in the course of time the result is a *deep quarry*. This may be linked to different periods of operation when old quarries were re-opened using new extraction techniques. These *combined quarries* are also concentrated at Rønset and Myklebust (Heldal and Bloxam 2007:54).

Many of the quarries at Hyllestad are very overgrown and covered by spoil from operations. In several cases extraction has been so intensive that all accessible rock faces have been exhausted, and the only visible signs of production are the spoil heaps. Today these quarries appear as pits in the terrain, often with a semi-circular spoil heap around the pit (Figure 9). There are 42 such *quarries appearing as pits*, as well as 35 registrations of what are in all probability quernstone quarries. Again with few exceptions this type of quarry is to be found on the farms of Rønset and Myklebust, where the most intensive production took place (Heldal and Bloxam 2007:57).

In addition, 72 *trial extractions* for quernstones have been recorded (Figure 10). These vary from between one to ten quernstone extractions and can be characterised as pilot and trial operations to assess the quality of the rock. Such *trial extractions* are found throughout the entire expanse of the quarry area – but once again the majority are found on the key sites of Rønset and Myklebust. They are primarily located on the rocky shoreline of the Åfjorden fjord, on exposed rock and in stream beds. Thus systematic exploration has been conducted of the area where the most suitable exposed rocks are to be found, proving that the search for good resources has been methodical but has been mostly carried out within a defined area (Heldal and Bloxam 2007:59).

Apart from the quarry types mentioned, a small number of other sub-types have been identified. These consist of *quarries in scree deposits* (3 quarries), *loose block quarrying* (6 quarries), *splitting with wedges* (1 quarry) and 18 *blasting quarries*. The latter two sub-types represent a later development in the extraction of quernstones and cannot be dated to the Viking Age. Most of the blasting quarries are situated in a belt between the farms of Berge (Land Number 80) and Rønset (Land Number 71). Since gunpowder was first introduced into mining operations in Norway in the 17th century, all blasting quarries must be later than this (Heldal and Bloxam 2007:56-57).

Quarry pits in scree deposits are characterised by circular depressions in natural scree with blocks of schist. Stones of a suitable shape and size were selected and carved as quernstones, and only hand quernstones have been recorded in these quarries. No archaeological investigations have been conducted at this type of quarry, but a possible hypothesis is that they represent the commencement of quernstone production at Hyllestad (Heldal and Bloxam 2007:47-48).

Loose block quarrying has only been recorded at a couple of places – and neither of these is situated in the World Heritage area. Large stone blocks have been used, and there may be up to ten to twelve circular marks from quernstone extraction on each single block. Only one unfinished water millstone has been recorded, and the remaining extraction marks relate to hand quernstones (Heldal and Bloxam 2007:56). The dating of this type of quarry at Hyllestad is unknown.

2.4 Delimitation of the nominated property and the buffer zone

The large stretch of the quernstone landscape at Hyllestad means that it is necessary to select the area that will be incorporated as World Heritage from a much bigger production area. Three nominated areas have been selected. These are located at the farms of Rønset (Land Number 71), Sæsøl (Land Number 78) and Myklebust (Land Number 79). The delimitation of the nominated property has been decided in consultation with the landowners of the three farms respectively. The three nominated areas each offer different qualitative experiences, and each provides individual insight into the stone industry from the Viking Age, while in combination they clearly portray the dimensions, intensity and diversity of the production. Size and coordinates of the nominated property are shown in the table below.

Nominated property	Coordinates of the central point in the nominated areas	Nominated areas and buffer zone (ha)
Rønset	N 61°11'47" E 5°17'25"	28,7
Sæsøl	N 61°10'35" E 5°18'53"	33,3
Myklebust	N 61°10'00" E 5°18'14"	15,2
Total nominated property		77,2
Area of the buffer zone		5928,4

The nominated areas at the farms of Rønset and Myklebust represent the main area of production, with a total of 129 and 70 quernstone quarries respectively.¹ The quarries lie very close together and in several places they appear to be overlapping and adjoining quarry areas. In some areas large outcrops were levelled and enormous amounts of stone rubble cover these

¹ All mapping of the quarries and the quarry areas in the following maps have been derived from NGU's registrations at Hyllestad, conducted by Tom Heldal.

and the area around. At times the quarry and the spoil heaps are so close together that the original terrain is no longer visible.

In contrast the nominated area at Sæsøl farm is located in a marginal area, and only 11 quarries are identified within the property. The area is characterised by more scattered and isolated quarries, and in addition each individual quarry is generally smaller and has fewer extractions of quernstones. Thus the area is of significance in portraying the various nuances, intensity and forms of operation. In total these three areas provide a clear, varied and representative picture of Viking Age production – and aspects and nuances that are of importance for the quarry area as a whole are incorporated and preserved.

Rønset (Land Number 71)

The historical farm of Rønset is situated on the northern side of Sørffjorden, a narrow arm of the fjord in the inner reaches of Åfjorden. In the east the farm borders on Berge farm (Land Number 80) and in the west on Leirpollen (Land Number 25). Rønset is the area of Hyllestad where the most intensive production took place. The majority of the quarries are located in the outlying area in the northeast part of the farm, and little activity has affected the cultural landscape after the termination of production. The transport roads used in connection with operations are still visible at some places in the landscape. Today these appear in the form of sunken roads and a few loosely-laid stone roads leading from the quarries by the shortest route down to the sea and the closest shipment harbour.

In the northwestern part of the farm several blasting quarries from more recent times have been recorded, but these are on a much smaller scale than the older quarries. The modern quarries are not included in the nomination.

Rønset has a shoreline of approximately 1.6 km and traces of large-scale extraction are visible all the way down to the foreshore. Two shipment harbours, *Otringsneset* and *Aurgota*, have also been recorded at the farm (Figure 11). Large quantities of quernstones are scattered on the sea bed close to the harbours – some of these probably stem from unsuccessful production along the shoreline while others represent quernstones lost during loading. Ballast stones have also been recorded in the sea – which again clearly indicates that the loading of quernstones took place here. In this respect the nominated area at Rønset also constitutes underwater cultural heritage (Figure 12).

Moreover, two mooring hollows have been hewed in the rock at Otringsneset. These have probably been used for mooring boats during the loading of the quernstones. Therefore Rønset farm and Otringsneset together represent a powerful symbol of the far-reaching distribution of and bulk trade in quernstones. Thus the area helps to illustrate and clarify the maritime communication that was so important during the Viking Age.

At Rønset large parts of the property are defined as a noble hardwood forest reserve, which restricts the use of the area.

The nominated area follows the river to the northwest and the farm boundary between Rønset and the neighbouring farm of Leirpollen (Land Number 25). To the northeast the boundary partly follows an old farm road, while the boundary to the southeast follows the border between the arable land and the outlying areas of the farm. To the south the nominated area is extended into the sea in order to incorporate the underwater quernstone landscape (Figure 13).

Myklebust (Land Number 79)

Myklebust farm is situated on the east side of Hyllestadfjorden, the second arm of the fjord in the inner reaches of Åfjorden. The farm has a shoreline which is approximately 2 km long. Myklebust borders on Hyllestad farm (Land Number 77) to the north where the border runs from the bay of Hyllestadvika south of Kyrkjefjellet, a bay with good harbour conditions. To the east the farm borders on the outlying areas of Kleive (Land Number 80).

The nominated area at Myklebust contains several stretches with very large quarries and spoils heaps (Figure 14). Here too some areas appear as adjoining production areas where it is difficult to distinguish between the different quarries. There is a rich variety in the area, which is characterised by an alternation between open stretches of cultivated land and hardwood forest with elements of spruce.

The boundaries of the nominated area have been established with a view to incorporating the extent and diversity of the production area. To the northeast the boundaries follow the farm borders of Myklebust and the neighbouring farm of Hyllestad (Land Number 77). The southern boundary largely runs parallel to the River Myklebust (Figure 15).

The southern part of the nominated area at Myklebust is situated beside the busiest main road leading to the centre of Hyllestad, and is thus the first thing visitors to Hyllestad see. The area is easily accessible from the road and the carpark. Millstone Park has also been established in the same area, directly south of national road 607, and is adapted for visits by the general public in an area that is very suited for conveying information. The park was opened on 11 June 2002 by Queen Sonja.

One of the quarries in Millstone Park was released by the Directorate for Cultural Heritage on 18 October 2005 so that test cutting and research on cutting techniques and the use of tools in quernstone production could be carried out. The area released amounted to 200 square metres.

The remains of an old hydropower station can be found in the western part of Millstone Park. This has resulted in some disturbance and destruction of the spoil heaps from production in this area. The remains of the power station are barely visible today, and therefore do not mar the aesthetic value of the landscape. Nonetheless, the majority of the quarries in the area are untouched, and this – combined with the large extent and dimensions of the quarry area – means that Millstone Park stands out as an area of great integrity.

The nominated area at Myklebust extends north of Millstone Park. This includes a quarry that has been a production site for stone crosses (Figures 16 and 17). This is the only quarry we know of – both within Norway and elsewhere – where traces of a large and important production of stone crosses can be seen. In addition, the quarry shows that quernstones and stone crosses were produced at the same quarries at Hyllestad. In the southern part of this area, parts of the spoil heaps have been disturbed due to the excavation of drainage ditches in connection with agricultural operations. However, these encroachments are relatively small – taking into account the large size of the quarry.

Continuing further northwards the landscape is more open, and the area thus gives an excellent visual impression of the quernstone extraction. Several large *deep quarries* are situated here, bearing witness to highly intensive operations and efficient land use. It is possible that these quarries represent more recent production, perhaps from the Middle Ages. Nevertheless, the quarries have been incorporated into the nominated area at Myklebust in order to present the extraction in its entirety in this area and to safeguard it.

Sæsol (Land Number 78)

The more marginal production areas at Hyllestad are located northwest of Rønset farm, as well as on the eastern side of Åfjorden. The farmland of Sæsol is situated within the latter area, along the steep mountain slope east of Sjørefjorden. The farm buildings and the cultivated fields both lie on a hilly slope with a good view of Åfjorden. The farm has barely 200 m of shoreline south of Stigedalen (Title Number 2 at Sjørefjorden, Land Number 72). Here there are fairly good harbour facilities. The outlying areas stretch eastwards to Lake Gåsetjørna in the direction of the outlying areas at Akse (Land Number 68), with the neighbouring farm of Sjørefjorden (Land Number 72) to the north. To the south lies Hyllestad farm (Land Number 77).

The quarries at Sæsol are situated on the fringes of the large quarry areas at Hyllestad and differ in character from the central areas. The quarries are more widely dispersed and isolated, and in addition each individual quarry is generally smaller with fewer quernstone extractions (Figure 18). Thus the area plays a significant role in capturing the various nuances, intensity and forms of operation.

A large degree of folding has been demonstrated at Sæsol. The occurrence of good cleavage is much more widely dispersed here in comparison with other areas, and this may well be the reason that the quarries at Sæsol are relatively few and scattered (Heldal and Bloxam 2007:20).

The waste deposits from one of the quarries have been disturbed. Apart from this there has been no activity here that has affected the production area.

To a large extent the nominated area at Sæsol incorporates all the recorded quernstone quarries on the farm. The northeastern boundary follows the farm perimeter in the direction of the neighbouring farm of Sjørefjord (Land Number 72), while the boundary to the south follows the river that flows out of Gåsetjørna. Gåsetjørna forms a natural boundary to the southeast, and this boundary also passes two modern quarries. The eastern and western boundaries largely has the shape of straight lines, as there are no clear demarcations in the terrain forming natural boundaries (Figure 19).

Buffer zone

The buffer zone² follows to a large extent the occurrence of garnet mica schist on the northern and eastern sides of Åfjorden and thus includes most of the quarry landscape (Figure 20).

Several unregistered quarries may also be located here beneath the vegetation. These will be managed in keeping with normal administrative practice, cf. the Cultural Heritage Act and the Planning and Building Act.

At the same time the hills and ridges along Åfjorden on the northern, eastern and southern sides form a natural boundary in the landscape around Åfjorden and its seaward approach.

The buffer zone south of Åfjorden is situated outside the area of garnet mica schist.

Nonetheless, it is deemed important to include this area in the buffer zone due to its proximity to the production landscape and the view from there. In particular the visual impact of encroachments on the quernstone landscape will be of significance.

2.5 Historical overview

In the Viking Age milled grain was one of the most important constituents of the diet. It was essential that the grain was milled so that people could make use of it in their food. The hand quernstones must therefore have been used frequently and must have been an essential household article. Mass production of this type of utilitarian product was a new phenomenon in Scandinavia which emerged in the Viking Age, and the production of this important tool has left behind a unique cultural landscape at Hyllestad.

In the Viking Age the main product at Hyllestad was hand quernstones. These could vary in size from approximately 30-60 cm in diameter although the average size appears to have been approximately 40-45 cm. At the transition to the Middle Ages production of water millstones commenced at Hyllestad, and bigger millstones were now produced along with hand quernstones (Baug 2002:53, 60).

The production landscape at Hyllestad is large and comprehensive and archaeological investigations that cover the whole quarry landscape are not feasible. Consequently several minor archaeological registrations and investigations have been conducted at selected places

² The buffer zone has been drawn up in line with the proposal of Tom Heldal, NGU, and in consultation with him.

within the extensive quarry landscape. So as to acquire the most accurate picture of the extraction it has been important to include different kinds of quernstone quarries within the various farm areas in addition to quarries located at varying distances from the sea and the transport roads.

The first investigations were carried out in 2001 (Baug 2002), with later investigations in 2006 and 2008 (Baug 2013). Within the nominated property, four quarry sites have been investigated at Rønset, two at Sæsøl and two at Myklebust. The archaeological surveys show that the production dates to the early Viking Age – possibly to approximately the 8th-9th century. The intensive exploitation of the area has meant that the oldest quarries are covered by stone waste from subsequent quarrying. Therefore it is difficult to date the start-up phase of production, and the oldest operations are thus earlier than the oldest datings from the quarries.

In all likelihood this early extraction was based on local and regional use within Norway. Towards the last half of the Viking Age, approximately 950, production expanded to an industrial level with mass production of quernstones for a bigger market. The extraction was now based on sale and profit. Thus the quarries represent a special production environment which sheds light on the development of both mass production and bulk trade in the Viking Age.

The quernstones were exported over extensive areas and the far-reaching and comprehensive shipments demonstrate that Hyllestad was part of an “international” trade network in the Viking Age. The shipbuilding technology of the time paved the way for new forms of contact and trade, and the trade in consumer goods in particular of which the quarries at Hyllestad formed part was associated with the development of merchant vessels with considerable freight capacity. In Norway 18 cargoes with quernstones have been found wrecked (Nymoen 2011:68). So far provenance studies have only been conducted in a few cases, but six of the cargoes contain quernstones from Hyllestad, bearing witness to the maritime trade and seafaring connected to the quarries (Figures 21 and 22). No remains from the shipwrecks have been found, and the cargoes with Hyllestad stones cannot be dated (Hansen 1992; 1997; pers.com.; Baug 2002:75-77). However, the finds clearly indicate how important the sea routes were for the export of quernstones. Two of the cargoes have been raised – one from Alverstraumen in the municipality of Lindås and one from Bukken in the municipality of

Sund, both located in Nordhordland – and are currently on show in Millstone Park at Hyllestad. The cargo from Alverstraumen is the largest, comprising 505 quern- and millstones and weighing more than 13 tonnes.

Large parts of northern Europe were included in Hyllestad's contact sphere, but we find the largest distribution of Hyllestad stone in the areas bordering on the Baltic Sea. Quernstones from Hyllestad have been found in such large quantities in Sweden and Denmark as to indicate well-organised trade within defined contact networks (Carelli and Kresten 1997).



Figure 23: Quernstone regions in Southern Scandinavia. (I) garnet mica-schist from Hyllestad, (II) Mayen Lava from Rhineland in Germany, (III) schistose sandstone from Malung in Sweden and (IV) gneiss from Lugnås in Sweden (After Carelli and Kresten 1997: fig. 18).

The range of products at Hyllestad included more than quernstones. The quarries have been a major production site for stone crosses, of which the oldest probably date back to the first period of Christianity and the transition from the Viking Age to the Middle Ages – with a

continued production into the Middle Ages (Baug 2013). A number of the stone crosses are still preserved at very special places along the coast of western Norway (Figures 24 and 25). Extraction of this kind sets the place of production in a wider context with links to regional kingdoms, local elites and again to the major social upheavals of the Viking Age in both a concrete and symbolic manner. Hyllestad represents a unique area of production. The production of crosses continued into the Middle Ages, with smaller crosses being produced and placed in different churchyards.

Quernstone operations at Hyllestad in the Viking Age formed the basis of a production that continued for over 1,200 years, through the whole of the Middle Ages and up to more recent times. During the Middle Ages the range of products was also extended to include grave slabs and stone vessels, as well as smoke vent stones in more recent times. Nevertheless, the main product throughout the entire period was quernstones. The last quernstones were extracted in Hyllestad in 1930 using a different technology – that of gunpowder.

Quernstone quarries have been recorded at several places in Norway with a type of rock very similar to that we find in Hyllestad. However, the Hyllestad production area stands out. It is the oldest that we know of in Norway. It has been part of a large network of contacts and as previously mentioned it has been a central place of production of stone crosses. This makes the production area very special and unique, also in a European context.

3 Visions and objectives for the World Heritage area

Visions and objectives are developed in accordance with proposals from and in dialogue with Hyllestad municipality, Norwegian Millstone Centre and Sogn og Fjordane county authority.

3.1 Short-term visions (5 years)

Hyllestad will be developed into a national and international attraction for visitors, while reinforcing local identity and roots. Good and simple visitor amenities will be provided so that Hyllestad will become an important destination with high-quality communication. The local people will be well informed and will take their role as hosts seriously, and the quernstone

quarries will play a role in the development of identity and pride with regard to the coming generation.

In cooperation with the landowners, walking trails will be established within the nominated property, and signposts, maps and GPS will be in use. The local business sector will use the World Heritage status positively in order to stimulate sustainable development and growth within the local community.

The infrastructure – road and parking facilities as well as overnight accommodation – will be improved for the benefit of both local inhabitants and visitors.

Expertise within research, management and dissemination based on cooperation with Norwegian Millstone Centre/The Museums in Sogn og Fjordane, Sogn og Fjordane county authority, the University Museum of Bergen, the University of Bergen and Norwegian Geological Survey will be established.

3.2 Long-term visions (20 years)

In 20 years time the production landscape will remain well preserved and the nominated property will be well adapted for visits where this is appropriate, while parts of the area will remain undisturbed. The property will be examined and documented to a greater extent and archaeological and geological expertise related to the quarries will be extended.

Norwegian Millstone Centre will be a well-functioning World Heritage centre. A visitor's centre will be established in connection with Millstone Park, and conference facilities and exhibition space will be available.

The established expertise within research, management and dissemination based on cooperation with Norwegian Millstone Centre/The Museums in Sogn og Fjordane, Sogn og Fjordane county authority, the University Museum of Bergen, the University of Bergen and Norwegian Geological Survey will be further developed.

Collaboration with the other component parts will lead to internationally accepted best practice of site management and high quality research. Norwegian Millstone Centre will

become an arena for national and international conferences within archaeology, history, geology and crafts.

The activity will lead to an increase in visitors within a living and sustainable local community. Overnight accommodation capacity will be improved and the facilities established for visitors will be well adapted to the landscape and building traditions in the area.

4 Instruments

World Heritage status does not entail a new form of protection but gives an additional stamp of quality to the area – in addition to preeminent status nationally and internationally.

The national statutory and regulatory frameworks apply with regard to safeguarding World Heritage. The Norwegian administrative system is thus responsible for the management of the World Heritage areas.

4.1 The legislation

The *Cultural Heritage Act* and the *Planning and Building Act* are the most important legal instruments for the protection of the nominated property. The principle of participation and early involvement in planning processes ensures transparency, predictability and public participation for all affected groups and authorities. Any administrative decision made pursuant to these Acts can be passed on to a higher administrative level with the Ministry of Climate and Environment as the highest appeal instance.

The Cultural Heritage Act

In Norway cultural sites and monuments from before 1537 are regarded as automatically protected cultural heritage and have a security zone of a minimum of 5 metres. This also applies to the quernstone quarries in the nominated property. Without exception they are automatically protected and governed by the *Act of 9 June 1978 no. 50 concerning the Cultural Heritage (the Cultural Heritage Act)*. Any measures to be taken in the quarry area will require a dispensation from the Act granted by the Directorate for Cultural Heritage.

The majority of the quernstone quarries outside the nominated property but within the buffer zone are also automatically protected cultural heritage monuments, governed by the Cultural Heritage Act. The exception is 18 blasting quarries from more recent times.

The Planning and Building Act

The Act of 27 June 2008 no. 71 relating to Planning and the Process of Building Applications (*the Planning- and Building Act*) provides for a system of coordinated planning in the use of land and resources for central government, regional and municipal functions. One objective is to achieve sustainable development. The Planning and Building Act is thus an important instrument for safeguarding cultural and natural values in an appropriate manner – also the large number of cultural monuments and sites that are not protected by the Cultural Heritage Act. The Act contributes to coordinate governmental, regional and municipal tasks and gives a basis for decisions regarding the use and protection of resources, and thus safeguards cultural and natural values in an appropriate manner.

The Planning and Building Act requires the municipalities to prepare a municipal master plan comprising a social element and a land-use element, and thus coordinate physical, economic, social, aesthetic and cultural developments within the municipality. In the land-use element, cultural monuments and sites and cultural environments can be safeguarded by means of land-use objectives and zones requiring special consideration. The Act gives the municipalities the main responsibility for detailed planning, but requires safeguarding of regional and national considerations in matters involving cultural heritage and cultural environments. The Act thus gives the municipalities the main responsibility for preparing zoning plans. These state the use, protection and design of the land area and physical surroundings in delimited areas. Thus at the local level, the municipal master plan and the zoning plans constitute the management instrument.

The municipal master plan for Hyllestad 2009-2020 applies to the whole of the municipality. The final planning decision was made on 1 October 2009. There are eight *zoning plans* within the buffer zone passed in the period between 1991 and 2004, as well as a protection plan for the nature reserve at Rønset. The zoning plans mainly include areas that are regulated for the building of dwelling houses/residential estates, holiday cabins for rental, and industrial enterprises.

In areas designated for agriculture, natural and recreational purposes (ANR areas) there is in general a ban on building. However, the erection of buildings or the implementations of measures that are necessary in agriculture are permitted.

There is also a general ban on building inside a 100-metre belt along the shoreline, and parts of the property at Rønset lie within this zone.

The Nature Diversity Act

The Act of 19 June 2009 no. 100 relating to the Management of Biological, Geological and Landscape Diversity (the Nature Diversity Act) is of importance in protecting biological, geological and landscape diversity and ecological processes. Altogether there are five protection areas in the municipality of Hyllestad as defined by Nature Diversity Act – one bird protection area and four nature reserves. One is located within the nominated area at Rønset and one within the buffer zone.

Within the nominated area at Rønset a large part of the property is defined as a noble hardwood forest reserve in accordance with the earlier *Nature Conservation Act (Act of 19 June 1970 no. 63 relating to Nature Conservation)* which was replaced by the Natural Diversity Act of 19 June 2009. In keeping with this, the area has been incorporated into the municipal master plan as a protected area pursuant to the Nature Diversity Act. To a large extent this has restricted the use of the area, and agricultural activities other than livestock grazing are not permitted (Figure 25).

Another protection area is located at Lake Aksevatnet in the buffer zone. The site was designated as a bird protection area in Sogn og Fjordane county by Royal Decree of 20 December 1991. There are no quarries here and the protected lake will not affect the quarries and the nominated area.

The remaining protection areas are located outside both the nominated property and the buffer zone.

The Land Act

The purpose of the *Act of 12 May 1995 no. 23 relating to the Use of Land (the Land Act)* is to ensure that land is used in a way that is beneficial for society and for those employed in agriculture. Provisions in the Land Act state that cultivated land must not be used for purposes that are not directed at agricultural production, and that cultivated land must not be used in such way that it becomes unsuitable for agricultural production in the future. The Act contributes to the preservation of the cultural landscape in the nominated property and the buffer zone.

4.2 Sources of funding

National schemes

A few grant schemes are relevant for World Heritage Sites. Funds have been allocated for projects in the World Heritage areas through appropriations via the state budget to the Directorate for Cultural Heritage, post 72.9.

The Directorate for Cultural Heritage also has a grant scheme for the management of automatically protected cultural heritage, post 72.6. Funding for both management and dissemination activities can be applied for.

The Norwegian Cultural Heritage Fund initiates and stimulates projects and measures at cultural heritage sites and cultural environments to ensure that the sites are preserved. World Heritage areas have been given high priority.

Regional and local schemes

Regional environmental programmes offer grant schemes with the aim of promoting active agricultural operations that preserve and develop open cultural landscape in the county. Applications can be made for grants for the care of automatically protected cultural monuments and sites (www.fylkesmannen.no).

In accordance with the regulation concerning grants for special environmental initiatives in agriculture (*Forskrift om tilskudd til spesielle miljøtiltak i jordbruket*), special subsidy arrangements are available with the aim to protect and develop an open cultural landscape. It is possible to apply for funding for the management of cultural heritage sites (Municipal SMIL funding (special environmental measures in agriculture)). Possible measures are to make

the cultural heritage visible through hay making, clearing and grazing. The municipality makes the decision on financial support.

The Museums in Sogn og Fjordane, section Norwegian Millstone Centre receives annual grants from Hyllestad municipality and Sogn og Fjordane county authority which finance the operation and management of Millstone Park. In addition, as the owner of Millstone Park, Hyllestad municipality grants funds directly to the management of the Park when required. The amount varies, and grants received and used in 2011 are shown in the table below.

Activity and investments costs 2011	Hyllestad municipality; Plan and development	Hyllestad municipality; Hyllestad Primary school	Norwegian Millstone Centre	Total
Activity	10 000,-	15 000,-	20 000,-	45 000,-
Investments	375 000,-			375 000,-
Total	385 000,-	15 000,-	20 000,-	420 000,-

5 Distribution of administrative responsibility

The responsibility for the use and protection of cultural heritage monuments is divided among three different levels of management: national, regional and local.

National level

Ministry of Climate and Environment has the overall responsibility for the management of cultural heritage and cultural and natural environments. The Ministry develops legal and economic measures and is engaged in the protection of nature and cultural monuments and sites. The Ministry is also the highest administrative appeal body, and it is the responsible State Party to the World Heritage Convention.

The Directorate for Cultural Heritage acts as the advisory and executive arm of Ministry of Climate and Environment, with responsibility for monitoring national policies for cultural heritage and the cultural environment. The Directorate is responsible for the implementation of cultural heritage policies and in connection with this also exercises the general professional responsibility for the work of the county authorities on cultural monuments and sites, the cultural environment and the landscape. The Directorate has special responsibility for ensuring the provision of adequate measures for protected monuments and sites and for

paving the way for local and regional actors to carry out their tasks. The Directorate is also empowered to grant dispensations pursuant to the Cultural Heritage Act.

The archaeological museums conduct archaeological excavations and manage the state's right of ownership to archaeological artefacts and movable cultural objects found on land (e.g. quernstones that have been moved from their original context). For Hyllestad, *the University Museum of Bergen* manages this right, and the museum has the responsibility for excavations and investigations of archaeological monuments and sites in western Norway.

The maritime museums conduct marine archaeological surveys and manage the state's right of ownership to marine cultural heritage. They preserve marine cultural heritage, such as shipwrecks or parts of the hull/cargo or other objects that originate from boats/ships. When plans are made that involve encroachments on the sea bed, the museums evaluate, register and express their views on behalf of the cultural departments of the county authorities. In Hyllestad, *Bergen Maritime Museum* has management responsibility for the two quernstone cargoes that are displayed in Millstone Park. Moreover, the museum has a special responsibility for the shipment harbours where ballast stones and quernstones on the sea bed have been thrown overboard or lost from a vessel during shipment.

The Norwegian Environment Agency. On 1 July 2013, the Directorate for Nature Management and the Norwegian Climate and Pollution Agency were merged into one agency, the Norwegian Environment Agency. This is an advisory and executive government agency reporting to the Ministry of Climate and Environment. It will provide expertise for the Government's national and international environmental work and will be responsible for ensuring that the Government's policy is implemented. The agency is responsible for the protection of the natural diversity of plants, animals and the landscape and it designates nature conservation areas.

The Sogn og Fjordane county governor is the state's representative in the region, and ensures that national interests are attended to within the municipalities' land use management. The county governor is responsible for managing the established protected area in accordance with legislation on nature preservation. Thus the clearing and care of the nominated area at Rønset, which is also defined as a protected noble hardwood reserve, must take place in agreement

with the county governor. The county governor has no authority pursuant to the Cultural Heritage Act, but often the interests of the natural- and cultural environments concur.

The *Norwegian Nature Inspectorate* was established by Royal Decree of 25 October, 1996. The Inspectorate must supervise and monitor compliance with decisions made in accordance with the Cultural Heritage Act and other legislation. Thus its main objective is to safeguard national environmental values and to prevent environmental crime.

Regional level

The county authority is an independent political organisation to which authority has been delegated pursuant to the Cultural Heritage Act. The county authority is thus responsible for the follow-up of national cultural heritage policies and for preserving cultural monuments and sites as well as cultural environments. It has a special responsibility for the management of automatically protected cultural heritage. Thus the *Sogn og Fjordane county authority* must take the initiative to ensure that cultural monuments and sites as well as the cultural environment are perceived as key resources in the local community of Hyllestad.

Local level

The municipality controls land use within its own boundaries and is responsible for ensuring that building development plans have been clarified in accordance with the Cultural Heritage Act by submitting them to the county authority. The municipalities have no powers pursuant to the Act but have every opportunity to safeguard cultural heritage through the use of the Planning and Building Act.

Local and regional museums have no authority according to the Cultural Heritage Act, but are collaborators in the management of cultural monuments. *Norwegian Millstone Centre*, which became a part of *the Museums in Sogn og Fjordane* in 2013, plays a crucial role. The key objectives for Norwegian Millstone Centre are research, management and the presentation of the quernstone areas in Norway as historical monuments and sites, and travel destinations. Norwegian Millstone Centre maintains close contact with several Norwegian research communities, including the University of Bergen and the Geological Survey of Norway in

Trondheim. Millstone Centre is located at Hyllestad, and will have a central executive role when it comes to the use and management of the property.

In connection with the nomination, a *provisional cooperation council* has been established. Provided that the nominated property is inscribed on the World Heritage List, the provisional cooperation council will be made permanent for Hyllestad quernstone quarries and Vestfold ship burials. The council will ensure the joint management of World Heritage values and will promote the exploitation of World Heritage Site status in the best interests of the local community.

6 Amenities for visitors

The quernstone quarries represent cultural heritage that is suited for presentation to the public. The quarries are well preserved, visible and accessible. Together all the historical traces in the quarry landscape constitute unique and comprehensive cultural heritage that provides a frame for experiencing a stone industry that is more than 1,200 years old.

6.1 World Heritage Site status and visitor attraction value

Further development of the range of options for travel and tourism in Hyllestad is an important objective for the municipality. World Heritage Site status will increase the visitor attraction value of the quarries, and this will undoubtedly lead to a greater number of visitors to the municipality and the quarries than is the case today. This brings both opportunities and challenges, and it is important to be well-prepared. Measures for coping with visitors and regulating access to the World Heritage area must be in place. Norwegian Millstone Centre will be a central institution with regard to organisation and development.

6.2 Marketing

World Heritage Site status will facilitate strong marketing both nationally and internationally. It will be important to establish good collaboration with transport and travel companies both nationally and regionally and to make use of the travel companies that exist now and in the future to profile World Heritage values at Hyllestad. Contact with travel companies has already been established in Hyllestad, and collaboration is being planned.

6.3 Grading and regulating accessibility

The location and vulnerability of some of the quernstone areas make it important to grade accessibility to the nominated property. Concern for both the cultural heritage and the local residents at Hyllestad entails that some parts of the nominated property should be subject to the increased regulation of visits, while visitors can be more strongly encouraged to visit and discover other areas. Therefore different targets must be set for the various sub-areas of the World Heritage regarding activities, information and accessibility. Thus it is necessary to have a carefully planned division of the World Heritage whereby there are different areas with different objectives and levels of ambition. This will make it possible to protect vulnerable areas, while other areas can be more accessible and open to the public.

So far Millstone Park has been adapted for the public and was opened on 11 June 2002. A culture trail has been established through parts of the nominated area at Myklebust. Today this is the most important area for the dissemination of the history of quernstones and further focus on visits and communication in this area will be necessary. Millstone Park should continue to be developed as a resource, and the park should be exploited as a central element in communication with the public in order to channel visits to this area. To a large extent the park appears as a miniature version of the extensive quarry landscape and gives a good, representative picture of the production.

Millstone Park is also the area that is best suited to universal design. It is a short distance from the road and the carpark to the quarries, and the specially adapted walking trail is easy and suitable for visitors of all ages. It is also possible for people with disabilities to move around within the established activity arena at Millstone Park – located just outside of the nominated property.

It will be necessary to regulate visits to the nominated areas on Rønset and Sæsøl farms to a certain degree. At Rønset some of the quarries are situated very close to cultivated land and the farmyard. Moreover, the shipment harbour at Rønset appears to be a vulnerable area regarding both wear and tear and cultural heritage criminality. Many of the quernstones weigh so little that they could be removed without difficulty, and the close proximity to the road increases the risk of theft. Allowing unrestricted public access is therefore not recommended here. Visits should be regulated to a greater extent through organised and guided tours.

Organised tours to Otringsneset and Aurgota can also take place by sea with Hyllestadvikja bay in the municipal centre as the point of departure. Guided boat tours from here with scheduled stops at the shipment harbours – without having to go ashore – will constitute an ideal framework for visits, while also making the area more accessible for people who are not able to explore the hilly terrain.

Sæsøl is one of the few farms at Hyllestad where agricultural operations are still carried out and the proposed nominated area is currently located on grazing land. This will have to be taken into account to avoid problems with the system of farm fences and gates. The walking routes at Sæsøl should therefore be placed in the outlying areas, while the quarries located in pastureland should only be open to visitors to a limited extent.

All the three nominated areas are situated in an area where red deer are hunted. This takes place in the autumn – normally from September to December. During this period visits within the hunting grounds should be restricted to a minimum and should be agreed with the landowners in question. As far as possible, visits at this time of the year should be confined to Millstone Park – which is located outside the hunting grounds.

6.3.1 Measures

To be better able to regulate visits to the various areas of the nominated property, measures such as signposting, maps, guidebooks and organised tours will be necessary. This will give a greater degree of control, which is required both to protect vulnerable areas and to show consideration for local inhabitants.

It is necessary to prepare walking trails which give the general public the opportunity to experience the history of quernstones in the correct context. Permanent marked trails also facilitate the monitoring and management of visits to the selected area while making it easier for visitors to find their bearings. Therefore walking trails should be given greater prominence – and be developed in consultation with the landowners. Clearing, marking and maintaining the trails will be required, and a plan must be prepared for the approval of the landowners.

A plan for maps, guidebooks and signposts is since 2013 under progress, and the work on such measures will be continued and developed.

6.3.2 Parking and infrastructure

An increase in the number of visitors to the quernstone quarries will make it necessary to improve both the road and the parking potential.

The nominated areas at Rønset and Sæsøl will require more parking spaces so that the private access road and parking facilities at the farms are not used by visitors. At Rønset carparks should also be big enough to permit the parking of large buses. In addition, access to the stone quarries should be organised and signposted so as to avoid encroaching on arable land on the farms. Moreover, in the long term it may be necessary to improve the roads to both Rønset and Sæsøl. Prior to this, access at least to Sæsøl must be limited to smaller vehicles.

7 Monitoring system

To safeguard the universal values in the nominated property, the condition of the production landscape must be monitored. Photographic documentation of the quarries, mounds and loose quernstones has been carried out in connection with the UNESCO nomination, and constitutes important documentation of the present condition of the landscape. Inspections and future photographic documentation will be key instruments in monitoring the condition of the cultural heritage.

8 Factors affecting the nominated property

Potential factors and challenges that may have an affect on the properties are listed below.

8.1 Development pressures

The nominated property is situated in outlying areas and thus lies outside the area of settlement at Hyllestad. Therefore there are no inhabitants in the nominated property. In contrast the buffer zone covers large parts of the municipality of Hyllestad with approximately 450-500 inhabitants. Public buildings and office buildings are also located here in addition to private houses.

Challenges in connection with development features and land use designation in the nominated property are particularly linked to physical encroachments such as the building of houses, cabins/holiday homes and possibly industry in the form of the extraction of raw materials and the building of a mini hydropower station. It is very likely that large numbers of quernstone quarries are covered by vegetation today, and are therefore not visible. These may come into conflict with further expansion and industrial development. However, the location of the nominated property in outlying areas means that it is situated outside the areas of the municipality that are subject to development pressure. To a large extent this limits the potential threat scenario.

All the three nominated areas are situated within an area marked as an “ANR area with monuments and sites” in the municipal land-use plan, which entails that the occurrence of quernstone quarries must be normative for land use.

Here the key considerations include cultural heritage, cultural landscape and landscape aesthetics. In these areas the occurrence of quernstone quarries will be normative for land use. This lessens the likelihood that an increase in building activities and industrial enterprises will come into conflict with the cultural heritage values of the nomination.

In the buffer zone, care and consideration must be paid to the World Heritage values in the nominated property. Therefore activities and business development can be permitted in the buffer zone as long as the cultural heritage values of the quernstone landscape are preserved. Local trade and industry must be allowed to develop in a modern and sustainable direction. In this way, enterprises, visitor facilities and settlements can be developed within the buffer zone.

Mini hydropower station

The present zoning plan for the municipality of Hyllestad opens up for the establishment of a mini hydropower station in the river Myklebustelva in the vicinity of Millstone Park. The Norwegian Church Endowment/Rectory owns the waterfall rights, and is interested in development. The municipality is taking part in discussions with the Norwegian Church Endowment and Sunnfjord Energi AS.

The establishment of a mini hydropower station in the nominated property is not in conformity with the safeguarding of World Heritage values, and the power station and the transmission lines must be placed outside the nominated property. Consideration should be given to placing them in the buffer zone in a manner that preserves the landscape and cultural heritage values and OUV in Millstone Park. If Lake Kleivatnet east of the park is regulated in conjunction with a mini hydropower station, it will then be necessary to take into account the River Myklebustelva that today runs through Millstone Park and to ensure that this does not dry out. The river constitutes a prominent element of the landscape in the park and forms a natural border to the south.

Extraction of raw-materials

Local players want to identify places where in the future it will be possible to extract raw materials for use in the production of souvenirs and larger products such as quernstones, millstones and stone crosses. Here it will be crucial to find good deposits of garnet mica schist that have not been worked earlier. This is absolutely feasible within the large deposits of garnet mica schist along Åfjorden. For instance there are a few interesting areas to the north west of Åfjorden, in the area around Eidehalsen (Heldal pers.com.).

The blasting quarries in the buffer zone at Hyllestad stemming from the time after the Reformation do not represent automatically protected cultural heritage, but constitute nevertheless an important cultural site and a further development of Viking Age production. Therefore the extraction of raw materials at these quarries should be avoided and should preferably be carried out in an area where there are no traces of previous quernstone extraction.

8.2 Forestry

The nominated areas are all situated in outlying regions and also partly in afforested areas. Forestry is an industry with a large potential in Hyllestad, and the general demand for timber is higher than that the industry can produce. Forestry in Hyllestad has traditionally concerned the small-scale felling of spruce but this has now changed considerably because of the large quantities of mature pine. It is thus an industry with a large potential in Hyllestad and the general demand for timber is higher than what the industry can produce. Care must be exercised in the case of any extraction of timber, and forest roads must not be laid over

quernstone quarries. Nevertheless, the establishment of forest roads may conflict with quernstone quarries that are covered with vegetation today, and are therefore neither visible nor known.

8.3 Environmental pressures

A general problem for the property is the overgrowth of the entire area and the monuments and sites. Today this constitutes the greatest challenge for landscape and cultural heritage values. The keeping of livestock at Hyllestad has been substantially reduced in the last decades. A termination of agricultural operations and grazing activities within the nominated property will lead to an even greater extent of regrowth of the open area. Grazing land will again be covered with undergrowth and forest, which will make the cultural landscape less attractive and more difficult to move around in. Thus agricultural operations will be important for the preservation of World Heritage and cultural landscape values.

8.4 Natural disaster and risk preparedness

Sea-level rise

Sea-level rise and increased levels of flooding can result in negative impacts on only a few of the quarries. During the 21st century the sea level along the coast of western Norway is estimated to rise by approximately 70 cm (uncertainty linked to the calculations means that the sea level may be 20 cm lower or 35 cm higher than estimated). This means that a few quarries in the nominated area at Rønset that are situated closest to the sea, for example at Otringsneset, may lie under water. The sea level rise will not result in the destruction of the quarries themselves but saltwater in the spoil heaps may alter the conditions for preservation, which may in turn have a negative impact on any organic material that might be found here.

Flood wave

On the basis of a report from the *Norwegian Geotechnical Institute* (NGI) dated 22 October 1999 the shoreline at Rønset is defined as an area potentially exposed to the risk of local flood waves in connection with rockslides from the mountains *Lifjellet* and *Katleneset*, the latter approximately 1 km southwest of Rønset. The shoreline at Rønset is thus an area where a risk of natural damage may arise as defined in the Act relating to protection against and

compensation for natural damage (Act on Natural Damage), and the municipality of Hyllestad therefore imposed a ban on building and other activities along the shoreline here on 15 February 2002. The risk limit of flood waves following rockslides from Lifjellet is estimated to approximately 3-5 m above the average water level, while the estimate after a rockslide from Katleneset is 4-7.5 m.

A flood wave could lead to disturbance and movement of the quernstones in the sea in the vicinity of the shipment harbours. Loose stones on land might also be moved, but a flood wave in all probability would not have any impact on the quernstone quarries and the spoil heaps.

Rock fall

A certain risk of rock fall is documented to the northeast of the nominated area at Rønset. Rock fall refers to blocks of stones falling, and it should not be confused with rockslides. A larger area below the release area may nevertheless be reached during a rock fall.

There may also be a possible risk of rock fall in the steep ground to the northeast of Myklebust, even though no such event has been documented here. Additionally, in periods of extreme precipitation there may be a potential risk that some spoil-heaps may slide out.

Trees uprooted by the wind

The majority of the quarries are located in afforested areas, and the uprooting of trees by the wind may lead to minor disturbances of the spoil heaps. However, the spoil heaps are generally deep, and it is likely that only the upper parts of them would be disturbed if trees are uprooted by the wind or blown over in storms.

Biological decay

Regrowth may make the quarries less visible. The increased growth of plants and trees in the production areas may also result in the roots splitting rocks. This is due to plants or trees taking root in cracks in rock and causing further fractures in the rock as they grow. Strong root growth in the spoil heaps can also lead to the disturbance of these.

8.5 Visitor/tourism pressures

The nominated property represents an outdoor cultural environment where visitors may walk without being supervised and monitored. Cultural monuments may thus be vulnerable to destruction as well as to the littering of the area.

A large part of the cultural heritage in the production area consists of damaged quernstones, quernstone blocks and waste from cutting activities scattered around on the surface. This leads to the danger that they may be moved, taken away or stolen. The majority of the quarries are relatively easily accessible from the roadway, and the distance from areas of settlement is such that there may be a risk of theft in some areas. A large increase in the number of visitors may also lead to wear and tear to the quarry sites.

There must be a focus on information activities aimed at communicating to the public that the removable cultural heritage is automatically protected, that it forms an integral part of the cultural landscape and must not be removed or even moved. Such information must be prepared in conjunction with Sogn og Fjordane county authority and the University Museum of Bergen, and signposts will be erected along the walking trails in the World Heritage area. In addition, the information should also be clearly visible in the central area of /at the entrance to Millstone Park where most visits and tours to Millstone Park will start.

8.6 Care and clearance

Continual care and maintenance of the World Heritage will be required. The nominated property at Hyllestad is situated in outlying areas where the greatest challenge will be regrowth affecting the whole area as well as the cultural monuments and sites. The thinning-out of forest and clearing of bushes and other vegetation must be carried out annually. Today this is carried out within the Millstone Park. Often farmers are the main contributors to the care of the cultural landscape. Through daily operations, agriculture helps to preserve the landscape. It will be important to encourage farmers who are still operating their farms to keep up their work through grant schemes and administrative measures.

At Sæsøl today the vegetation is kept down through the grazing of livestock. This also applies to parts of the World Heritage area at Rønset. Continued and perhaps extended grazing would be beneficial for all three nominated areas.

In the case of the World Heritage area at Rønset, which is also defined as a nature reserve for noble hardwoods, clearance and care must be carried out in agreement with the county governor as previously mentioned. In addition, future care or management plans for hardwood forest must take cultural heritage into consideration.

It will be necessary to clear and thin the forest in Millstone Park and the area to the north of the park, which is located on the opposite side of national road 607. This is necessary in connection with walking trails, and to open the landscape and make the quarries accessible. This work was started in 2013.

A power line runs through parts of the quernstone landscape at Hyllestad. When clearing is carried out along the transmission route, special attention must be paid to the quarries. Trees and branches that have been cleared must not be left lying around in the terrain hindering free access or concealing cultural heritage.

Care measures must be carried out in keeping with the authorities' guidelines. The county governor provides advice and brochures on care measures in cultural landscape where the goal is to open both overgrown landscape and the landscape generally (www.fylkesmannen.no). These measures should be the basis for the care and tending of the quarry landscape at Hyllestad.

9 Capacity building and research

The quernstone landscape at Hyllestad is extensive and includes hundreds of quarries so that there is a large potential for further research on the history of quernstones. The archaeological surveys that have been conducted have been limited to sample investigations at a small number of quarries in a few areas. There is a need and potential for further archaeological registration and investigation.

In order to target future archaeological surveys more accurately, a LIDAR scan of the nominated property should be conducted. This will give a bird's eye view of the quarries and spoil heaps without the interference of the vegetation. Such an overview will make it easier to establish the relative chronology of the different quarries in the area.

An international quernstone network has been established and seminars are arranged every second year with the participation of researchers from a number of countries. In 2011 the seminar was held in Bergen with an excursion to the quernstone quarries at Hyllestad. It is vital for the future presentation of the quarries in a wider international professional arena that Hyllestad continues to be vigorously represented in this network.

The unique geology of the area around Hyllestad and its neighbour municipalities (the HAFS-region – with the municipalities of Hyllestad, Askvoll, Fjaler, Solund and Gulen) offers a potential for research on and dissemination of a more than 400-million-year old history that can be linked to the nominated property. A project is currently being planned – in which the quernstone quarries will also be in focus. There are excellent opportunities to call attention to locations and topics related to the geological landscape as the background for the operations (Heldal and Bloxam 2007:116). Aspects such as the formation of the landscape and the quality of the quernstones with regard to geological processes can be highlighted, bringing a new dimension into the history of Hyllestad quernstone quarries.

Research on craft techniques and the use of tools at the quarry sites helps to increase our knowledge of old craft traditions, production techniques and the stone industry from the Viking Age and up to more recent times. The knowledge acquired may also shed light on technology and quarrying on a more general basis.

10 Information and dissemination initiatives

Active dissemination initiatives will draw attention to the cultural heritage values in the World Heritage. This will form the basis of increased understanding of the values and knowledge linked to World Heritage Site status. To ensure that the value and importance of the quarry landscape can be preserved in a long-term perspective, these must be documented and communicated to coming generations.

The degree of preservation of the quarries gives the cultural heritage great value as a source and provider of knowledge, and not least as a source of experience. The production landscape is varied and diverse – each walk in the landscape can reveal new aspects. The cultural and historical values are found on several levels, and there are a number of related topics within the subjects of archaeology, geology and crafts that can be exploited when presenting quernstone operations.

The traces of production have influenced the local community at Hyllestad in a unique manner. The history of the quernstones has a strong focus in the municipality through the municipality's coat-of-arms, school education, business development and voluntary organisations. This forms an excellent starting point for a broad and well-founded presentation of the nominated property. Quernstones are gradually becoming a trademark for Hyllestad, a trademark that can be used in the further development of the area. There is a great potential for disseminating knowledge about this, and an assessment should be made of whether to draw up a special communication plan for the quarries.

10.1 Cultural history

The restored water mill complex at Skor, north of Lake Makusvatnet, can play a key role as an arena for communication. The area consists of a restored grinding mill and a sawmill, and will thus help to place quernstone production in a wider context where the use of the products will be more strongly highlighted.

10.1.1 Millstone Park

An activity arena with houses and equipment is located outside the actual cultural heritage area in Millstone Park. This is used in activity-based communication, whereby visitors can first observe and then try stone cutting, working at the forge, using quernstones and the like. This is a splendid introduction to the visit in the quarries and gives a clear presentation of the history of quernstones and the activities that were once carried out here. This kind of communication should be further exploited, and there is a considerable potential for continued development.

In addition, it should be made possible to arrange smaller exhibitions in the area. So far quernstone cargoes found at Alverstraumen in Lindås municipality and at Bukken in Sund municipality have been exhibited. These direct focus towards the maritime aspect of the quarries, and ship technology, transport routes and bulk trade are naturally in focus.

Plans for upgrading of the houses and the activity area in connection with Millstone Park are currently being developed.

10.2 Hyllestad seminar

The Hyllestad seminar was first held in 1998, and in the course of time it has become an annual seminar and meeting place for the professional environment and others who have an interest in the history of quernstones or merely a general interest in archaeology, geology and history. The aim of the seminar is to disseminate knowledge about the quernstone operations and associated topics both within Norway and abroad. By the same token the intention is to make the local community more aware of the resources and values constituted by the quarries and their history. The seminar combines subject-based lectures with events and tours of the quarry landscape.

The seminar is arranged by Norwegian Millstone Centre with Kvernsteinslauget (quernstone guild) and Folkeakademiet Hyllestad (folk academy) as co-arrangers. In addition, a subject committee made up of researchers in the fields of archeology, geology and history has been set up. The seminar receives support from the Sogn og Fjordane county authority.

The Hyllestad seminar will play an important role in the academic dissemination of the quernstone operations and the World Heritage area. The seminar should function as an arena of dissemination also in the future, and as a contact arena for experts, researchers and others who are interested in cultural history, quernstone operations and the Viking Age as a historical period.

10.3 Craft traditions

The quarries bear witness to ancient craft traditions. There are no written sources that provide information about the technology and organisation of the work in the quarries. The traces left

on rocks and damaged quernstones in the area are of great value in understanding the craft, the use of tools and cutting techniques.

In 2005 a craft project was initiated as a collaboration between the municipality and Norwegian Crafts Development, Maihaugen Museum. The goal was to shed light on the technical and functional aspects of quernstone production. At the released quarry in Millstone Park, test cutting and research on cutting techniques and the use of tools in quernstone production could be carried out. The results can be used as a key to understanding the technology applied in the extraction of stone products in the Viking Age. The quarry is well-suited for use in communication with the public and gives visitors a practical and pedagogical introduction to work techniques and the theories on which they are based.

10.4 Quernstone quarries as a pedagogical arena

The results of archaeological and geological surveys of the quernstone quarries as well as studies of craft techniques have in recent years been included as an educational programme entitled “*Handlingsboren kunnskap*” (knowledge through action) in the Hyllestad school system. The quarries constitute a pedagogical arena whereby pupils at Hyllestad School move their classroom to the production landscape one day a week, and in this manner the preservation and presentation of the quernstone quarries are brought in as a regular feature of the school system (Figures 26 and 27). This has ensured that the quernstone quarries and their history have been highlighted in a unique way with the integration not only of quernstone production but also other related aspects of the Viking society in the school syllabus. Through the teaching programme Hyllestad School thus plays an important role in identity building and in disseminating the history of quernstones locally. The quarries function as a portal for further knowledge and presentation of the Viking Age.

This close association with the school system should be continued in the future. There is room for further development, and a similar scheme has been carried out for schools elsewhere in Norway. In addition, there is a large potential for topic-based study trips with the main focus on the exploitation of resources, archaeology and geology.

The development of measures as part of the Cultural Rucksack is also a possibility. This is a national programme for culture and the arts in school in which cultural heritage is an

important element. In this respect the quernstone quarries can provide a splendid natural frame where a variety of age-adapted activities and dissemination initiatives can be offered.

10.5 Relevant actors

Central actor

The Museums in Sogn og Fjordane, section Norwegian Millstone Centre will be the central executive body in the management and preservation of the nominated property. Moreover, Millstone Centre will play a key role in research, information and the presentation of the quernstone quarries as World Heritage (cf. the Action Programme 2011–2015).

Other actors

A *millstone network* has been established that incorporates the municipalities of Brønnøy, Hyllestad, Saltdal, Selbu and Vågå, which have the largest and best known quernstone quarries in the country. The five municipalities are now in the process of organising a formal national partnership in which quernstones as cultural heritage compose the key element. Hyllestad's pedagogical communication project for schools "*Handlingsboren kunnskap*" (knowledge through action) is one of the options offered to other municipalities. Thus the network will also be an important arena for providing information about and presenting Hyllestad as World Heritage.

Hyllestad School plays an important role in building identity and in providing a strong local base for the history of quernstones through its teaching programme.

Important voluntary work is constituted by the *Kvernsteinslauget* (quernstone guild) and *Folkeakademiet Hyllestad* (folk academy), and both play an important role with regard to marketing of the quernstone quarries, local foundation and identity.

10.6 Specific measures

Walking trails

Walking trails must be established in the nominated property. This must be done in cooperation with or by contract with the landowners. The work will demand a considerable

amount of clearance of vegetation along the walking trails and also at some of the quarries. Uncovering the quarry face to a limited degree in some areas may be feasible and may help to enhance the value and understanding of the quarries for tourists. Although this will increase the speed of degradation of uncovered surfaces in some measure, the huge number of quarries means that there will be minimal impacts on the nominated property as a whole. Annual maintenance of both walking trails and quarries will be required.

At Rønset there are good opportunities to establish a number of walking trails of different lengths and in different parts of the nominated property. On account of the noble hardwood forest reserve at Rønset such interventions must also take place in cooperation with the county governor.

In the area between Myklebust with Millstone Park and Sæsøl conditions are well suited for establishing an exciting and varied walking trail. This trail will allow the visitor to view and experience quarries that were probably from a later period than the Viking Age but which show that operations in the Viking Age were sustainable and formed the basis of operations well into the Middle Ages. A trail should be established between the quarry landscape at Nygård (Land Number 1 at Myklebust) and Øvre Myklebust as an extension of Millstone Park. This will require some clearance and thinning of vegetation.

A walking trail between Myklebust and Sæsøl will also make the nominated area at Sæsøl more accessible. Today access to the quarries via Sæsøl farm is difficult because both the road and the parking area here are somewhat unsuited for a large number of visitors.

The quarries at Sæsøl are situated at a greater distance from each other in difficult terrain. A solution might be to give GPS coordinates for suitable quarries, thus permitting the discovery of the quernstone landscape in a more challenging and demanding way.

Plan for signposting

A plan for signposting must be prepared for the nominated property. Information boards can be useful in many places, perhaps especially in areas where archaeological excavations have been carried out. In Millstone Park in particular it is vital that visitors can move around the area on their own, but at the same time information about the quernstone quarries and the extraction here must also be provided. Nevertheless, it is essential that the signposting is not

over intrusive, but allows individual discovery of the area. A plan for signposting and brochures is currently being developed.

Information material

Information material on Hyllestad as World Heritage must be prepared. Brochures in Norwegian, English, German and French will be important. These must be available at tourist information centres in nearby towns such as Bergen and Førde.

Information on World Heritage can be distributed through Hyllestad's natural infrastructure systems. Major and natural channels for distributing information material are the ferries (Lavik-Oppedal and Rysjedalsvika-Rutledal), the express boat between Bergen and Sogn, and Nordfjord and Sogn, express buses and tourist coaches, as well as the tourist boat between Bergen and Flåm.

Day trips from Bergen

Organised day trips from Bergen will make the quarries more accessible for a larger number of groups and thus contact with a wider public can be established.

World Heritage tour in Sogn og Fjordane county

Two other sites within Sogn og Fjordane county are World Heritage Sites – Urnes Stave Church, and West Norwegian Fjords – Geirangerfjord and Nærøyfjord. Joint marketing activities would be an advantage, and a tour combining the three sites would constitute an interesting and varied trip – with regard to both the cultural and natural landscapes.

Internet

Consideration should be given as to whether a website dedicated to World Heritage should be set up. It will be necessary to develop a net-based guide for World Heritage that deals with cultural monuments and sites, the landscape and geology. Another option is to further develop the website of Norwegian Millstone Centre www.kvernstein.no so that it covers a broader public. At present the site only has Norwegian pages, and if it is to present information about World Heritage, it must be translated into English, French and German. Moreover, Norwegian Millstone Centre will also host the webpage of the Millstone project www.millstone.no which was completed in 2012, and will thus also contain extensive information about the other Norwegian quernstone quarries.

Souvenirs

Today garnet mica schist – the rock once used to cut quernstones – is used to produce jewellery as well as decorative and utilitarian objects. The products are heavily influenced by the production of both quernstones and stone crosses, and this work can be developed further.

11 The transnational management of the Viking Age nomination. Collaboration on management.

A management group, which will meet once a year, will be established for the transnational serial nomination. Each country will send a representative of its national cultural heritage authority and a representative for each of the nominated properties. A permanent secretariat will also be set up. The management group will prepare joint guidelines and advice on good management and will promote increased knowledge of the cultural sites and monuments of the Viking Age vis-à-vis the general public. In addition, the group will work to increase research activities and will coordinate periodic reporting to the World Heritage Committee.

12 Action Programme 2011 – 2015

Planned and current projects are shown in the table below.

Action	Collaborators	Responsible agency	Time frame
The Hyllestad Seminar (annual seminar)	Kvernsteinslauget (quernstone guild), Folkeakademiet Hyllestad (folk academy)	Norwegian Millstone Centre	Current project – will be continued
“ <i>Handlingsboren kunnskap</i> ” (knowledge through action) in the Hyllestad school system	Norwegian Millstone Centre, Hyllestad municipality	Hyllestad School	Current project – will be continued
Establish walking trails	Landowners, Hyllestad municipality, Sogn og Fjordane county authority	Norwegian Millstone Centre	2012 – 2015
Establish signposts	Hyllestad municipality, Sogn og Fjordane county authority, University Museum of Bergen	Norwegian Millstone Centre	2013 – 2015. The work started in 2013
Publish the progress of the nomination process on the websites of the municipality and		Sogn og Fjordane county authority, Hyllestad municipality,	2011 – 2013

county authority		Norwegian Millstone Centre	
Make information material about World Heritage	Sogn og Fjordane county authority, Hyllestad municipality, Norwegian Millstone Centre	Directorate for Cultural Heritage	2013 – onwards
Marketing of World Heritage	Hyllestad municipality, Sogn og Fjordane county authority	Norwegian Millstone Centre	2013 – onwards
Care and clearance of the properties	Norwegian Millstone Centre, landowners, Hyllestad municipality	Sogn og Fjordane county authority	2011 – onwards. The work has started in Millstone Park
Planning of visitors' centre/exhibition building	Hyllestad municipality, Sogn og Fjordane county authority, Ministry of Climate and Environment	Norwegian Millstone Centre	2013 – onwards. Planes are currently (2013) being developed.
Develop a better infrastructure, both road and parking facilities	Landowners, The Norwegian Public Roads Administration	Hyllestad municipality, Sogn og Fjordane county authority	2012 – onwards
Set up road signs along the main routes to Hyllestad	The Norwegian Public Roads Administration	Directorate for Cultural Heritage	2013 – onwards
Develop greater accommodation capacity	Hyllestad municipality,	Business sector	2013 – onwards
Stimulate local trade and industries to concentrate on tourism at Hyllestad	Hyllestad municipality, Sogn og Fjordane county authority	Norwegian Millstone Centre	2013 – onwards
Begin work on a second generation management plan	Norwegian Millstone Centre, Directorate for Cultural Heritage	Sogn og Fjordane county authority	2014 – 2015
Establish a monitoring and reporting system for the state of conservation of the properties	Sogn og Fjordane county authority, Hyllestad municipality, Norwegian Millstone Centre	Directorate for Cultural Heritage	2013 – 2015
Establish a Norwegian <i>World Heritage council</i> for the Hyllestad quernstone quarries and the Vestfold ship burials	Sogn og Fjordane and Vestfold county authorities, the municipalities of Hyllestad, Horten, Sandefjord and Tønsberg	Directorate for Cultural Heritage	2013 – 2014
Establish a cooperation with the other World Heritage Sites in Sogn og Fjordane county	Hyllestad municipality, Aurland municipality, Luster municipality	Sogn og Fjordane county authority	2013 – onwards

13 Revision of the management plan

The work with the second generation management plan will start in 2014. The management plan will then be revised in connection with the next periodic reporting to UNESCO. Periodic reporting will be conducted every sixth year and will be prepared with the aim of assessing the state of conservation of the World Heritage properties.

14 Documentation

List of photographs, maps and drawings

ID no	Format	Caption	Year	Photographer	Copyright	Contact details of copyright owner
Front cover	Photo	Upper: Deep quarry in Millstone Park, Myklebust. Middle: Shallow quarry in Millstone Park, Myklebust. Lower: Damaged quernstones at the seabed by the shipment harbour Otringsneset, Rønset	2011	Kim Söderström and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 1	Photo	Deep quarry with production of quernstones and millstones located in Millstone Park, Myklebust	2011	Kim Söderström and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 2	Photo	Damaged quernstones left by the stonecutters are scattered at the quarry sites – here in the Millstone Park, Myklebust	2011	Kim Söderström and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 3	Map	The location of Hyllestad quernstone quarries	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00 Email: postmottak.kultur@sfj.no
Figure 4	Map	The extensiveness of the garnet mica schist and the quarries	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00 Email: postmottak.kultur@sfj.no
Figure 5	Photo	Unfinished quernstone still attached to the rock wall at Otringsneset,	2011	Kim Söderström and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep.

		Rønset				NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 6	Photo	Shallow quarry in Millstone Park, Myklebust	2011	Kim Söderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 7	Photo	Deep quarry in Millstone Park, Myklebust	2011	Kim Söderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 8	Drawing	Principle for extracting quernstones along the cleavage plane (shallow quarries) and extraction in layer-wise descending quarries (deep quarries)	2008	After Grenne et al. 2008 fig. 18		
Figure 9	Photo	Quarry pit at the farm Rønset. A demaged quernstone is still visible on the surface	2011	Kim Söderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 10	Photo	Trial extractions at the farm Sæsøl	2011	Kim Söderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 11	Photo	Production at the shipment harbour Otringsneset at Rønset	2011	Kim Söderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 12	Photo	Underwater photo from the shipment	2011	Kim Söderstrøm	Directorate for Cultural Heritage	Directorate for Cultural Heritage

		harbour Aurgota at Rønset, showing damaged quernstones on the bottom of the seabed		and Jørgen Magnus	Heritage	Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 13	Map	Nominated area at Rønset	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00 Email: postmottak.kultur@sfj.no
Figure 14	Photo	Large quarry site with deep quarries in Millstone Park, Myklebust	2011	Kim Søderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 15	Map	Nominated area at Myklebust	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00 Email: postmottak.kultur@sfj.no
Figure 16	Photo	Production site for stone crosses at Myklebust	2011	Kim Søderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 17	Photo	The largest stone cross found at the quarry site at Myklebust	2011	Svein Skare	University Museum of Bergen	University Museum of Bergen Postboks 7800, NO-5020 BERGEN Phone: (+47) 55 58 00 00 Fax: (+47) 55 58 93 64 Email: post@um.uib.no
Figure 18	Photo	Shallow quarry at Sæsøl	2011	Kim Søderstrøm and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 19	Map	Nominated area at Sæsøl	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00

						Email: postmottak.kultur@sfj.no
Figure 20	Map	Buffer zone with the nominated property	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00 Email: postmottak.kultur@sfj.no
Figure 21	Map	Position of cargoes with quernstones from Hyllestad	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00 Email: postmottak.kultur@sfj.no
Figure 22	Photo	Wrecked cargo at Gulen with quern and millstones from Hyllestad	2010	Atle Ove Martinussen		Atle Ove Martinussen Phone: (+47) 90368990 Email: Atle.Ove.Martinussen@nhu.no
Figure 23	Map	Quernstone regions in Southern Scandinavia. (I) garnet mica-schist from Hyllestad, (II) Mayen Lava from Rhineland in Germany, (III) schistose sandstone from Malung in Sweden and (IV) gneiss from Lugnås in Sweden	1997	After Carelli and Kresten 1997: fig. 18		
Figure 24	Map	Location of the crosses most likely produced at Hyllestad	2011		Sogn og Fjordane County Council	
Figure 25	Map	Rønset with the noble hardwood forest reserve and nominated area indicated	2011		Sogn og Fjordane County Council	Sogn og Fjordane County Council Kulturavdelinga Postboks 173, NO-6801 Førde Phone: (+47) 57 65 61 00 Email: postmottak.kultur@sfj.no
Figure 26	Photo	Knowledge through action for pupils at Hyllestad School, here within Millstone Park	2011	Kim Söderström and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no
Figure 27	Photo	Knowledge through action for pupils at Hyllestad School, here within Millstone Park	2011	Kim Söderström and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04

						Email: postmottak@ra.no
Back Cover	Photo	Unfinished quernstone still attached to the bedrock at Otringsneset, Rønset	2011	Kim Söderström and Jørgen Magnus	Directorate for Cultural Heritage	Directorate for Cultural Heritage Dronnongensgate 13, Pb. 8196 Dep. NO-0034 Oslo Phone: (+47) 22 94 04 00 Fax: (+47) 22 94 04 04 Email: postmottak@ra.no

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Informants

Hansen, Arild Marøy, Bergen Maritime Museum

Heldal, Tom, NGU

Løland, Torbjørn, The Museums in Sogn og Fjordane, section Norwegian Millstone Centre

Waage, Astrid, The Museums in Sogn og Fjordane, section Norwegian Millstone Centre

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<http://denkulturelleskolesekken.no>

www.skrednett.no

APPENDIX 1 PHOTOS AND MAPS

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For figure 23: see page 24



Figure1: Deep quarry with production of quernstones and millstones located in Millstone Park, Myklebust .
Photo: Kim Söderström and Jørgen Magnus,
Directorate of Cultural Heritage





Figure 2: Damaged quernstones left by the stonecutters are scattered at the quarry sites – here in the Millstone Park.
Photo: Kim Søderstrøm and Jørgen Magnus, Directorate for Cultural Heritage

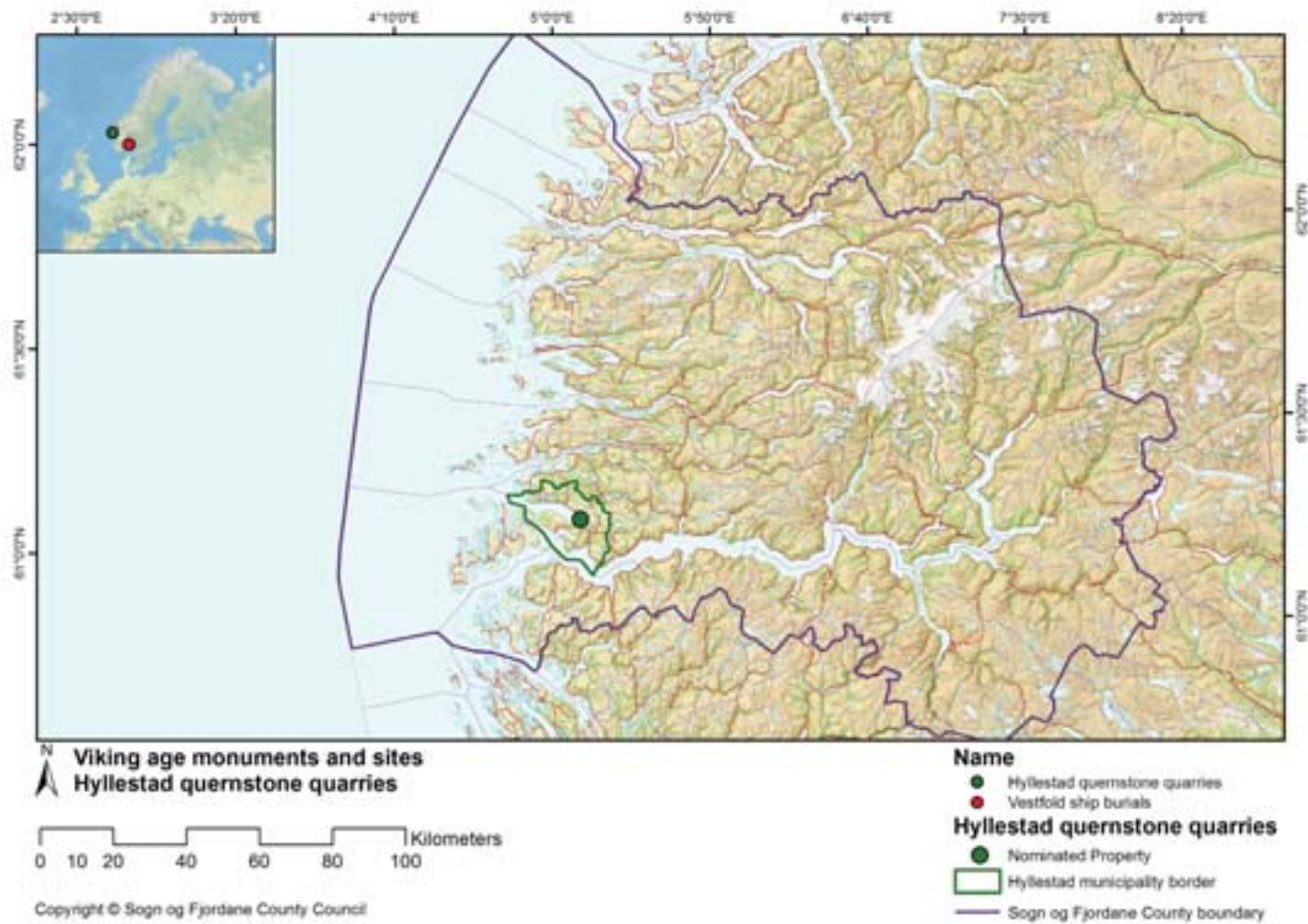


Figure 3: The location of Hyllestad quernstone quarries.

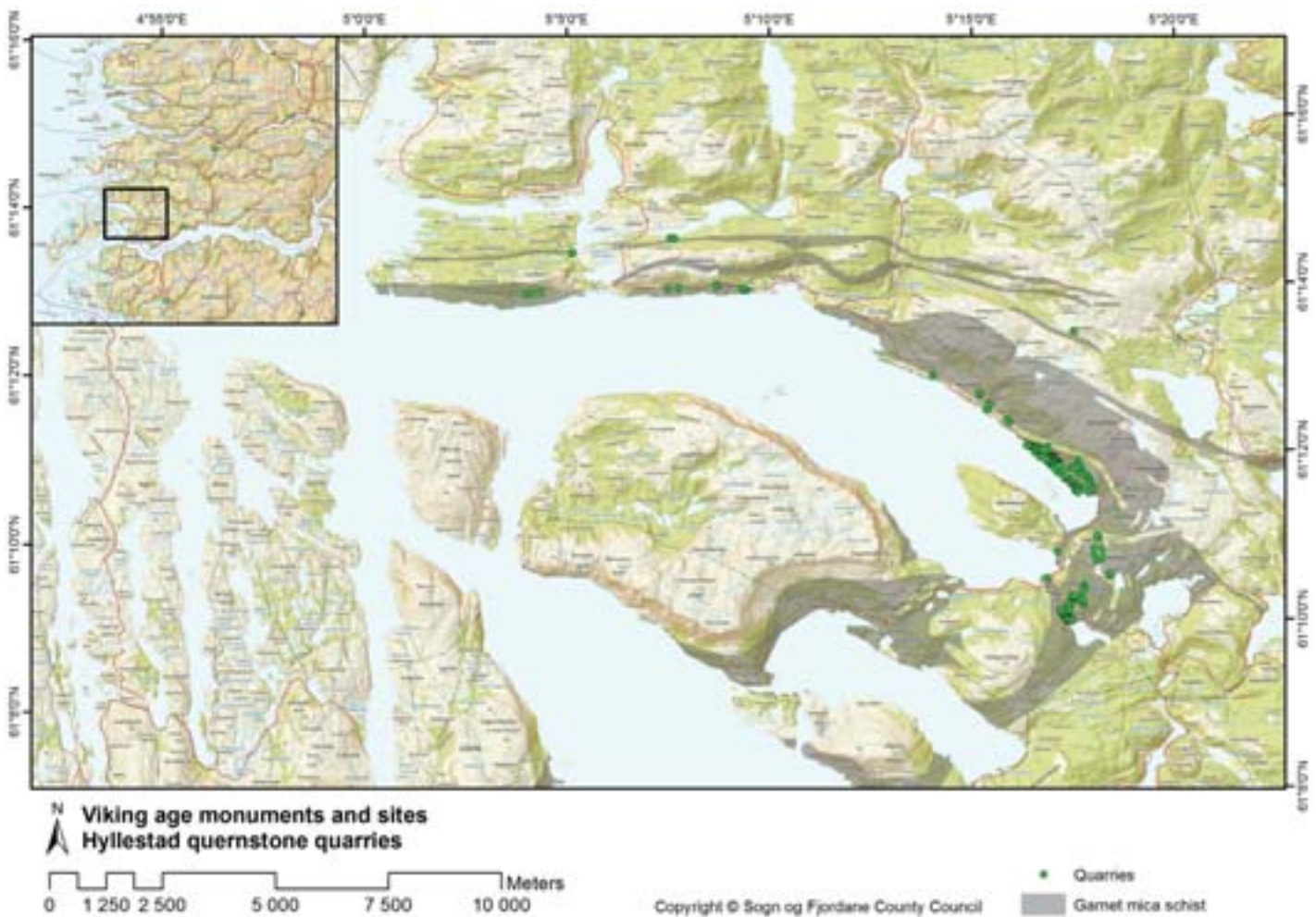


Figure 4: The extensiveness of the garnet mica schist and the quarries.

Figure 5: Unfinished quernstone still attached to the rock wall at Otringsneset, Rønset.
Photo Kim Søderstrøm and Jørgen Magnus, Directorate for Cultural Heritage

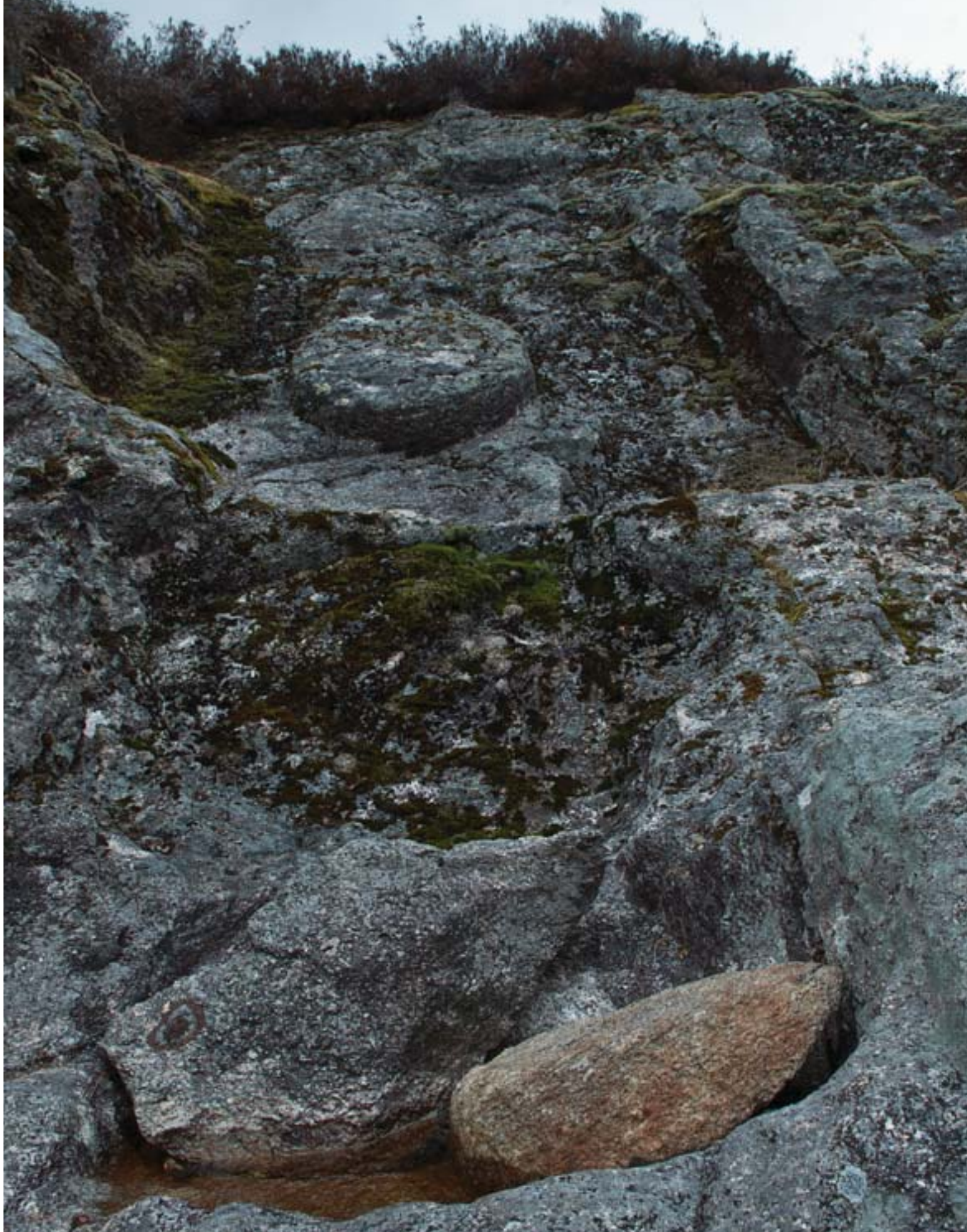




Figure 6: Shallow quarry in Millstone Park, Myklebust.
Photo Kim Söderstrøm and Jørgen Magnus, Directorate for Cultural Heritage



Figure 7: Deep quarry in Millstone Park, Myklebust.
Photo: Kim Söderstrøm and Jørgen Magnus,
Directorate for Cultural Heritage



Figure 9: Quarry pit at the farm Rønset. A damaged quernstone is still visible on the surface.
Photo: Kim Søderstrøm and Jørgen Magnus, Directorate for Cultural Heritage



Figure 10: Trial extractions at the farm Sæsøl.

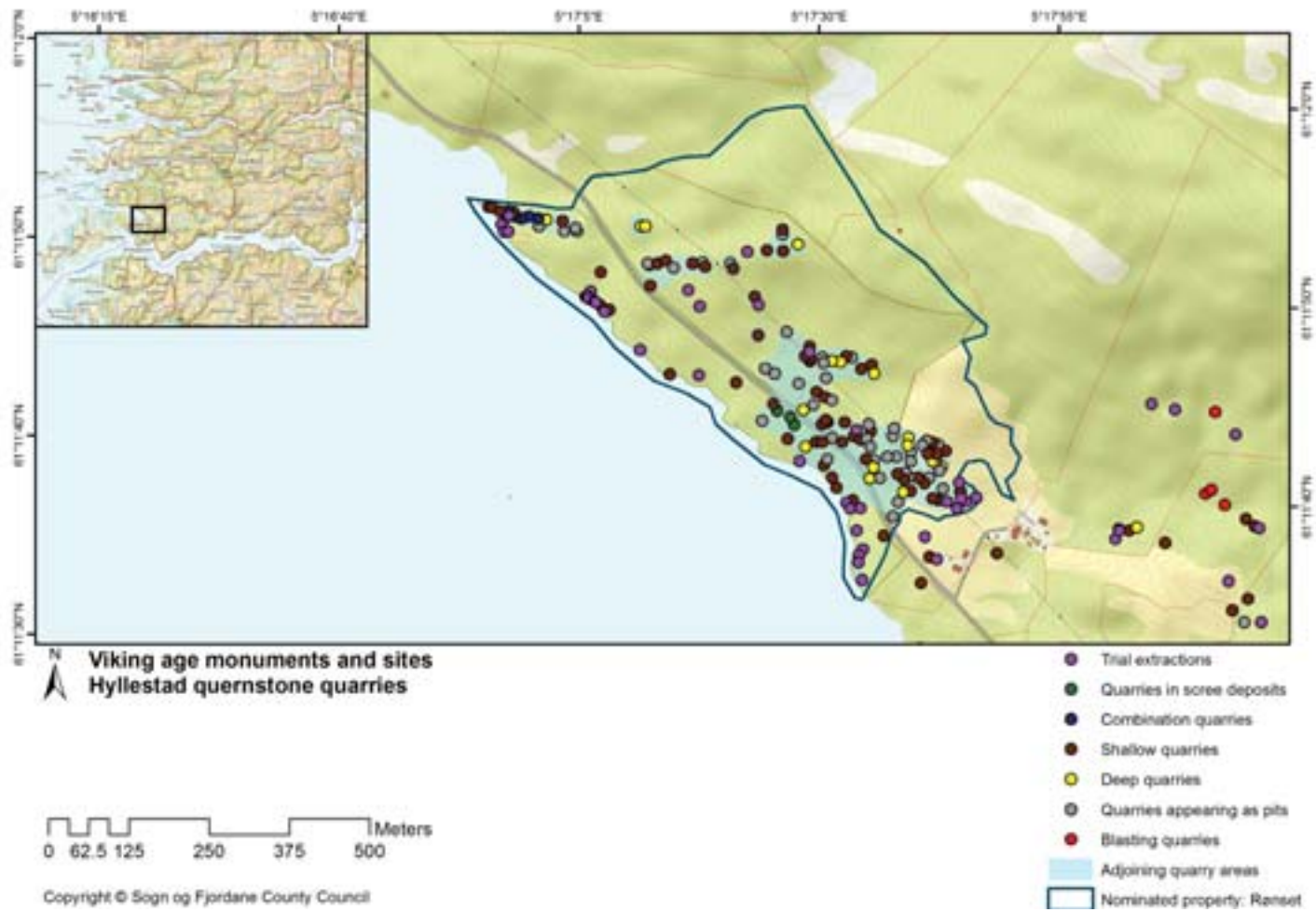


Figure 13: Nominated area at Rønset.



Figure 14: Large quarry site with deep quarries in Millstone Park, Myklebust.





Figure 11: Production at the shipment harbour Otringsneset at Rønset. Photo: Kim Søderstrøm and Jørgen Magnus, Directorate for Cultural Heritage



Figure 12: Underwater photo from the shipment harbour Aurgota at Rønset, showing damaged quernstones on the bottom of the seabed.

Photo: Kim Søderstrøm and Jørgen Magnus
Directorate for Cultural Heritage



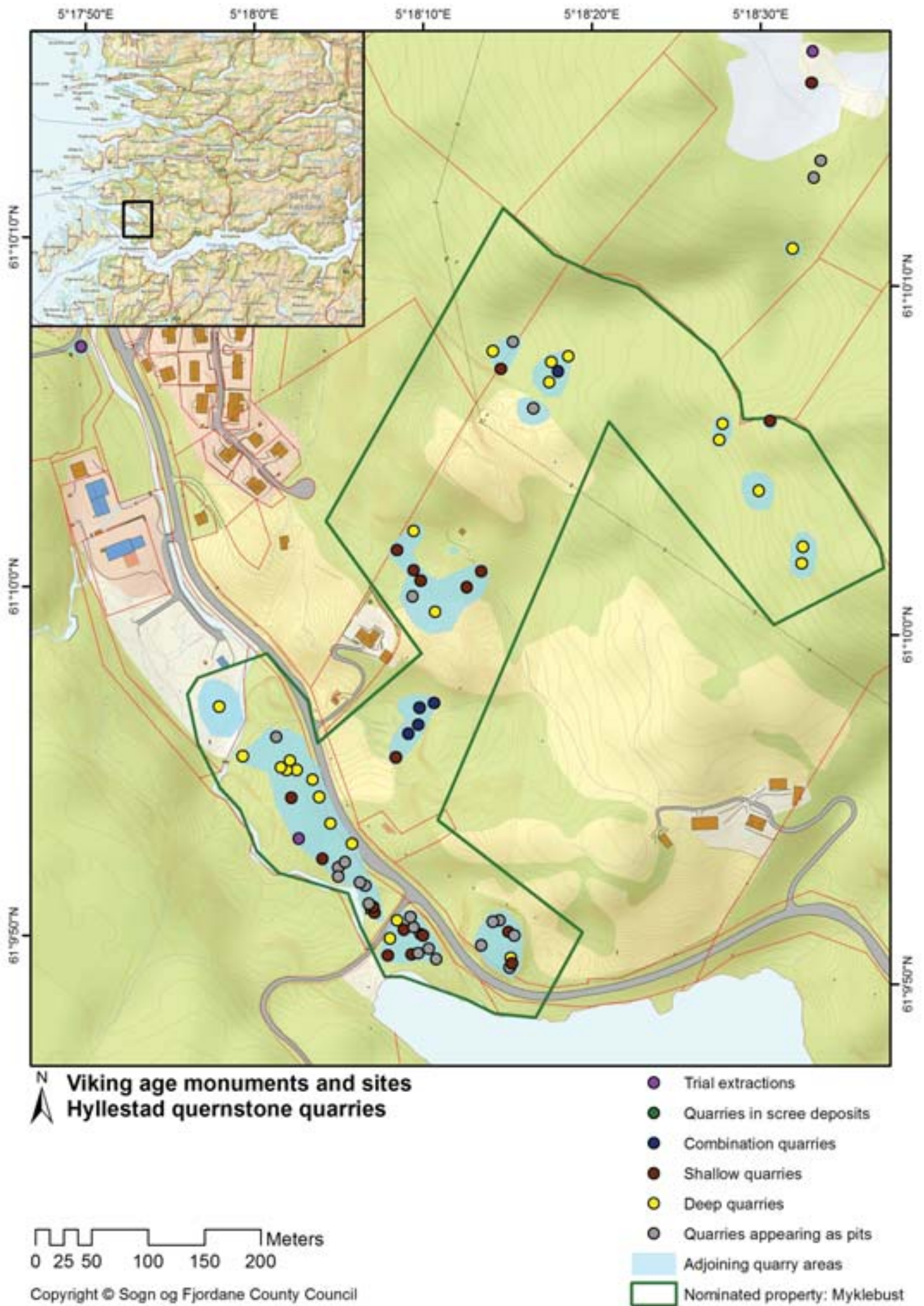


Figure 15: Nominated area at Myklebust.



Figure 16: Production site for stone crosses at Myklebust.
Photo: Kim Söderström and Jørgen Magnus
Directorate for Cultural Heritage



Figure 17: The largest stone cross found at the quarry site at Myklebust
Photo: Svein Skare, University Museum of Bergen



Figure 18: Shallow quarry at Sæsol.

Photo: Kim Söderström and Jørgen Magnus, Directorate for Cultural Heritage

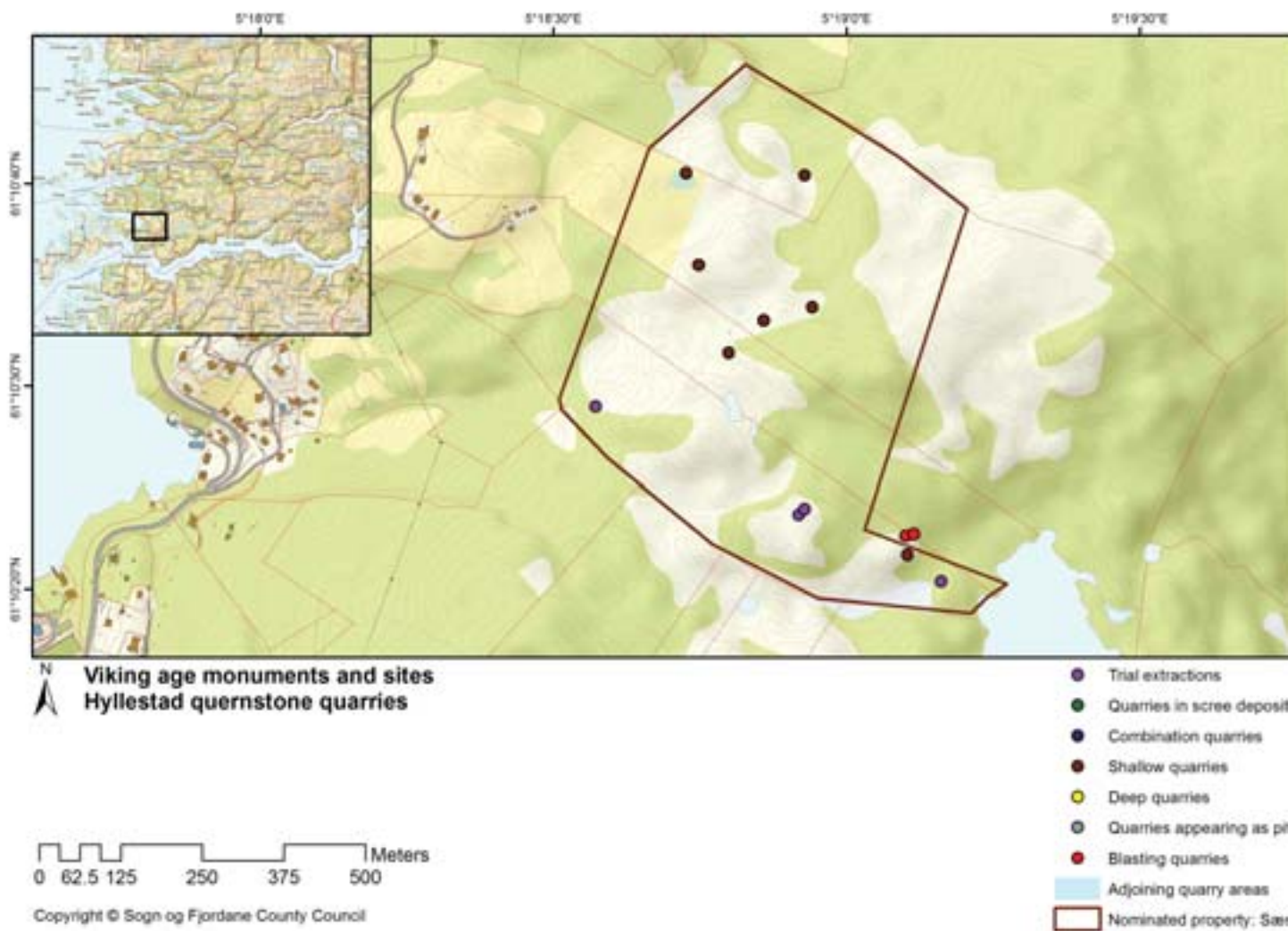


Figure 19: Nominated area at Sæsøl.



Figure 20: Buffer zone with the nominated property.

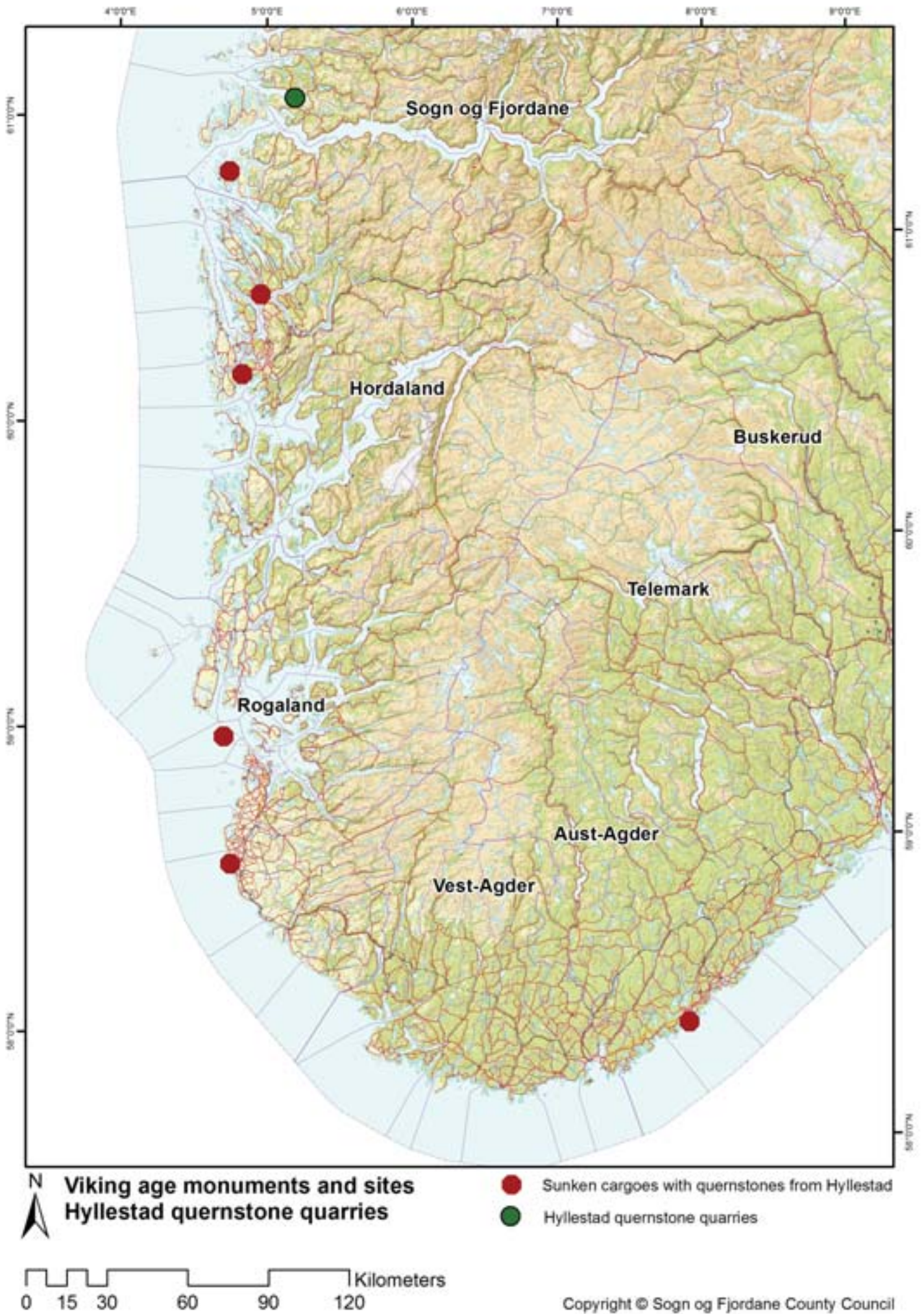


Figure 21: Position of cargoes with quernstones from Hyllestad.



Figure 22: Wrecked cargo at Gulen with quern and millstones from Hyllestad. Photo Atle Ove Martinussen

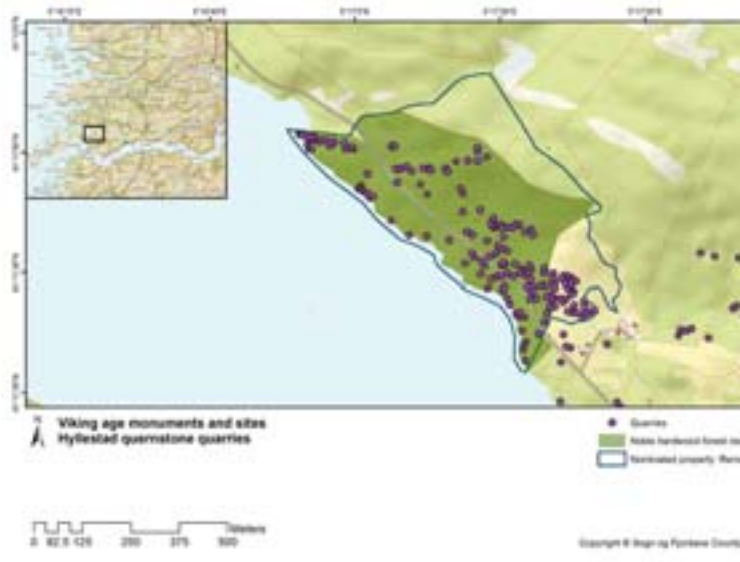
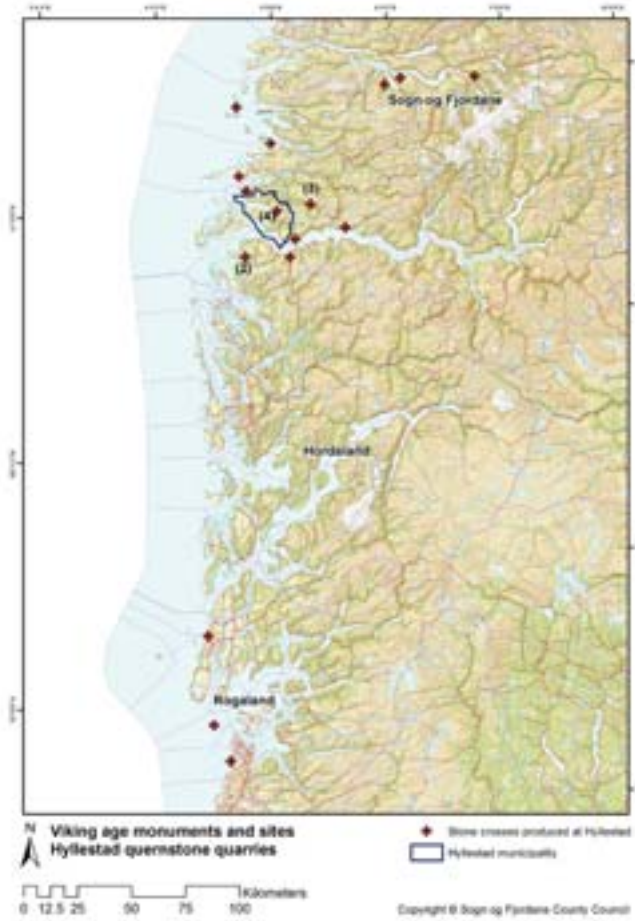


Figure 25: Rønset with the noble hardwood forest reserve and nominated area indicated.

Figure 24: Location of the crosses most likely produced at Hyllestad.

Figure 26: Knowledge through action for pupils at
Hyllstad School, here within Millstone Park
Photo: Kim Söderström and Jørgen Magnus
Directorate for Cultural Heritage







Figure 27: Knowledge through action for pupils at Hyllstad School, here within Millstone Park.
Photo: Kim Söderström and Jørgen Magnus
Directorate for Cultural Heritage

APPENDIX 2 DECLARATION OF INTENT

The Viking Age as World Heritage Declaration of Intent

The Hyllestad quernstone quarries and the Vestfold ship burials are component parts of the transnational serial nomination *Viking Age Sites in Northern Europe* to UNESCO's World Heritage List

The transnational serial nomination *Viking Age Sites in Northern Europe* includes cultural heritage from the Viking Age linked to the land-, sea- and townscapes from the North Atlantic to the Baltic Sea. Altogether seven sites in five countries have been selected and nominated. These represent in an outstanding manner the same breadth, variation and development in the culture of the Vikings.

In the Viking Age – from the 8th to the 11th century – the peoples of Scandinavia developed a maritime culture that not only deeply affected the rest of Northern Europe but also influenced far distant peoples. The Viking Age was an epoch of major changes in the Scandinavian countries:

- Shift from tribal and clan structures via monarchy to nation building
- Change of religion from Norse customs and beliefs to Christianity
- Growth of towns and urbanisation in a society based on primary industry and the production of raw materials.

The development of advanced shipbuilding technology and highly developed maritime skills permitted the Vikings to make use of waterways – the ocean, lakes and rivers – for expansion, exploration, overseas settlements and trade over long distances. The swift, easily manoeuvrable Viking ships were technological innovations at that time.

The various component parts of the serial nomination include trading towns, harbours, fortifications, production sites, burial sites and places of assembly. In their entirety the sites in the serial nomination testify to social, economic and cultural development in the Viking Age. In addition to the Norwegian sites, the nomination includes Jelling and its mounds, runic stones and church as well as the fortifications at Trelleborg, Aggersborg and Fyrkat in Denmark, Þingvellir in Iceland, the Grobina archaeological complex in Latvia, and Danevirke and Hedeby in Germany (Schleswig-Holstein).

Hyllestad quernstone quarries demonstrate the development of mass production and bulk trade during the Viking Age. Quernstone production began in the 700s in order to satisfy a local need. The Hyllestad quarries represent a unique production environment with regard to extent and authenticity, as well as links to the maritime culture that helps to unite the sites in the serial nomination.

The Vestfold ship burials – Gokstad, Oseberg and the Borre mounds – represent burial customs that are unparalleled in Viking Age culture. Common to the three locations are the large ships placed in the mound. Nowhere else in the world is the occurrence of ship burials so numerous, splendid and well-preserved. Three burial mounds with their wonderful ships and wealth of equipment that testify to a high degree of craft expertise are documented by archaeological excavations. The mounds at Borre are situated along the sailing route and underline in particular the association between technology, communication and landscape.

If the transnational serial nomination of *Viking Age Sites in Northern Europe* is inscribed on the World Heritage List, Norway guarantees that the Outstanding Universal Value of the Hyllestad quernstone quarries and the Vestfold ship burials will be preserved.

In connection with the preparation of the application for inscription on the World Heritage List, the municipalities of Horten, Sandefjord, Tønsberg and Hyllestad as well as Sogn og Fjordane and Vestfold county authorities and county governors together with the Directorate for Cultural Heritage, the Norwegian Environment Agency and the Ministry of Climate and Environment are in agreement on the following:

- The intention of the World Heritage nomination *Viking Age Sites in Northern Europe* is to protect, preserve, disseminate and transfer to future generations the Outstanding Universal Value the sites represent.
- The Norwegian component parts in the nomination shall help to strengthen local identity and contribute positively to experiencing the values of the cultural environments and to developing social and business activities in the municipalities.
- The sites shall be included in the active dissemination of World Heritage values, and the scientific values will form the basis of knowledge production through national and international research and professional network building.
- The Hyllestad quernstone quarries and the Vestfold ship burials shall be managed in accordance with national legislation and the intentions of the World Heritage Convention. A key objective is to achieve best practice in the management of cultural heritage and to represent Norway in a worthy manner in the transnational nomination and on the World Heritage List.

- A Norwegian World Heritage council will be set up for the Hyllestad quernstone quarries and the Vestfold ship burials. The council will ensure the joint management of the World Heritage values and will promote the use of World Heritage Site status in the best interests of the local communities.
- Norway will participate actively in the international management of the serial nomination *Viking Age Sites in Northern Europe*.




 Jørn Holthe
 Director General
 Directorate for Cultural Heritage
 Norwegian Environment Agency




 Ellen Hambro
 Director General
 Norwegian Environment Agency




 Anne Karin Hamre
 County governor
 Sogn- og Fjordane




 Erling Løe
 County Governor
 Vestfold

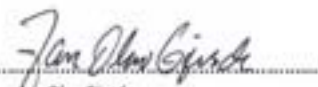



 Per-Eivind Johansen
 County Mayor
 Vestfold




 Åshild Kjelnes
 County Mayor
 Sogn- og Fjordane

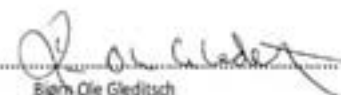



 Jan Olav Gjerde
 Mayor
 Hyllestad Municipality





 Berre Jacobsen
 Mayor
 Horten Municipality




 Bjørn Ole Gleditsch
 Mayor
 Sandefjord Municipality




 Petter Berg
 Mayor
 Tønsberg Municipality

