

Development projects

The nominated property and the buffer zones of the "Caves with the oldest Ice Age art" in the Ach- and Lone Valley include approximately 1600 ha mainly used for agricultural and forestry purposes. Nonetheless several development projects are in consideration or in planning in the area and in its vicinity. The State Office for Cultural Heritage as public agency participates in all authorising procedures for development projects that could affect the property and its buffer zone. The below listed development projects are known, are in examination or have been recently examined by the State Office.

I. Development projects outside the property and the buffer zone

Ach Valley: Stone quarry Vohenbronnen

The HeidelbergCement AG (cement plant Schelklingen) has made an application to extend its current stone quarry situated in Vohenbronnen. The expansion concerns an area that is located about 1.7 km to the south of the nominated component part of the Ach Valley and about 1.0 km south of the respective buffer zone.

The State Office examined the application and stated that neither the quarry nor the extension cause strain on the nominated property and the buffer zone. Visual axes from and to the property are also not affected.

Ach Valley: Reconstruction of a cement kiln in Schelklingen (cement works Schelklingen, HeidelbergCement AG)

The HeidelbergCement AG (cement works Schelklingen) is currently planning a reconstruction of the cement works facilities located at Schelklingen near the nominated property of the Ach Valley (1.5 km). In this context an approximately 150 m high novel cement kiln shall be erected on the company's premises. According to the Federal Emissions Protection Act (BImSchG) the kiln must be erected in a vertical position. The State Office for Cultural Heritage will take part in the authorising procedure. Previously a scoping paper dating to May 30th 2016 has been submitted to the State Office.

Visual axes between the prospected kiln and the Hohle Fels and other points in the nominated property are illustrated as follows:

According to a small - in the scoping paper included - visual impact analysis the reconstruction of the cement kiln is located behind a larger ridge of the Swabian Jura. From most points of view the ridge obscures most, if not all, of the planned cement kiln. Moreover, there is no new technical impairment, since it is located in the same direction as the existing cement factory as well as the town of Schelklingen. However, the State Office will de-

mand additional analyses of visual axes from prominent points in the nominated property to assess the whole dimension of the possible visual impact.

Lone Valley: Wind power plants Öllingen-Setzingen and Teichhau I + II

Windpark Öllingen-Setzingen:

Three wind power plants (WPP) are projected about 750 m southwest of the nominated property Lone Valley and 350 m from its buffer zone. Because of their position and their height (230 m), these WPP impair the visual axes to and from the cultural monuments of particular importance Vogelherd Cave (3.8 km), Hohlenstein Stadel-Cave (2.2 km) and Bockstein Cave (1.1 km) as well as a multitude of prominent points in the nominated property.

Windparks Teichhau I and II:

Based on the current planning 15 WPPs (230 m height) are envisaged at the northwesterly located wind power sites Teichhau I (10 WPP) and Teichhau II (5 WPP). The smallest distance between the WPP and the nominated property Lone Valley is 1.6 km, to its buffer zone 1.1 km. Because of their position and their height (230 m), these WPP significantly impair the visual axes to and from the cultural monuments of particular importance Vogelherd Cave (2.2 km), Hohlenstein Stadel-Cave (3.0 km) and Bockstein Cave (2.7 km) as well as a multitude of prominent points in the nominated property.

Accordingly, the State Office for Cultural Heritage has brought forward concerns in all cases during the authorising procedures that haven't been finished yet. The State Office has taken the position that the WPP are not approvable according the cultural heritage legislation of Baden-Württemberg.

II. Development projects inside the property and/or the buffer zone

Ach Valley: Suburban train stop Schelklingen-Nord

As stated in the nomination dossier a regional single-track railway line passes through the Ach Valley inside the nominated property. At the moment it is in discussion if it could be manageable according the train schedule to install an additional suburban train stop for Schelklingen. Timing and results of this discussion cannot be predicted at the moment.

Even if the technical feasibility of a new train schedule should be proofed sometime, this would not mean that the train stop will be realised, as further questions (e.g. economic efficiency and financial feasibility) will then be raised. That's why an exact location for the train stop has not yet been determined.

If at a later time a concrete planning should start in the peripheral region or near the nominated property and/or its buffer zone it is possible that the zones and/or the visual axes could be affected by the construction, although these impairments would probably be of minor extent because of the intended direct proximity of the construction to the already existing urban area.

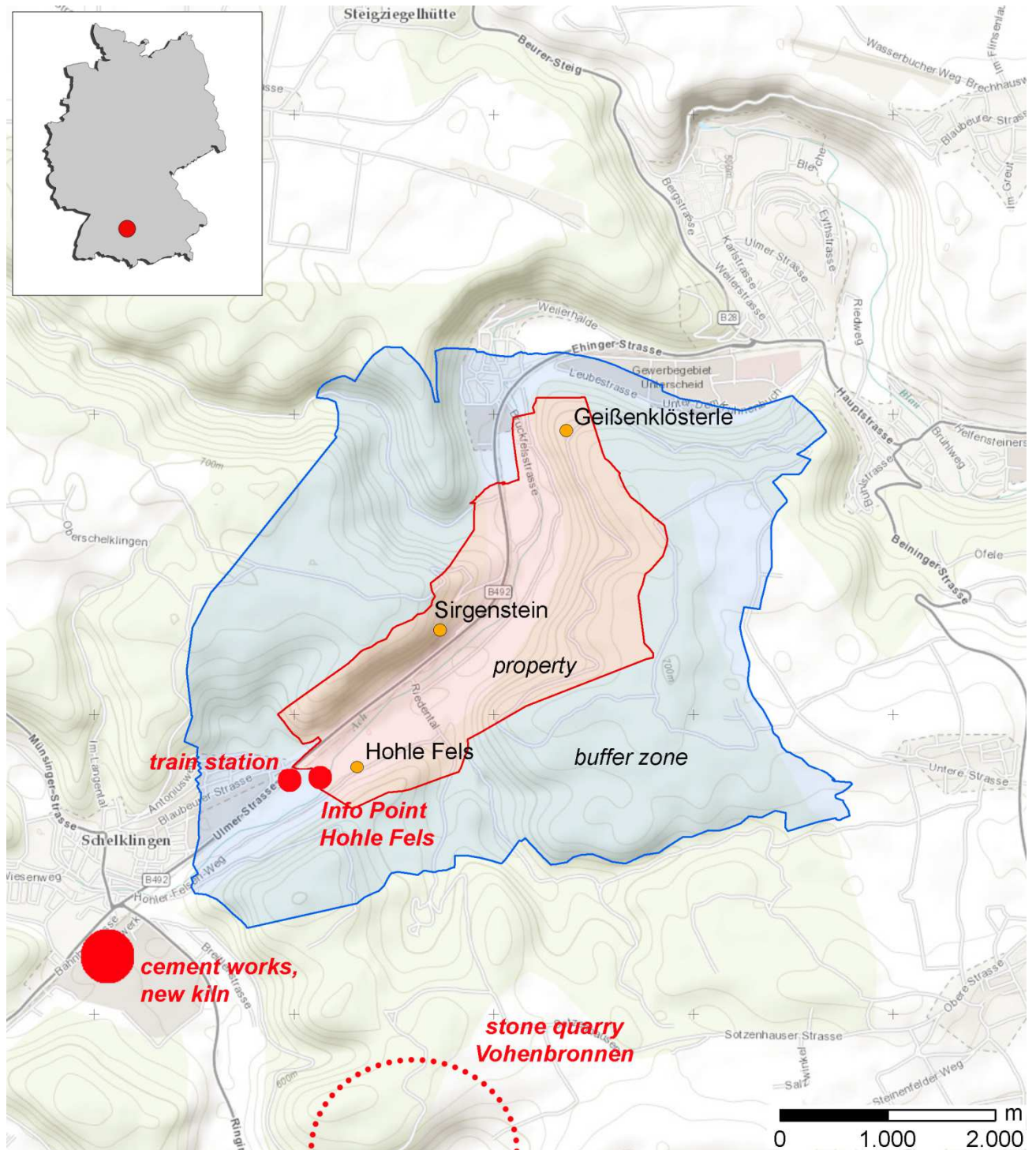
The erection of a new train stop would precede an official authorizing procedure following article 18 of the General Railways Act, in which the authority competent for plan approval – in this case the German Federal Railway Authority – would include contrary facts in its consideration. The State Office for Cultural Heritage in this case would bring into account all necessities of cultural heritage protection of the property.

Ach Valley: Information point Hohle Fels near Schelklingen

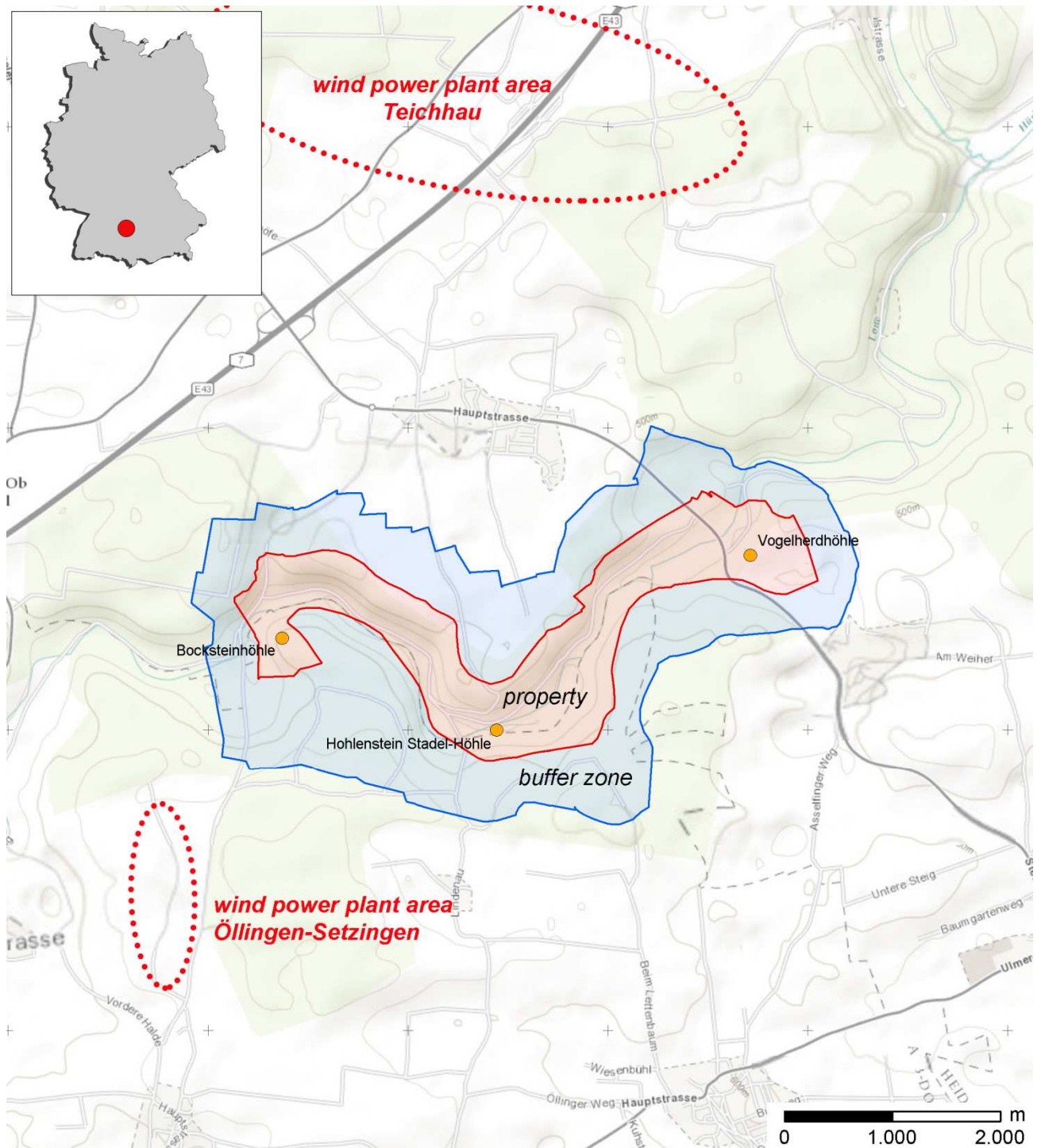
The town of Schelklingen plans to construct an information point (with an exhibition about the intentions of World Heritage and the Hohle Fels and visitor facilities), which is situated in an excavation protection area within the nominated property of the Ach Valley.

The planned „Information Point Hohle Fels“ will be about 42.30 m long and 9.50 m wide. The intended height is 4.63 m. The smallest distance between the planned information point and the cultural monument of particular importance „Hohle Fels“ is about 120 m; the distance between the information point and the cultural monument of particular importance „Sirgensteinhöhle“ is about 1 km.

In the context of the planning procedure the State Office for Cultural Heritage has issued a statement that visual axes and the cultural monument of particular importance Hohle Fels should not be impaired by the planned building, the parking space and the greening. Furthermore, the State Office has indicated that its further participation in the planning and construction procedure is necessary. Archaeological supervision of construction works – especially those penetrating the ground – is prerequisite.



Map 1: Location of development projects in and around the component part Ach Valley.



Map 2: Location of development projects in and around the component part Lone Valley.

ICOMOS

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МЕЖДУНАРОДНЫЙ СОВЕТ ПО ВОПРОСАМ ПАМЯТНИКОВ И ДОСТОПРИМЕЧАТЕЛЬНЫХ МЕСТ

Our Ref. GB/AS 1527

H.E. Mr Michael Worbs
Permanent Delegation of Germany to UNESCO
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Charenton-le-Pont, 27 September 2016

World Heritage List 2017
Cave with the oldest Ice Age art (Germany)

Dear Sir,

ICOMOS is currently assessing the nomination of "Cave with the oldest Ice Age art" as a World Heritage Site, and an ICOMOS evaluation mission will be visiting the property to consider matters related to protection, management and conservation, as well as issues related to integrity and authenticity.

In order to help with our overall evaluation process, we would be grateful to receive further information to augment what has already been submitted in the nomination dossier.

Therefore we would be pleased if the State Party could consider the following points and kindly provide additional information on the implementation time scale concerning:

Development projects:

ICOMOS has received on 22 August 2016 a document containing information about the development projects located outside of the nominated property and the buffer zone.

With regards to these projects and especially to the Wind power plants Öllingen-Setzingen and Teichhau I + II located near the Lone Valley component, it is stated that "The State Office has taken the position that the WPP are not approvable according the cultural heritage legislation of Baden-Württemberg."

Could the State Party provide further information about the visual impact of these power plants on the Lone Valley component?

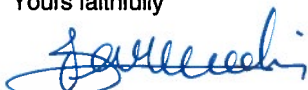
Could the State Party provide further information on the authorising procedures: process, bodies involved, timeframe for the finalisation of the decision and who has the final approval authority?

We look forward to your responses to these points, which will be of great help in our evaluation process.

We would be grateful if you could provide ICOMOS and the World Heritage Centre with the above information by **Monday 7 November 2016 at the latest**.

We thank you in advance for your kind cooperation.

Yours faithfully



Gwenaëlle Bourdin
Director
ICOMOS Evaluation Unit

Copy to Ministry of Finance and Economics Baden-Württemberg
 UNESCO World Heritage Centre



Baden-Württemberg

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(Bitte bei Antwort angeben)

 Caves with the oldest Ice Age art: Additional information

Enclosures

Dear Madam Director,

Thank you for your letter of 27 September 2016 concerning Wind Power Plants near the Lone Valley component part. Enclosed you will find additional information.

Please, let me know if you require further clarification regarding this matter.

Yours sincerely,


Prof. Dr. Markus Müller
Head of department

Process of approval procedure for the construction of Wind Power Plants in Baden-Württemberg

Additional information for the World Heritage nomination

“Caves with the oldest Ice Age art”

regarding the planned Wind Power Plants Öllingen/Setzingen and Teichhau I + II

Process of approval procedure for the construction of Wind Power Plants

In the Federal Republic of Germany, for the construction of Wind Power Plants (WPP) higher than 50 m it is required to implement an immission control approval procedure. For several WPP at one location (wind park) an environmental impact assessment including a respective scoping-event may be necessary in the framework of an approval procedure.

Procedure

Öllingen/Setzingen: (3 WPP above 50 m)

Teichhau I: (10 WPP above 50 m)

Teichhau II: (5 WPP above 50 m)

Scoping-events

Öllingen/Setzingen: 20.04.2016

Teichhau I: 25.11.2014

Teichhau II: 25.11.2014

In the course of the approval procedure for an installation pursuant the Federal Immission Control Act all effects on the environment caused by that installation have to be recognized and taken into account. These include amongst others interests of monument protection. If the assessment shows that planned wind power plants in the closer environment of the nominated World Heritage Site are impermissible, since they considerably affect the protected appearance in a way that cannot be changed by other considerations, and therefore stand in conflict with the monument protection act, the legal prerequisites for an approval under immission control law are not met.

The applicant can receive individualized advice by the approval authority, particularly with regard to the application, schedule of the approval procedure as well as other issues or assets that are significant for the implementation of the application. Because of the significance of the nominated World Heritage Site, it is mandatory for the approval authority to involve the State Office for Cultural Heritage during the advisory service as well as during the approval procedure. The explanations given to the applicant serve in particular as a basis for:

- which documents are required for the application
 - which expected effects the planned project may have on the general public as well as the vicinity and which consequences for the procedure will result
 - which expert assessments presumably are required and how duplicate expert assessments can be avoided
 - how the schedule of the approval procedure can be organized and which measure can be taken by the applicant and the approval authority to simplify and accelerate its course
 - which competent authorities must be involved in the approval procedure
-

Request of the approval authority for a detailed statement at the State Office for Cultural Heritage:

Öllingen/Setzingen: 01.07.2016; 07.03.2016; 30.05.2016; 06.10.2016 (approval authority: district administration Alb-Donau-Kreis) – issued

Teichhau I: 01.09.2014; 12.11.2015; 01.07.2016 (approval authority: district administration Heidenheim) – issued

Teichhau II: 23.02.2016; 01.07.2016 (approval authority: district administration Heidenheim) – issued

During the approval procedure, the approval authority obtains detailed statements from all competent authorities, whose field of competence is affected. The approval authority shall ensure the complete coordination of all prerequisites necessary for an approval decision and must decide over issuance or refusal of authorization within three months after the application documents have been declared complete.

Bodies involved:

Öllingen/Setzingen:

- Final approval authority: district administration Alb-Donau (Special Service Environmental and Industrial Safety)
- Monument protection authority: State Office for Cultural Heritage
- Municipal administration: municipalities Öllingen and Setzingen
- Building authority: administrative cooperation Langenau
- Aviation authority: Regional Council Tübingen, Department for Aviation
- Digital radio network: Digital network Baden-Württemberg, Executive Committee Technology, Logistics, Service of the Police
- Nature conservation authority: district administration Alb-Donau (Special Service Forestry and Nature Conservation)
- Forestry authority: district administration Alb-Donau (Special Service Forestry and Nature Conservation)
- Regional association: Regional Association Donau-Iller
- Regional planning: Regional Council Tübingen
- Agriculture: district administration Alb-Donau (Special Service Agriculture)
- Military interests: Federal Office for Infrastructure, Environment and Service for the German Armed Forces (Bundeswehr)
- Electricity and communication: Federal Network Agency
- Applicant: ENBW Energie Baden-Württemberg AG

Teichhau I:

- Final approval authority: district administration Heidenheim
- Monument protection authority: State Office for Cultural Heritage

- Municipal administration: city administration Gerstetten;
 - Building authority: city administration Herbrechtingen; city administration Gerstetten; city administration Giengen
 - Digital radio network: Digital network Baden-Württemberg, Executive Committee Technology, Logistics, Service of the Police
 - Nature conservation authority: district administration Alb-Donau (Special Service Nature Conservation); Naturschutzbund Deutschland
 - Forestry authority: district administration Heidenheim (Special Service Forestry); Regional Council Stuttgart Department Forestry
 - Regional association: Regionalverband Ostwürttemberg
 - Regional planning: Regional Council Stuttgart, Department for Regional Development, Construction Law, Monument Protection and Competence Centre for Energy
 - Agriculture: district administration Heidenheim (Special Service Agriculture)
 - Military interests: Federal Office for Infrastructure, Environment and Service for the German Armed Forces (Bundeswehr)
 - Electricity and communication: Federal Network Agency; municipal utility Giengen; municipal utility Ulm/Neu-Ulm Netze GmbH
 - Traffic: district administration Heidenheim (Special Service Public Transport and Road Construction; Special Service Traffic); Regional Council Stuttgart, Department for Road Sector and Traffic
 - Weather radar: German Meteorological Service
 - Water and soil: district administration Heidenheim (Special Service Water and Soil Protection); Administration Unit Water Supply
 - Geology: State Office for Geology, Raw Materials and Mining
 - Aviation authority: Regional Council Stuttgart Department for Aviation
 - Technical planning: Deutsche Telekom Technik GmbH; Vodafone GmbH; Telefonica Germany GmbH & CO. OHG; SWU TeleNet GmbH
 - Fire: district fire chief
 - Applicant: EnBW Ostwürttemberg DonauRies AG
-

Teichhau II:

- Final approval authority: district administration Heidenheim
 - Monument protection authority: State Office for Cultural Heritage
 - Municipal administration: city administration Giengen;
 - Building authority: city administration Herbrechtingen; city administration Giengen
 - Digital radio network: Digital network Baden-Württemberg, Executive Committee Technology, Logistics, Service of the Police
 - Nature conservation authority: district administration Alb-Donau (Special Service Nature Conservation); Naturschutzbund Deutschland
 - Forestry authority: district administration Heidenheim (Special Service Forestry); Regional Council Stuttgart Department Forestry
 - Regional association: Regionalverband Ostwürttemberg
 - Regional planning: Regional Council Stuttgart, Department for Regional Development, Construction Law, Monument Protection and Competence Centre for Energy
 - Agriculture: district administration Heidenheim (Special Service Agriculture)
 - Military interests: Federal Office for Infrastructure, Environment and Service for the German Armed Forces (Bundeswehr)
 - Electricity and communication: Federal Network Agency; municipal utility Giengen; municipal utility Ulm/Neu-Ulm Netze GmbH
 - Traffic: district administration Heidenheim (Special Service Public Transport and Road Construction; Special Service Traffic); Regional Council Stuttgart, Department for Road Sector and Traffic
 - Weather radar: German Meteorological Service
 - Water and soil: district administration Heidenheim (Special Service Water and Soil Protection); Administration Unit Water Supply
 - Geology: State Office for Geology, Raw Materials and Mining
 - Aviation authority: Regional Council Stuttgart Department for Aviation
 - Technical planning: Deutsche Telekom Technik GmbH; Vodafone GmbH; Telefonica Germany GmbH & CO. OHG; SWU TeleNet GmbH
 - Fire: district fire chief
 - Applicant: EnBW Ostwürttemberg DonauRies AG
-

Timeframe for finalisation:

Öllingen/Setzingen:

To date the relevant documents necessary for an assessment of approval have not been delivered by the applicant. In an assessment that considered concerns of monument protection it has been demonstrated that the planned wind power plants in the closer environment of the nominated World Heritage Site are impermissible, since they considerably affect the protected appearance in a way that cannot be changed by other considerations, and therefore stand in conflict with the monument protection act. For this reason the legal prerequisites for an approval under immission control law are not met. This has been communicated with a firm reference to the approval authority.

Teichhau I+II:

The approval authority is momentarily examining the assessments of all public agencies whose fields of competence are affected. The State Office for Cultural Heritage has requested further documents to consider the suitability for approval. Once these documents necessary for consideration of suitability for approval are complete, a final assessment and detailed statement will be issued by the State Office for Cultural Heritage. As the situation stands, the planned wind power plants in the closer environment of the nominated World Heritage Site are impermissible, since they considerably affect the protected appearance in a way that cannot be changed by other considerations, and therefore stand in conflict with the monument protection act. Therefore the legal prerequisites for an approval under immission control law would also not be met.

Final approval authority:

Öllingen/Setzingen:

- district administration Alb-Donau-Kreis (special service environmental and industrial safety)

Teichhau I+II:

- district administration Heidenheim (special service construction, environment and industrial inspectorate)
-

Details of visual impact:

Öllingen/Setzingen:

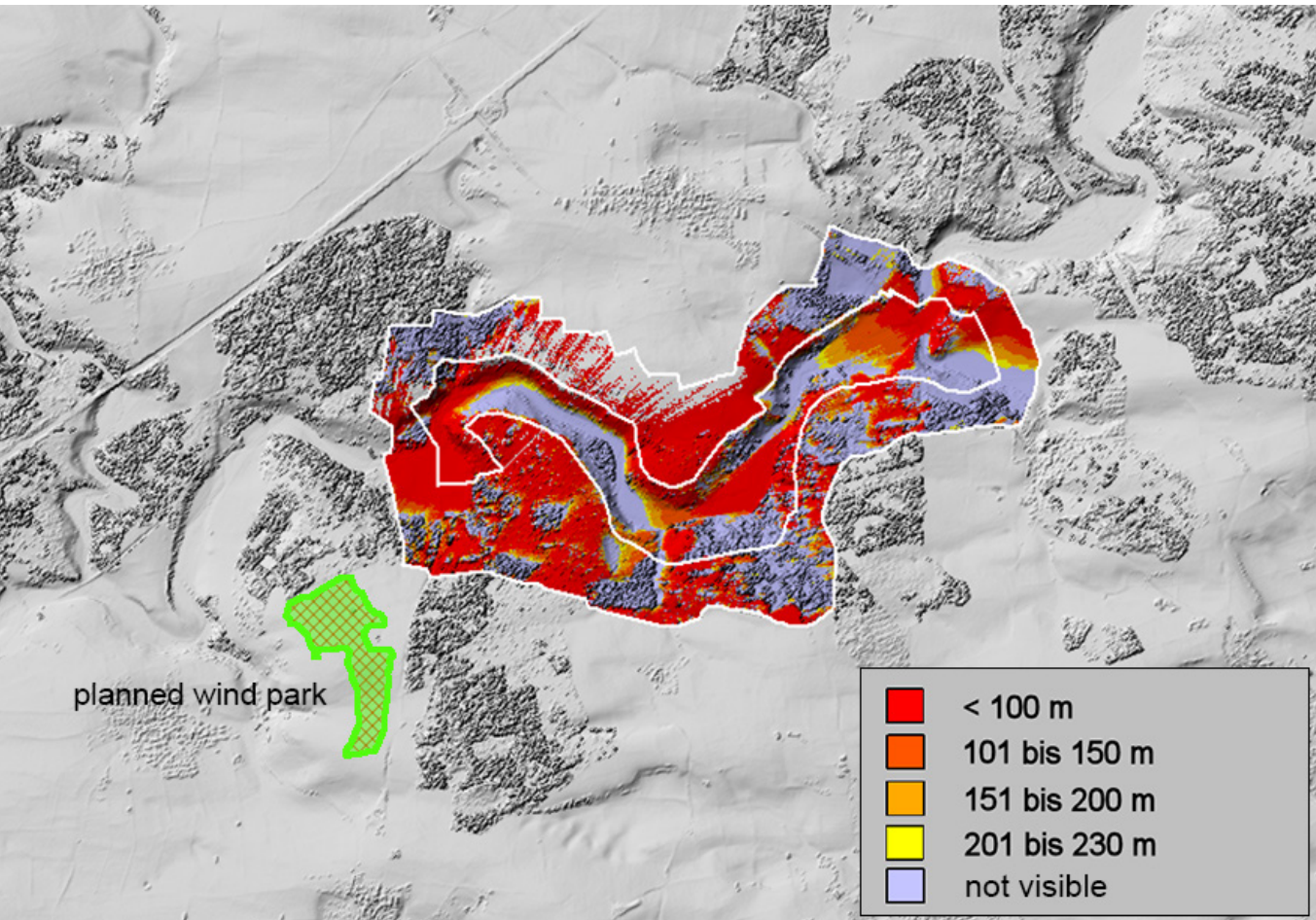


Fig. 1 Visual impact of the planned 3 WPP Öllingen/Setzingen (visualisation by the State Office for Cultural Heritage).

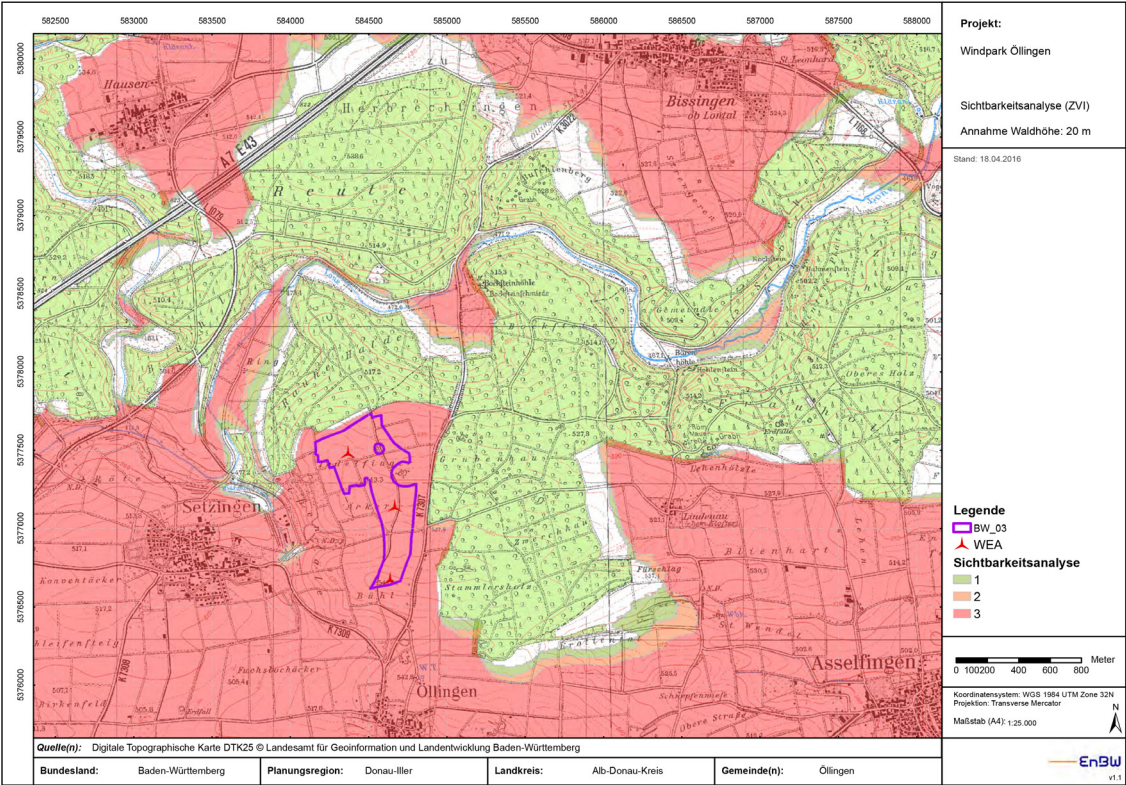


Fig. 2 Exact location and visual impact of the planned 3 WPP Öllingen/Setzingen (visualisation by the applicant).



Fig. 3 Simulated view of the planned 3 WPP Öllingen/Setzingen from Bockstein Cave (visualisation by the applicant).



Fig. 4 Simulated view of the planned 3 WPP Öllingen/Setzingen from Vogelherd Cave (visualisation by the applicant).



Fig. 5 Simulated view of the planned 3 WPP Öllingen/Setzingen in front of Hohlenstein complex (visualisation by the applicant).

Teichhau I and II:

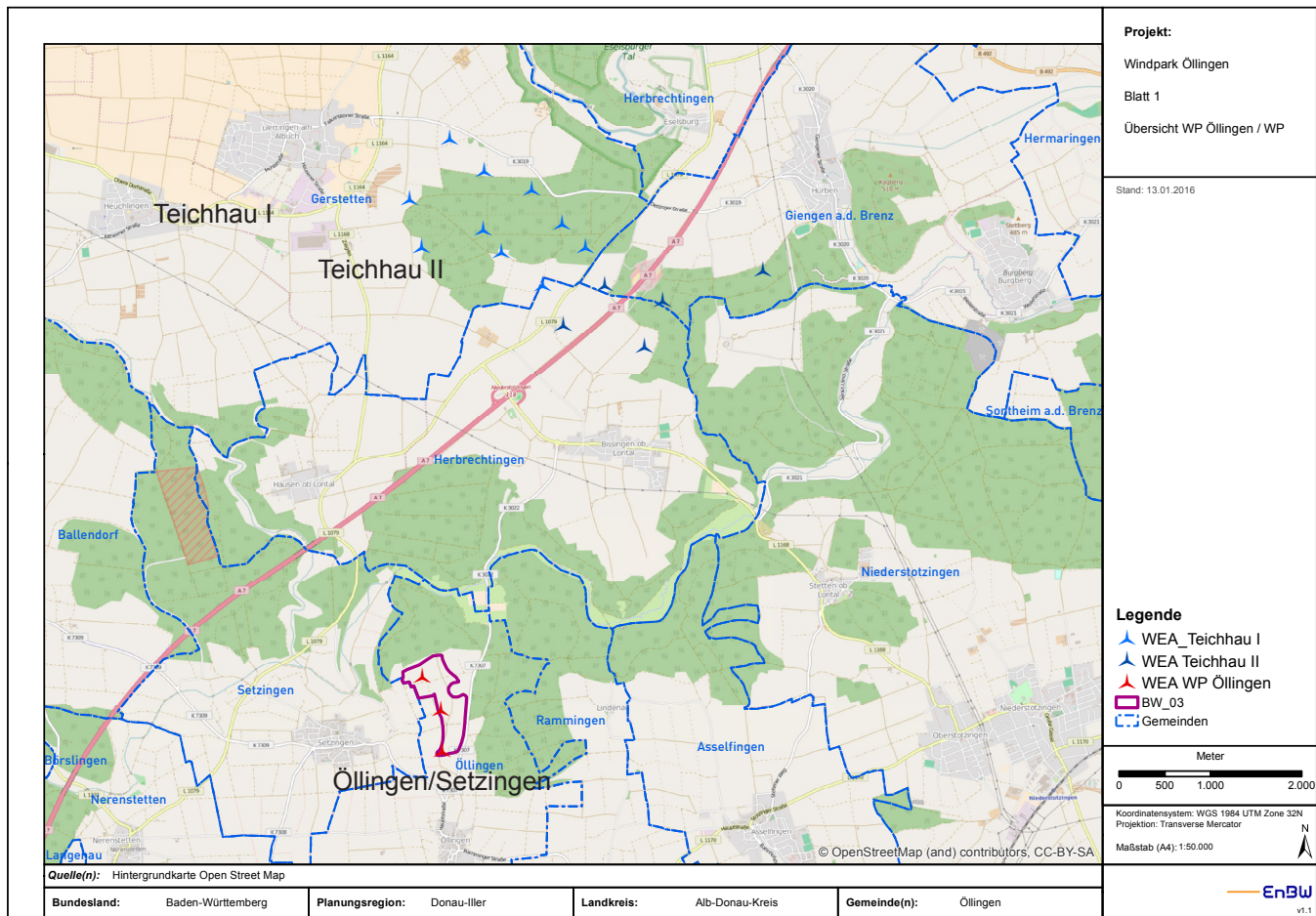


Fig. 6 Exact location of the planned 15 WPP Teichhau I + II as well as 3 WPP Öllingen/Seitzingen (map by the applicant).

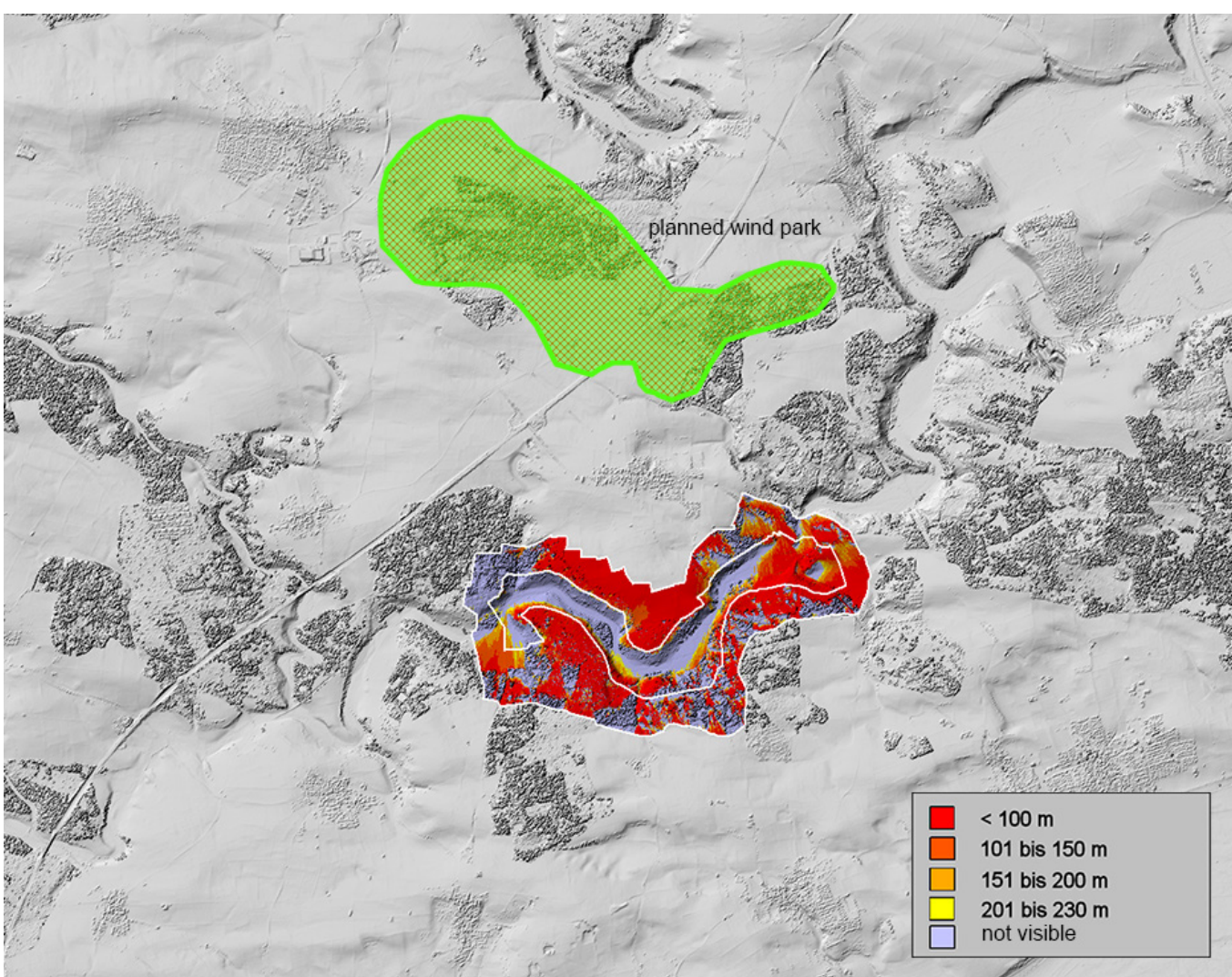


Fig. 7 Visual impact of the planned 15 WPP Teichhau I and II (visualisation by the State Office for Cultural Heritage).



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Paris, 24 February 2017

Madam Director,

In reference to your letter of 19 December 2016 (Ref. GB/AS/1527/IR) please find attached the requested additional information on the nomination "Caves with the oldest Ice Age Art". If you need any further clarification or information, please do not hesitate to contact me again.

A hardcopy of the documents will be sent as soon as they will have been received. The World Heritage Centre will receive a copy of this letter and the attachment.

Please accept, Madam Director, the assurances of my highest consideration.

Krawielicki



Baden-Württemberg

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 Caves with the oldest Ice Age art: Interim report

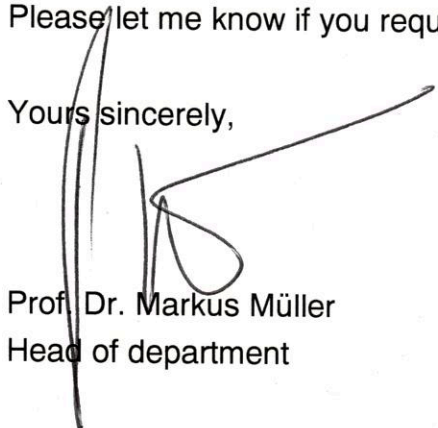
Enclosures

Dear Madam Director,

Thank you for your letter of 19 December 2016 with the interim report concerning the evaluation of the "Caves with the oldest Ice Age art". Please find enclosed additional information on documentation, development projects, tourism management and the title of the property as requested.

Please let me know if you require further clarification regarding these matters.

Yours sincerely,


Prof. Dr. Markus Müller
Head of department

1. Documentation

Mammoth ivory processing during the Swabian Aurignacian with a focus on the manufacture of artworks and flutes

A variety of monographs, contributions and journal papers have been published on the subject of mammoth ivory processing in caves sites of the Swabian Aurignacian over the past years (see selected bibliography below). Noteworthy, even a dissertation focusing on the subject was finished in 2015 and published as a monograph the same year (Wolf 2015a).

All ivory pieces discovered in Aurignacian layers of the caves in the Swabian Jura were most probably imported as blanks by Aurignacian people. Beyond that, the archaeological record from several caves reveals that ivory was worked inside the caves, showing that in addition to tools, ivory figurines were manufactured on site. A potential import of ivory pieces by predators can be ruled out, since they would carry neither ivory itself nor whole carcasses of megafauna like mammoth into the caves.

In situ finds of finished ivory products, semi-finished pieces as well as manufacture debris in Aurignacian layers in Hohle Fels, Geißenklösterle, Hohlenstein Stadel and Bockstein Cave prove that these caves were places of manufacture. In Hohle Fels, Geißenklösterle and in the backdirt of the re-excavations of Vogelherd, not only the final products, such as ivory points or ivory beads (fig. 1), have been discovered; in fact, the whole production sequence (fig. 2) can be reconstructed for both tools and adornments. Finds from the Aurignacian layers include blanks, semi-finished products and manufacture rejects with accompanying debris as well as finished artefacts (fig. 3). In some cases Aurignacian people even recycled ivory pieces for other than their original purpose. For example, a broken point from Hohle Fels, layer IV, was reworked into a large bead. Further support for carving of ivory within the cave is given by the fact that in Hohle Fels, Vogelherd and Geißenklösterle, the artworks lay within the waste of everyday life.

In addition to art objects and personal ornaments, ivory flutes were also manufactured in the caves. This is attested by the discovery of a preform of a flute made of mammoth ivory that was discovered in the Aurignacian layer Va of Hohle Fels (fig. 4).

Hohle Fels Cave

Excavations with modern standards have been carried out since 1977. Since 1997 the University of Tübingen has conducted excavations annually. Abundant ivory remains discovered over the years

attest the intensive ivory working on site. To this point there are more than 10,000 ivory pieces from the Aurignacian layers IId to Vb.¹

The ivory finds range from large blanks to small splinters and chips. Splinters are the result of intensive scraping and ivory working inside the cave and are therefore the best indicator for on-site manufacture. In fact, ivory remains were discovered in the entire excavated area, proving the intensive working of this material on site. Numerous rods, which are preforms for a variety of products, as well as flakes, which result from controlled knapping, were also discarded in the cave and are an additional indicator for on-site production. Flakes were often also used as tools, such as chisels or wedges.

One broken preform of a flute is also known from layer Va, indicating the manufacture of flutes on site.

Layer	Unworked ivory pieces	Worked ivory pieces	Detailed overview
IId	1832	86	includes debris, splinters, waste; art objects: horse head with refitted cheek from AH IIIa
Ile	557	48	rough and fine splinters, tools such as points, flakes that prove knapping of fresh ivory inside the cave ²
III	1400	224	flakes, debris, chisels and splinters, rounded rods as preforms for points or beads
IV	1459	593	flakes, debris, chisels, splinters, rounded rods as preforms for points or beads, finished beads etc.; art objects: waterfowl, miniature lion-man
Va	354	251	flakes, splinters, scraper, rods, a bait, one flute fragment, one preform for a flute comparable with the Geißenklösterle ivory flute
Vb	739	68	rod fragments, personal ornaments, rough and fine splinters, etc., one flute fragment, one core; art object: Venus figurine

¹ In the following the term “unworked” ivory means pieces without clear work traces like cut marks or worked edges which would show polish or were frayed.

² “Fresh” does not necessarily mean that the ivory was obtained from a hunted and slaughtered mammoth. It could also have been gathered in the landscape in a very good condition without cracks.

Geißenklösterle Cave

Excavations with modern methods took place between 1976 and 1991 and between 2000 and 2002 in regular intervals.

Until the year 2002 more than 5,000 worked and unworked ivory remains had been discovered in Geißenklösterle. The main part of these ivory pieces is attributed to the two Aurignacian layers II and III. Both the original excavator J. Hahn and other researchers have demonstrated in detail that intensive ivory processing took place on site during the Aurignacian. Eighteen ornamental ivory pieces (beads) were found in the younger Aurignacian layer II and the lower Aurignacian layer III. There are three pendants deriving from AH III and fifteen pieces from AH II. In AH II two pieces are preforms, two pieces are semi-finished products, one is a finished product, four are used products and two pieces are damaged. These specimens represent the entire production sequence and prove the on-site manufacture of beads.

Layer	Unworked ivory pieces	Worked ivory pieces	Detailed overview
II	1502	331	artefacts like rod fragments, splinters, points, flakes and beads; art objects: bear, mammoth, steppe bison, "worshipper", ivory flute
III	3113	140	among the artefacts are a point, rod fragments as preforms for beads, flutes or points, flakes and splinters

Sirgenstein Cave

The early excavations at Sirgenstein Cave in 1906 by R. R. Schmidt led to the discovery of a single double perforated bead. It was discovered during the sorting at a much later stage and probably originates from the Aurignacian layer IV. Schmidt did not water screen or sort the sieved finds. It can therefore be assumed that, like at Vogelherd, many more beads and debitage of ivory processing are preserved in the backdirt of the first excavation. So far, direct evidence for the production of artwork in the cave is still missing.

Vogelherd Cave

The cave was completely excavated in 1931 by G. Riek. He characterized the layers IV and V as Aurignacian. Between 2005 and 2012 N. J. Conard carried out re-excavations of the backdirt with modern documentation methods.

Ivory was abundant in the two main entrances of the cave. Large tusk fragments were discovered in the southwestern entrance. In the southern entrance the excavator G. Riek documented working areas that stem from ivory processing on site. During Riek's time of investigation, water screening and sorting of sieved finds were not part of the excavation procedure. He therefore did not discover splinters or other debitage as additional indicators for ivory working on site. He did not discover any

beads made of ivory, either. However, Riek found more than 50 ivory rods and rod fragments and described disks of ivory, prepared for working and carving.

In the recent excavations of the backdirt researchers discovered numerous unworked ivory pieces and about 1,500 worked specimens. Among these are hundreds of artefacts that are similar to pieces discovered in other Aurignacian cave sites of the Ach and Lone Valley, such as double perforated beads. They are direct evidence that the production of ivory artefacts took place in the cave and followed the same production patterns known from the Ach Valley.

Layer	Unworked ivory pieces	Worked ivory pieces	Detailed overview
IV	n.a.	n.a.	tools like points, scrapers, a smoother, anvils, a cement piece with a groove that proves the direct working of the osseous material; art objects: big feline, anthropomorphic figurine, steppe bison, relief of a mammoth made from bone
V	n.a.	n.a.	rods and rod fragments, smoother, points; art objects: horse, two felids, mammoth, back of a mammoth, bear/lion depiction
backdirt	to date not fully evaluated / in process	1500	rod and rod fragments, points, engraved and therefore often symbolic fragments, ca. 400 beads (detailed data acquisition of the ivory remains is in process); art objects: 67 secured figurative depictions, 104 probable figurative artworks

Hohlenstein Stadel

In addition to the well-known Lion Man figurine, the early excavations in Hohlenstein Stadel before 1939 have produced only two ivory beads. Both beads have – considering the relative proximity of the site to Vogelherd Cave – an unusual shape, being basked-shaped and ball-shaped. Recent excavations by C.-J. Kind yielded again a single ball-shaped pendant. Yet, remains that prove the processing of ivory are still missing. This could be due to the fact that the larger part of the Aurignacian layers was excavated in the 1930s, when wet sieving was not applied. Alternatively, this is perhaps due to a different function of the cave. Noteworthy is the observation that, during the recent excavations, researchers have not found any obvious manufacture remains of ivory. Perhaps the Lion Man figurine was deliberately deposited in the cave (potentially in the course of a ritual) but not produced on site. Hohlenstein Stadel could have been more a religious place than a production site. However, this must remain a theory due to the fact that large parts of the cave were excavated in the 1930s, 50s and 60s without water screening the sediments. Potential places of manufacture could have been situated in these areas.

Layer	Unworked ivory pieces	Worked ivory pieces	Detailed overview
Aurignacian	numerous	3	Three beads; artwork: Lion Man

Bocksteintörle (original entrance area of Bockstein Cave)

In 1954 R. Wetzel discovered five pieces of jewelry at Bocksteintörle. Two of them were made of ivory: one is a half of an oval bead and the other one is an oval preform of a bead. In addition, Wetzel found several personal adornments made of clay shale, such as a notched ring, a basket-shaped bead and a broken semi-finished product of a basket-shaped bead. Wetzel also notes that ivory rods carved in a flat-straight way had been discovered. These pieces from different stages of the manufacture process testify that production of personal adornments made of ivory and clay shale took place at Bockstein Cave.

Layer	Worked ivory pieces	Worked clay-shale pieces	Detailed overview
VI	2	3	Few beads, which comprise finished products and semi-finished products from various materials; carved ivory rods for the production of other adornments.

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Figure 1: Different varieties of personal ornaments (ivory beads), including preforms from Aurignacian layers of Hohle Fels, Sirgenstein Cave and backdirt of Vogelherd Cave (image W. Binczik, University of Tübingen).

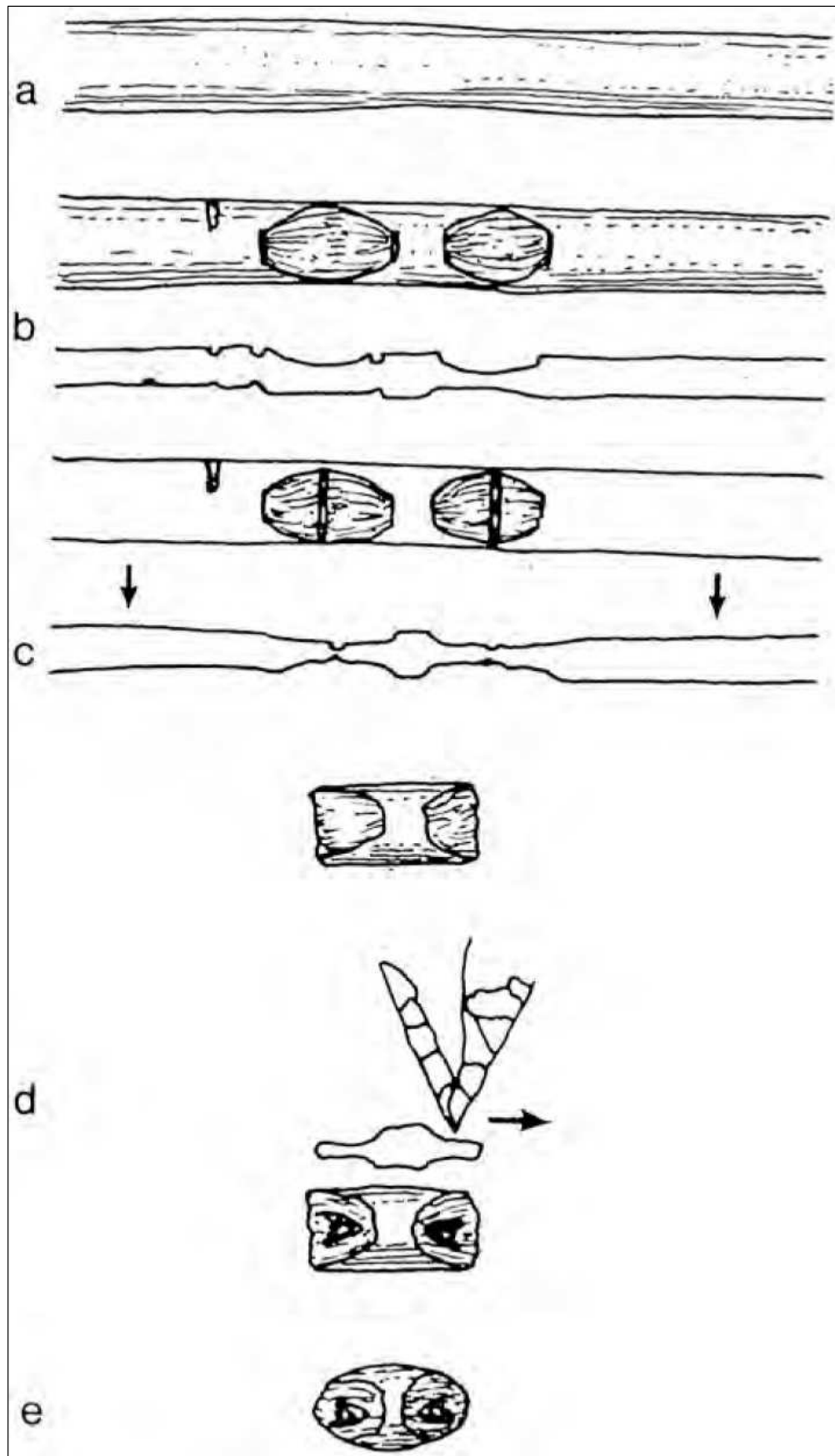


Figure 2: Scheme for “chaîne opératoire” of double perforated ivory beads – rod (a, b), preform (c), semi-finished products (d) and bead (d) (after J. Hahn 1992).



Figure 3: “Chaîne opératoire” of double perforated ivory beads from Aurignacian layers of Vogelherd (left) and Hohle Fels (right) - (after Wolf 2015a, fig. 86 and 109; images S. Wolf and G. Häussler, both University of Tübingen).



Figure 4: Preform of a broken flute (mammoth ivory) from Aurignacian layer Va Hohle Fels (after Wolf 2015a, table 26; image S. Wolf, University of Tübingen).

2. Development projects

Öllingen:

The State Office for Cultural Heritage Baden-Württemberg was involved in all stages of the planning procedure of the three planned wind power plants in Öllingen-Setzingen, located southwest of the Lone Valley component part. In several statements the State Office – in absolute consensus with the supreme monument protection authority (the Ministry for Economic Affairs, Labour and Housing of Baden-Württemberg) – brought forward its severe concerns with the installation of the wind power plants and made clear that they are not approvable according to the cultural heritage legislation of Baden-Württemberg. Due to the statements made by the State Office, the installation of the wind power plants was rejected by the responsible authority – the district administration Alb-Donau-Kreis – on 1 February 2017.

Teichhau I + II:

The State Office for Cultural Heritage Baden-Württemberg has been involved in all stages of the planning procedure on the wind power plants of Teichhau I+II, located north of the Lone Valley component part. In several statements it has already brought forward its severe concerns, based on the arguments presented in the case of Öllingen-Setzingen and in absolute consensus with the supreme monument protection authority (the Ministry for Economic Affairs, Labour and Housing). It has rejected the installation of wind power plants that would affect the nominated property. Few documents which show the visibility of the planned wind power plants are still needed for a final evaluation by the State Office for Cultural Heritage Baden-Württemberg. They have already been requested from the applicant (the energy utility company EnBW). A final decision by the district administration of Heidenheim can be made once these documents have been made available. Corresponding to the decision in the case of Öllingen we are convinced that this decision will ensure the visual integrity of the nominated component part.

3. Tourism management

Tourism and increasing visitation in the Swabian Jura, the Ach and Lone Valleys and the archaeological cave sites

Recently, the tourism association “Schwäbische Alb Tourismus” (SAT) has published its latest evaluation of tourism in the Swabian Jura. According to this report and a press release referring to a press conference at the CMT fair in Stuttgart (International exhibition for caravanning, motoring, tourism), the current figures show that tourism in the Swabian Jura has indeed been increasing over the past years; however, the region is far from reaching a maximum capacity. Tourism is currently no threat to the landscape and neither to its natural nor its cultural heritage at all.

The topic Ice Age art and archaeological cave sites are a major element in the tourism marketing strategy for the Swabian Jura; therefore, it is essential for tourism stakeholders to foster the preservation of the cultural landscape. In this regard it is noteworthy that stakeholders involved in tourism marketing in the region include – in addition to municipalities and districts – organisations like the UNESCO Biosphere Reserve Swabian Alb and the UNESCO Global Geopark Swabian Alb. These organisations have a severe interest in a sustainable, albeit growing tourism of the region. The State Office for Cultural Heritage has already initiated a close cooperation with representatives of the Biosphere Reserve and the Geopark. Besides regular meetings this cooperation has also led to a training conducted by State Office representatives for tour guides associated with the Biosphere Reserve, aiming at sensitising the guides for the concerns of cultural World Heritage Sites (WHS) in general and the Palaeolithic cave sites and their vicinity in specific.

With special regard to potentially growing numbers of visitors in and around the nominated World Heritage Sites, officials from the State Office for Cultural Heritage and representatives from the municipalities and districts are currently developing a comprehensive, barrier free information system for both the Ach and Lone Valley component parts. The State of Baden-Württemberg has provided 500,000 € for funding municipal projects in the context of this information system. According to the respective funding regulations, the municipalities raise at least 50 % of the costs for the projects; thus, a total amount of more than 1,000,000 € will be spent for a comprehensive visitor information system.

One of the major aims of this information system is to establish a visitor guidance that ensures a gentle and sustainable visitation of the property. The information system includes a variety of hiking trails with information signs and “activity stops” (especially for families and children). For the largest part, the hiking routes make use of already present trail routes. New trails will only be installed under supervision of the State Office for Cultural Heritage. In this manner, groups of visitors will spread on the different routes and not amass at certain places. Activity stops will be installed between cave sites and not in the immediate vicinity, so that potential concentrations of visitor groups will be equalised along the trail routes.

Currently the visitor guidance concept already directs guests to those locations that serve as the central information points. These are the Urgeschichtliches Museum Blaubeuren, the Archäopark Vogelherd Niederstotzingen and additional info points (like the planned info point Hohle Fels; cf. measure Mgmt-5.4 on p. 151 of the Management Plan). A uniform distribution and geographically well-distributed network of info centres and info points will guarantee a gentle flow of visitors, starting from these distinct focal points. Especially the Urgeschichtliches Museum and the Archäopark have been conceptualized as special museum facilities which are prepared for large groups of visitors. Currently, they are already successfully handling ca. 30,000 to 40,000 visitors per year without yet reaching a maximum capacity. Both these locations shall serve as starting points for the various tours within the respective component parts of the nominated property. Other museums, which exhibit archaeological finds from archaeological sites of the nominated property, such as museums in Stuttgart, Ulm and Tübingen, further contribute to a dispersed distribution of visitors and therefore a sustainable tourism.

There are currently no specified predictions for a maximum tourist capacity. Based on the observations of past years and regarding the above mentioned latest evaluation and future trends presented by the SAT, it is not expected that visitor numbers in the nominated property will increase in a way that would pose a threat. Still, officials from the State Office for Cultural Heritage are prepared to take measures in the unlikely case of upcoming threats. For example, in addition to the already locked caves with preserved archaeological layers (Hohlenstein Stadel, Geißenklösterle, Hohle Fels) further metal grilles or other forms of barriers could be installed at the cave sites of Sirgenstein and Bockstein. Access to Vogelherd Cave is already controlled through the entry to the Archäopark.

Potential (but also unlikely) threats to the surrounding landscape will be prevented by the above mentioned information system with its visitor guidance. If necessary in the future, additional trail routes (i.e. in addition to those already planned in the framework of the information concept) could be installed – not only in but also around the nominated property – in order to further foster a wider spread of visitors.

Also, structural facilities will be improved where necessary (e.g. Geißenklösterle, Bockstein, Sirgenstein). This will not only lead to a safer approach to the respective cave sites. It will also improve protection of the immediate vicinity of caves sites, since enhanced structural facilities will ensure that visitors stay on official, signposted trails.

Overall, the establishment of a sustainable tourism management with the cooperation of various stakeholders is an integral part of the Management Plan, drafted by the State Office for Cultural Heritage and approved by all stakeholders in the World Heritage process. Measure “Mgmt-4.3”, outlined on p. 146 of the Management Plan, includes the establishment of the working group “Tourism”, guaranteeing that cultural heritage protection agents (the State Office for Cultural Heritage as well as the Ministry for Economic Affairs, Labour and Housing) are regularly informed about the latest developments in tourism marketing, visitor numbers and future plans in the

development of tourism strategies. In addition, there are regular meetings of State Office officials with stakeholders of tourism from the respective regional administration offices on several occasions over the year, so that the State Office is permanently informed about the state of tourism activities in the nominated property, the buffer zone and its vicinity. Last but not least, it is noteworthy that the site coordinator employed by the State Office will spend a significant amount of his work time in an office located in one of the local municipalities. Accordingly, he will be able to observe developments and take immediate action if necessary.

Conclusion: So far, there have been no observations of threats to the nominated WHS by increasing tourism. Even though a threatening increase is not expected in the near future, the State Office is carefully observing developments on tourism and is prepared – as outlined above – to take further action as necessary.

4. Title of the property

Name proposal

The following proposal will be made:

Caves and Ice Age art in the Swabian Jura

We are also open to suggestions from ICOMOS and WHC.