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Experiences Between Nature Conservation and Archaeology in the Old Water System of Southern Hesse (Hesse, Germany)

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The landscape of southern Hesse is characterised by many old watercourses. These are areas worthy of protection for both nature conservation and monument protection. On the one hand, they provide special conditions for flora and fauna related to water bodies; on the other hand, from an archaeological point of view, the old watercourses are traffic routes, habitats, sacrificial sites and archives for the history of the landscape. The protection requirements of both interests leads to synergies, but also to disagreements and problems in dealing with the protected areas. Experiences resulting from cooperation are discussed in this article, as well as approaches to solutions for improving joint action.

1. Introduction

The southern part of the federal state of Hesse is structured by the Odenwald as part of the low mountain range in the east and by the rivers Main, Rhine and Neckar and their tributaries. Today's landscape is shaped by centuries-long use and manipulation. In the plain, heavy agricultural use is predominant. The region is also exposed to strong pressure to change coming from the metropolitan regions 'Rhine-Main' and 'Rhine-Neckar' that border it to the north and south.

The change to today's cultural landscape begins with the intensification of use and the associated manipulation of the waters from Roman times onwards. Before that, evidence can be found of life on and with the watercourse, leading up to its use as a repository in a ritual context (Figure 1) (Becker [2019](#); Becker and Sosnowski [2019](#); Steffens [2021](#)). The extensive drainage measures of the landscape in the 16th, early 19th century and in the 1930s, and the straightening of the major rivers in the 19th



and early 20th century, led to a lowering of the water levels, and thus a reduction in permanently wet environments in the old river reaches, and sometimes their complete draining. In addition, the course of the Neckar, which originally ran along the edge of the Odenwald from the beginning of the Holocene has shifted to its present direct course to the Rhine (Dambeck [2005](#) 174–82). The landscape of southern Hesse has the highest density of silted-up old water bodies in all of Hesse (Figure 2) and provides an outstanding archive for landscape reconstruction and for statements on the human-water relationship.



Figure 1: Hoard from an oxbow lake near Groß-Gerau-Dornheim (P. Odvody, hessenARCHÄOLOGIE, Darmstadt field office)



Figure 2: Nature conservation areas in the vicinity of old water bodies in southern Hesse (Th. Becker, hessenARCHÄOLOGIE, Darmstadt field office)



2. Monument and Nature Conservation in Hesse

The institutionalised protection of the architectural, archaeological and natural heritage is structured similarly in Hesse, although a few clear differences can be identified. The legal basis for action is provided by the Federal Nature Conservation Act (BNatG) of 29 July 2009 and, for its implementation, the Hessian Implementation Act to the Federal Nature Conservation Act of 20 December 2010 (HAGBNatSchG) and the Hessian Monument Protection Act of 28 November 2016 (HDSchG). The first level of authorisation for both divisions is the district or independent city or special state city (§ 1 and 2 HAGBNatSchG). In nature conservation, there is an additional intermediate approval level at the regional councils (Upper Nature Conservation Authority), which is responsible for the administrative supervision of nature conservation areas over 5 hectares. In Hesse, the highest protection authorities are the two specialised ministries – the Hessian Ministry for the Environment, Climate Protection, Agriculture and Consumer Protection (HMUKLV) for nature conservation and the Hessian Ministry of Science and the Arts (HMWK) for monument protection. Specialist offices have been set up for both concerns – the Hessian State Office for Nature Conservation, Environment and Geology (HLNUG) in the field of nature conservation and the Hessian State Office for Monuments and Sites (LfDH) in the field of monument protection. Both are responsible for overarching technical tasks and approvals, with the State Office for Monuments and Sites participating in specific approval procedures by reaching agreement with the Lower Monument Preservation Authority.

The legal internal relationship is unilaterally regulated in the Hessian Monument Protection Act. Here, § 2 para. 2 HDSchG states that 'regulations of nature conservation law [...] remain unaffected' in connection with the legal act of monument designation. This is not the case in the relevant nature conservation law, which could partly be due to the legislation originating at the federal level. At the same time, nature conservation is indirectly committed to monument protection when the Federal Nature Conservation Act defines the preservation of 'historically evolved cultural landscapes, including their cultural, architectural and soil monuments' as an objective (§ 1 para. 4 item 1 BNatG). The corresponding focus was also taken into account in the last amendment of the Hessian Monument Protection Act and the preservation of the historically evolved cultural landscape was included in the range of tasks of monument protection and preservation (§ 1 para. 1 HDSchG). Otherwise, both concerns largely stand side by side, which is remarkable because of their common origin. The 'Law Concerning the Protection of Monuments' of the Grand Duchy of Hesse of 16 July 1902 – the first monument protection law in the area of today's Federal Republic – treats natural monuments as an element of today's nature conservation in § 33 to 36 (Franke [2013](#) 78–81). The coexistence of both concerns leads to synergies and differences in everyday work in the region, which will be examined in more detail below.

3. Overlapping Areas of Interest



The already identified special landscape features of southern Hesse play a role in the work of both interests. The extreme density of silted up and partially silted up old watercourses and their exclusion from intensive agricultural cultivation leads to the inclusion of many areas in various nature conservation protection areas. Sections of the permanently wet old watercourse or floodplain areas in particular are both designated as nature conservation areas (§ 23 BNatG). Other areas are also subject to protection regulations as nature parks, FFH (Fauna-Flora-Habitat), bird protection, Natura 2000 areas and legally protected habitats (§ 7 para. 1 points 7 and 8; § 27; § 30; § 32 BNatG). Yet more belong to landscape protection areas and the 'Geo-Naturpark Bergstraße-Odenwald', which covers large parts of southern Hesse, where the protection regulations apply primarily to massive changes to the landscape (§ 27; 30 BNatG). Even though no concrete data on the proportion of individual protected areas has been determined so far, it is evident that old water bodies account for a considerable proportion of the protected areas in the landscape of southern Hesse. Against this background, it is certainly a common goal of nature conservation and monument protection to permanently protect these landscape areas.

In the day-to-day work of ground monument conservation, the parallelism of the protected areas not only creates a conservation advantage, but also generates an increased administrative burden. Within nature conservation, monument documentation and monitoring work requires the approval of the responsible nature conservation authority with regard to access and methods used, which is based on the exemption regulation due to the public interest (§ 67 BNatG). This approval process is complex, as associations must be consulted in accordance with the participation rights of the relevant law (§ 63 para. 2 item 5 BNatG). This means, for example, that the photographic documentation of a preserved soil monument, as shown in Figure 3, required the statements of 14 associations.





Figure 3: Preserved foundation walls of the late Roman burgus, Carolingian harbour and medieval castle in the nature reserve 'Steiner Wald von Nordheim' near Biblis-Nordheim, Bergstrasse District (Photo: Th. Becker, hessenARCHÄOLOGIE, Darmstadt field office)

Restrictions resulting from nature conservation also arise for archaeological fieldwork with the aim of prospection and research-based approaches. Excavations prompted by planning are hardly affected by this, as nature conservation – like monument protection – has already been taken into account as a concern in the development plan or approval procedure, and compensation or replacement measures for the intervention have therefore been specified. The concentration of restriction and protection areas in the area of the old water bodies in particular limits current studies of water body systems in southern Hesse (e.g. Becker *et al.* [2021](#); [2022](#)) to the autumn and winter months (10 October to 28 February), outside the breeding and nesting periods (Figure 4). As this period is also characterised by increased precipitation, the use of larger equipment, for example vehicle-based drilling rigs, is also subject to restrictions, so that the acquisition of scientific data for monument identification and landscape reconstruction is subject to greater limitations and is sometimes impossible.



Figure 4: Investigation of the old course of the river Weschnitz and its inventory and utilisation history in the area of Bensheim (Photo: Th. Becker, hessenARCHÄOLOGIE, Darmstadt field office)

Discrepancies from the common conservation objectives occur when – in addition to the conservation objective – an objective of improving conservation quality moves into the foreground. In the area of the old water bodies, this arises primarily through the 'renaturation' (restoration) of the captured drainage water bodies into a near-natural, artificial body of water. This is associated with a change in a historically evolved situation, inherent in dynamic landscape change. In the area of old water bodies in particular, however, it leads to the destruction of areas with special conservation conditions and thus with a special archival function. The projects are



often prompted by the European Water Framework Directive, and in some cases they are justified by changes in the requirements and goals of flood protection on large inland bodies of water (Figure 5). Improvement measures with soil intervention take place directly at the instigation of nature conservation, which are intended to contribute to maintaining or improving the quality of the protected area, mostly nature conservation areas. According to monument law, these are subject to approval in the case of known protected monuments, whereby in some nature conservation authorities, awareness of the archival function and monument value of old water bodies is not very highly developed. The different goals of preserving material for the future on the one hand and increasing quality on the other are also subject to a clearly different socio-political perception and valuation (Eschner [2021](#)). The goal for the future must certainly be to steer projects in the interest of both concerns and to make the archival and thus monument character of the oxbow lakes more widely known.



Figure 5: Wooden grate of an older structure in the area of the Rhine dyke near Biblis-Nordheim (Photo: R. Klausmann, hessenARCHÄOLOGIE, Darmstadt field office)

In the interest of both concerns, an intensified exchange about areas with common protection and conservation interests should be promoted. For example, the information offered on site, especially in the form of explanatory panels, is, with few exceptions, always concentrated on one or the other subject matter. Especially in those sites with common conservation interests, it would make sense to use the same medium to inform the visitor in order to emphasise the common conservation goal. It is understandable that the content-related interests for the respective media are primarily determined by the professional orientation of the implementing institutions. A good solution could be implementation by independent players, who then unite the different interests in their tasks. Such a player exists for southern



Hesse, for example, in the form of the UNESCO Global Geopark, whose conservation goals include the preservation of nature and cultural-historical diversity. Here, on-site information is provided, among other things, by standardised information boards that address specialised topics or overarching aspects (Weber [2008](#)). The quality of the content is further enhanced by the significance of the Geopark with its UNESCO label, so that the content is thus upgraded even more (Figure 6).





Figure 6: Information board of the UNESCO Geopark Bergstraße-Odenwald on geology and archaeology (Photo: Th. Becker, hessenARCHÄOLOGIE, Darmstadt field office)

The situation shows the necessity of networking and regular exchange for coordination. The aim here should be to use information to make clear in the public interest the monument conservation and the necessary associated measures to identify and safeguard the asset. There are certainly ways to minimise the administrative burden between the different interests to a reasonable extent by establishing an internal relationship of trust between the authorities. However, the exchange of information also offers the opportunity for a strengthening effect of both interests in interaction. The basis for this is mutual knowledge of the protected areas, which are now accessible on the corresponding portals (<https://www.geoportal.hessen.de>; <https://natureg.hessen.de/mapapps/resources/apps/natureg/index.html?lang=en>) as a result of the requirements of the [INSPIRE Directive](#) of the EU. However, an understanding of the 'neighbouring' concern does not come about through knowledge of its existence and location, but solely through the exchange of opportunities and goals as well as the joint development of understanding. It is about the chance to strengthen both concerns.

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