

Forskningsartikel

Navigating water shortage in the Agricultural landscape of Southern Öland

Elin Lundquist

This paper explores how actors involved in managing the UNESCO World Heritage site of Southern Öland respond to water shortages, manifested in declining groundwater levels and recurring droughts over the past decade. Drawing on interviews with farmers and officials engaged in water management and heritage preservation, the study examines how these actors experience and understand environmental change. Water scarcity is widely acknowledged as a defining feature of the landscape of the island, yet it is now unfolding with an intensity that challenges established ways of managing the agriculture and consequently the heritage. The paper investigates how the dynamics of preservation and change unfold in practice, highlighting the challenges, aspirations, and perspectives of the interviewed stakeholders.

Keywords: cultural heritage, climate change, anthropocene, water shortage

I denna artikel undersöks hur aktörer som är involverade i förvaltningen av världsarvet Södra Ölands odlingslandskap hanterar vattenbrist, vilket tar sig uttryck i sjunkande grundvattennivåer och återkommande perioder av torka under det senaste decenniet. Studien bygger på intervjuer med lantbrukare och tjänstepersoner som arbetar med vatten- och kulturarvsfrågor, och syftar till att förstå hur dessa aktörer upplever och tolkar dessa förändringar. Vattenbrist är allmänt erkänd som ett kännetecknande drag för Öland, men den har blivit mer omfattande under senare år och utmanar således jordbruket – och därmed också förvaltningen av världsarvet. Artikeln undersöker hur dynamiken mellan bevarande och förändring tar sig uttryck i praktiken, med fokus på de utmaningar, förhoppningar och perspektiv som kommer till uttryck hos de intervjuade aktörerna.

Nyckelord: kulturarv, klimatförändringar, antropocen, vattenbrist

Introduction

Water—through both scarcity and excess—has become one of the most tangible manifestations of climate change in everyday life. Shifting hydrological patterns are prompting new forms of adaptation and governance, as seen in recent initiatives such as #WaterWiseEU.¹ Periods of drought, flooding and groundwater depletion reveal how contemporary systems of water management—and the landscapes they sustain—are increasingly fragile in the Anthropocene, the proposed epoch in which human activity has become a dominant geological force (Sörlin 2018). The growing scarcity of groundwater in some regions at certain times a year,

cannot be explained by climate change alone but also reflects other anthropogenic processes that define this period, including intensive agriculture, industrial water use, unequal access and the large-scale manipulation of water flows. While the term Anthropocene implies a shared human responsibility, the transformations it describes are unevenly produced and experienced, rooted in the histories of modern capitalism and its differentiated effects across societies (Tsing 2015).

Sweden, long imagined as a water-rich country, has only in recent years witnessed how these global processes materialise locally. Periods of groundwater scarcity have become more frequent and municipalities across the country have urged residents to save and rethink their everyday water use. One early and striking example occurred on the island of Öland in southeastern Sweden. In 2016, groundwater levels there reached historic lows. Water was transported

¹https://environment.ec.europa.eu/topics/water/water-wise-eu_en
Accessed 2025-11-09.

across the bridge from the mainland in tankers to refill reservoirs and supply livestock farms with empty wells. A municipal water-saving campaign was launched, and eventually a pipeline was constructed beneath the sea. Two years later, the exceptionally warm and dry summer of 2018 left visible traces across the island—dead trees, parched pastures and a landscape marked by scarcity.

The southernmost part of Öland, designated a UNESCO World Heritage Site in 2000, offers a lens for exploring how environmental changes influence heritage practices, and how heritage, in turn, frames the perception and management of such changes. The designation recognises the area's agricultural landscape as a "cultural landscape"—a category meant to capture the distinctive ways in which humans have interacted with their environment (UNESCO 2008: 86). In the Öland case, this interaction centres on human adaptation to the island's physical constraints—its geology, soils, and topography. The official heritage narrative celebrates this as a "[s]uccessful interaction between man and nature" and a "[l]iving, medieval agricultural landscape that is unique in the world."² The protective measures are intrinsically linked to the agricultural landscape, which is both an ongoing, living system and a repository of historical traces. Its preservation depends on the landowners—primarily the farmers—of southern Öland, who maintain it.

Yet, as the case of Öland illustrates, the very notion of a living heritage landscape becomes increasingly complex under conditions of environmental uncertainty. As a World Heritage Site, the area is valued for its continuity, yet it is simultaneously reconfigured by hydrological change. This study departs from this tension, exploring how farmers and officials navigate between maintaining heritage values, pursuing sustainable and economically viable agriculture, and adapting to environmental transformations, exemplified by water scarcity. Building on Hastrup's (2013) view of water as a relational force—a medium that binds and divides, connects humans and nonhumans and continually reshapes the landscape—and on Budd and Linton's (2014) concept of the *hydrosocial cycle*, this study approaches water as simultaneously material and social. The hydrosocial cycle describes how water and society are deeply interconnected. Unlike the traditional *hydrological cycle*, which conceptualises water as part of a "natural" system governed by processes of evaporation, condensation, precipitation, and runoff, the hydrosocial cycle highlights the ways in which water and its movements are also constituted through human practices, political decisions and social values. Decisions regarding the control, distribution and use of water shape its circulation and determine who gains access to its benefits. Thus, water should be understood not merely as a natural substance, but as a socio-political force embedded within broader systems of power and meaning. Against this background, the study examines how actors

engaged in the care and maintenance of heritage landscapes perceive and respond to ongoing environmental transformations related to water shortage, and how negotiations take form around interventions where water and heritage intersect.

Heritage, water and change

Before Öland was nominated as a cultural landscape, it was initially considered for designation as a natural heritage site (Saltzman 2001; Turtinen 2006). The "natural values" of Stora Alvaret—an almost tree- and bush-less area of approximately 300 square kilometres, characterised by very thin soil or bare bedrock—and the surrounding coastlands were highlighted as possessing values with World Heritage significance. However, other natural heritage sites on the World Heritage List were typically associated with "untouched nature." In contrast, Öland has been inhabited and its land cultivated for thousands of years. As a result, the classification was reconsidered, and Öland was instead designated as a "cultural landscape". While the natural values remained central, they were reframed as products of human activity and the island's long historical continuity of land use and land division. Today, the World Heritage encompasses the *linear villages*, *arable fields*, *coastlands* and *Stora Alvaret*.³ The heritage site spans approximately 50 kilometres from north to south and up to 15 kilometres from the east to the west coast.

When southern Öland was nominated as a cultural landscape it was a rare example of viewing the landscape as a process, rather than scenery or a collection of objects (Saltzman 2001). In her study of landscapes in Öland, Katarina Saltzman emphasizes the conflicting aspects of preserving ongoing and ever-changing landscapes. Saltzman also stresses the possible contradiction between pointing out the landscape as a bearer of historical messages and at the same time being a functioning modern production landscape (ibid: 218–219). Modern agriculture and its rationalisation have otherwise often been viewed as threats to both natural and cultural-historical values in the landscape, and the conservation of nature often equals protecting it from human interference. Central for this paper is this tension between conservation and change, and how adaptation is required in response to a changing environment—exemplified by water shortages that reshape the conditions for life in the area.

Both natural and cultural heritage involve managing change while seeking to prevent such change from negatively affecting objects, sites or environments considered valuable for future generations (Harrison et al. 2020). Through this future orientation, heritage can be understood as a series of activities concerned with collecting, building, and designing future worlds (ibid: 4). While climate change poses significant challenges to the management of both natural and cultural heritage

² <https://sodraoland.com/en/> Accessed 2025-03-31

³ <https://whc.unesco.org/en/list/968/?> Accessed 2025-03-31.

worldwide—introducing unprecedented pressures, risks, and the need for new mitigation strategies (Fatorić & Egberts 2020; Sesana et al. 2021)—its effects on cultural landscapes such as Öland are particularly complex. Beyond shifts in temperature and humidity that threaten material conservation and the built environment, the risks here extend to the management of extensive areas and intricate farming systems. Hall et al. (2016) advocate for a shift towards a functional approach to cultural heritage, as opposed to a “frozen” perspective, particularly in the context of climate change challenges (cf. Loulanski 2006). Cornelius Holtorf (2020) similarly proposes a concept of “fluid conservation” that works “with and not against change,” contrasting the traditional notion of “fortress conservation.” The World Heritage site on Öland, described as a “living cultural landscape,” is not intended to preserve the landscape in a static or unchanging state. The functional or fluid approach is, to some extent, already inherent in this classification. However, the World Heritage designation also involves preserving certain values tied to continuity, which must remain materially visible or measurable. This can, in turn, hinder changes that might affect those values.

Moreover, while the World Heritage designation may promote a fluid stance, the associated conservation efforts, laws, and regulations are not intrinsically tied to the world heritage site itself but rather stem from broader environmental, nature, and cultural heritage protection frameworks. As a result, there can be tensions between the fluid ideals of the world heritage and the more rigid approaches of conservation practices. The example of water shortage illustrates how these dynamics unfold in practice, highlighting the challenges, aspirations, and perspectives of stakeholders within the heritage site. Some of the measures taken to address water scarcity align with the protection of World Heritage values and principles, while others may stand in tension with them. The case also points to water as a particularly elusive materiality—difficult to grasp, measure and govern.

Social science and humanities research on water highlights its dual material and social dimensions, and the challenges this duality poses for management. Hastrup’s (2013) perspective draws attention to how hydrological systems, whether wells, rivers or pipelines, link human and nonhuman actors in ways that blur the boundaries between natural and societal processes. Hamilton (2022) conceptualises groundwater management as a particularly intractable or “wicked” problem, given the uncertainty of subterranean systems, conflicting stakeholder interests and the potentially irreversible consequences of intervention. Wardle (2020) extends this line of thought by describing groundwater as a *hyperobject*—a phenomenon that exceeds human perception and temporal scales. Taken together, these perspectives foreground the difficulty of knowing and governing subterranean water systems, and underscore how water scarcity simultaneously creates uncertainty and prompts negotiation.

Methods and materials

The study is based on semi-structured in-depth interviews with six landowners and five officials who are involved in water and heritage work. The interviews were conducted during 2020 and 2021, focusing on how the interviewees experienced the water shortage in 2016 and their reflections on the future of the World Heritage site. The interviewees include five farmers representing four different farms, along with a former farmer who now works for an organisation representing farmers in Sweden. The farms include two dairy farms, one focused on natural pastures, and one primarily engaged in crop cultivation. All farms have undergone a relatively recent generational shift, with farmers aged 35–45 now managing operations. At two of the farms, two generations of farmers are working side by side. Two of the remaining five interviews were conducted with officials at the municipality—one working with water supply issues and the other with heritage-related matters. Two interviews were held with officials from the County Administrative Board, and one with a representative from an organisation that provides advisory services to farmers on agricultural practices, including water management. In total, the eleven participants—six women and five men—hold varying roles within and relationships to the World Heritage site and the surrounding landscape. Some of the participants grew up on the very farms they now operate, while the officials have developed their relationship to the landscape either as residents of the island or through their professional roles. While this study does not provide an exhaustive account of all types of actors affected by water scarcity or involved—directly or indirectly—in the World Heritage site, it explores the perspectives and experiences of those included. What they all share is a connection to the maintenance of the World Heritage site—either explicitly, as is the case with the farmers and one of the municipal officials, or indirectly through work related to agricultural advice, water management, or water supply in the area. In various ways, they are all engaged in managing transitions, mitigating impacts or adapting to the anthropogenic changes contributing to water shortages. In this context, experience-based local knowledge, expressed through the farmers’ perspectives, comes into dialogue—and at times into tension—with the management frameworks and policy approaches of local officials.

The interviewees were selected based on their connection to the landscape and the World Heritage site. Participants were recruited through a combination of snowball sampling and active outreach. A representative from the farming organisation connected me to two of the farms, while the other two were contacted through the farms’ social media accounts. Due to the COVID-19 situation during the fieldwork period, six interviews were conducted via Zoom. The actively working farmers, however, were interviewed in situ on Öland. Three of these interviews took place in the farmers’ gardens in

July 2021, and one was conducted at a farmer's kitchen table in October 2021. These in-situ interviews proved particularly valuable, as they allowed the farmers to point out and reflect on specific features in the landscape, which offered deeper insight into the farmers' conditions. The interviewees are presented anonymously and referred to by their professional roles. The study has undergone ethical review.

The semi-structured interviews lasted between 40 and 120 minutes and were steered by a thematic interview guide. The interviews were conducted in Swedish and the quotations have been translated into English. The discussions began with questions about participants' personal experiences during the acute water shortage of 2016: what they recalled from that year and how the water scarcity and subsequent droughts impacted them in the following years. Although the initial focus was on the events of 2016, it quickly became clear that discussing the groundwater shortage inevitably led to conversations about the drought of 2018. In many instances, the effects of 2018 overshadowed those of 2016, as that year marked a significant turning point when the impacts of climate change became widely noticeable in Sweden and across Europe (cf. Kverndokk 2021).

The interviews explored participants' relationships to water, including whether they had changed their water management practices, what measures they implemented to sustain farming, and the level of support provided by the municipality. Participants were also asked about the significance of the World Heritage designation to them and their expectations for the future. The analyses focused on the interviewees' accounts of experiencing the water shortage, their reflections on its causes, and their thoughts on the future. Through this focus, the analyses sought to trace how *hydrosocial relations* unfold within heritage work, as articulated through the perspectives of farmers and local officials. The following text explores their narratives of water scarcity—how the shortage was experienced, interpreted and made perceptible: first through perceptions of change and references to the past; then through encounters with its effects; and finally, through negotiations of adaptation and preservation.

Activating the past: crisis, continuity or the new normal

If we look at history, we are fully aware that this is an area that always has drought to some extent, every year, more or less. The only question is when and for how long it lasts, and what effects it will have, and it's like something we carry with us. Because it is the country's poorest precipitation area. And then we have the sun and the winds that affect it all, and the shallow soils (Former farmer).

Similar to the former farmer, who now works for an organisation representing agricultural interests, nearly all interviewees linked the water shortage of 2016 and

drought of the subsequent years to a broader condition of water scarcity in the region. This scarcity is described as a place-specific feature, embedded in the everyday experience of the island's residents. Living in a dry landscape is not only a practical reality but also a key part of their self-image—something they “carry with” them, as expressed by the interviewee. One municipal official, who works with cultural heritage, emphasized that the island's inhabitants—particularly those relying on private wells—have a greater understanding of groundwater shortages than people living on the mainland. Like several other interviewees, she cited Gotland as a comparable case, along with dry regions elsewhere in the world such as South Africa and Israel, which also face recurring drought. One farmer characterised water scarcity as something “we”—referring to farmers on Öland—are accustomed to.

The water shortage of 2016 was discovered and announced by the municipality, through local media, in January of that year. While drought was widely acknowledged as a characteristic feature of the island, several interviewees emphasized that this groundwater shortage emerging during the winter was harder to comprehend than the more anticipated and visible summer droughts. The relative invisibility of groundwater thus contributes to its critical role being easily overlooked. At one of the farms, water levels had previously dropped toward the end of the summer, but never as early as July—as was the case in 2016, when the well dried up completely. Additionally, although general summer water scarcity was described across the interviews as a normal condition on the island, the prolonged and intensified drought of recent years was perceived as extraordinary. As one farmer put it, it is “simply impossible to turn a blind eye to”. At another farm, the wife of the farmer shared that they live with a constant worry about water shortages. While this concern has always existed to some extent, it has intensified in recent years due to recurring droughts. She mentioned that during the summer she checks weather apps multiple times a day, and during the interview—which took place on a hot day in July—she highlighted how much they were longing for rain.

We live with it every day [...] and I mean, we get visits from acquaintances who have no idea. They flush water—“turn it off!” [laughter]—“Oh, how lovely the sun is,” they say. Yes, but rain is also needed, so we live with it all the time.

One farmer expressed scepticism about connecting drought to climate change, referring to what he called a general “climate hysteria” in society. Yet even he acknowledged noticeable shifts in weather patterns compared to his childhood and noted that the water at his well began to develop a foul smell in 2018. Across the interviews there are references to the past, both to the actors' own experiences and to things they have heard from others when they relate to the water scarcity. Reflecting on the experiences of water shortage thus seems to activate the past and use it as reference points.

There are a lot of people who have said “oh oh oh how stupid, how the hell could you have removed the wetlands? You have done this yourself”. But on the other hand, when it was done at the end of the 19th century, it was because people were hungry and needed more arable land to eat. They made the choice because they needed food, and now we make the choice because we need water (Official at the municipality).

Here, one of the municipal officials—like several other interviewees—linked today’s water scarcity to the 19th-century drainage of the landscape, which was carried out to expand arable land. Nearly a century and a half later, current efforts instead include restoring wetlands to retain moisture in the ground, constructing irrigation ponds and desalinating seawater. In this way, the interviewees reflect on and make sense of present-day challenges by relating them to hardships, practices, landscapes and droughts. Similarly, at one of the farms, the 2018 drought left the farmer in a severe economic situation, prompting reflections on those who emigrated from the island to America around the same time that the drainage was carried out. Alongside the drainage of the wetlands in the past, another recurring narrative holding point was that of the drought of 1959. Both the farmers and the officials have mentioned this and related it to 2018. One farmer said that he has been told that there was not a drop of rain between sowing and harvest of that year.

I’ve been a farmer for almost 30 years and there have been some serious dry years as well, but not nearly as much [as in 2018]. I know my father always talked about, he always talked about 1959. [...] This 59 he talked about every single summer, the same when the drought came, so you were almost tired of it. But now, today, if he had lived in 2018, I would say that now I know what you mean by 1959 (Former farmer).

The example of 1959 was used both to downplay the severity of recent droughts—suggesting a familiarity with such conditions—and, as in the passage above, to emphasize just how extreme 2018 truly was. Several interviewees also recalled hearing stories of people bathing in bogs in the past, something they say would be impossible today, as these areas dry out before the water gets warm enough for swimming. Similarly, two farmers born in the 1980s recounted childhood memories of swimming in streams near their farms—streams that no longer hold water in the same way.

Knowledge among people of the past and its relevance for adapting to drought, particularly in relation to farming practices and sustainability also came up during interviews. One official from the County Administrative Board argued that today’s farmers are ill-prepared for crises and said that people in the past

were more adept at handling drought—by keeping fodder reserves or using crop varieties better suited to dry conditions. One farmer, however, offered a different perspective, explaining that in the past, animals would simply starve if there was no fodder, which is clearly unacceptable by today’s animal welfare standards. In these reflections, the hardships of the past are invoked not only to offer context but also to critique or complicate current attitudes toward agricultural resilience, preparedness and transition.

Surfacing hydrosocial relations

When discussing the causes of groundwater shortage, interviewees pointed to similar factors, though often framed through the lens of their specific interests and areas of expertise. Low groundwater levels were attributed to several issues, including climate change leading to warmer and dryer autumns, leaking pipes in the municipal water system and historical land modifications—specifically, the network of ditches dug over past centuries that now channel rainwater directly into the Baltic Sea rather than allowing it to infiltrate the soil. A few interviewees also mentioned a large poultry facility in the municipality, which has expanded in recent years and consumes significant amounts of water. One official further highlighted dairy cattle as major water users. These accounts reveal how the experience of water shortage has prompted people to relate to water in new ways, linking it to broader anthropogenic processes and raising questions about the distribution and rights to what is understood as a common good.

In relation to the World Heritage site one important aspect raised is that the site stretches over a large area, encompassing landscapes that, on their own, might not meet conventional conservation criteria. One municipal official described this as a key challenge: the heritage area is deeply intertwined with the surrounding society. She related Öland to other agricultural World Heritage sites globally, which are facing similar pressures, including climate change, rural depopulation and difficulties in generational renewal. She mentioned the Lake District in England as a comparable case, where Brexit caused the loss of EU agricultural support, making it harder to sustain farming.

When relating to water scarcity, however, she referred to a particular incident that directly connected the issue to the World Heritage site. In 2016, a farm building burnt down because the fire well had run dry, the village is not connected to the public water system and the fire trucks were unable to use seawater due to the features of the shoreline. The hydrosocial cycle shaping the landscape is not confined to the World Heritage site, nor to agricultural practices. Groundwater is interconnected beneath the surface; water flows across the landscape; and pipes carrying municipally governed water reach some parts but not everywhere. The fire made the groundwater—otherwise elusive—*manifest absent* (Law

2004). Recalling this event, the municipal official described it as a turning point—a moment when water shortage was no longer seen as an abstract environmental issue but as a direct threat to the World Heritage site itself, particularly the linear villages and their built environment. She expressed surprise at the lack of response from national authorities, noting that the acting governor and municipal board chair eventually wrote to the Swedish National Heritage Board to raise concern over the water shortage and the immediate risk it posed to the heritage area.

You could say the four pillars of the World Heritage are under attack all at once. It's the coastlands, Stora Alvaret, the linear villages, and the arable fields. And the water shortage—it's not just some background issue or something running alongside—it's hitting them all directly, right at the core (Municipal official).

Crisis is often understood as a sudden rupture in the normal order. During the interviews, the water shortage of 2016 and the drought of 2018 were described as such by both officials and farmers. Municipal staff responded with emergency measures, and several interviewees compared the situation to the Covid-19 pandemic—saving water was likened to maintaining social distance. Farmers also described taking urgent actions. The former farmer, now working for an organisation representing agricultural interests, related the 2018 drought to the hurricane Gudrun, which severely impacted southern Sweden in 2005. After the storm, there were reports of suicides among landowners, prompting the organisation to establish a crisis telephone line. According to the interviewee, this line was also made available to farmers struggling with the emotional toll of the 2018 drought.

While these events resemble emergencies, the recurring droughts illustrate what Boin et al. (2020) describe as a *creeping crisis*—gradual, cumulative and difficult to perceive. Water scarcity and drought appear as a series of diffuse “smaller bangs” tied to a broader systemic problem. The interviewees’ interpretations and responses to the instances of water shortage were shaped by their positions in the world: some understood them as personal crises, others as dystopian signs, or as challenges historically familiar to life on Öland. The extent to which farmers were affected by water scarcity depended on the location of their land within the landscape and the direction of groundwater flow. While three of the farms were fortunate to have good groundwater access, one of the dairy farms experienced a complete lack of water for the cows in July 2016. Another farm, raising beef cattle, recalled the drought of 2018, when ruined crops and pastures left them without enough feed. In both cases, the lack of water created crisis-like conditions. The beef cattle farmers, unable to find affordable feed or sell their livestock due to long slaughterhouse queues, considered selling their farm. Instead,

after what they describe as a sleepless night, they chose to “start with a blank sheet of paper,” eventually transforming their operation into a nature pasture farm designed to be more resilient in dry years. The drought, along with the awareness that it could become a recurring phenomenon, had rendered the situation unsustainable, prompting the farmers to restructure the farm. At another farm, however, the farmer explained that even if they wanted to implement similar changes, the operation has been specifically adapted for milk production, with substantial investments made in milking robots. Consequently, their adaptation has instead focused on conserving water through the construction of storage ponds. At the dairy farm with the dried-out well, the farmers had to take emergency action in 2016, purchasing water from the mainland delivered by tankers and stored in large bag-in-box-type containers. The groundwater decline also prompted them to begin restoring a nearby wetland, supported by the County Administrative Board and guided by the village elders, who had emphasised the connection between the well water and the wetland.

It was primarily the farmers who experienced the crisis firsthand—through the impact on their livelihoods and the animals waiting for food and water. One official recalled, however, being present when a farm's well ran completely dry. Just as they were about to discuss a planned wetland restoration, the farmer discovered that the well had run dry. He came in crying, knowing that one hundred dairy cows were waiting for water. Although officials shared similar experiences with farmers, like the one above, their perspectives could also differ according to their professional roles. One municipal official recalled that, despite it being a crisis, he found it rewarding to work during the 2016 water shortage. Accustomed to slow bureaucratic processes, he appreciated the urgency that demanded swift decisions—such as constructing a pipeline from the mainland beneath the sea.

The local response from the authorities was largely seen as a success, according to the interviewees. One notable initiative was the water-saving campaign *Törsten* (“The Thirst”), which encouraged reduced household water use through measures like shorter showers and water reuse. The campaign reached schools, where the officials at the municipality noted that children quickly embraced it. The campaign had a tangible impact on water consumption in the municipality and exposed what Öhman and Sandell (2015) call a “through-the-wall society”, where people interact with resources and ecosystems mainly through hidden infrastructures—pipes, wires, the walls of our homes. Most remain unaware of what happens beyond these walls, but the water saving campaign made the hydrosocial relations—the infrastructure and its vulnerabilities—perceptible to a wider public. The experiences of groundwater shortage and drought, interpreted through the participants’ perspectives and relationships to the landscape, also point to the frameworks within which adaptation and preservation are negotiated. The following

section turns to these negotiations, exploring how questions of responsibility and management take shape within the World Heritage landscape.

Negotiating measures

Securing World Heritage status required farmer support (Saltzman 2001). This was achieved through dialogue between the County Administrative Board, the municipality, and local landowners. A major reason farmers eventually backed the proposal was the belief that it represented a long-term investment—offering potential protection if, for instance, EU subsidies were to end. At the same time, farmers expressed concern that heritage status might limit their ability to adapt or modernise their farms.

While the interviewed farmers agreed that they believe Öland will continue to be a farming landscape despite environmental changes, they did not view the heritage status as a guarantee for their own livelihoods. Neither they nor some of the officials seemed to regard themselves as a direct part of the World Heritage, even though they work within the agricultural landscape and engage with the very values identified as worthy of protection. One municipal official—working with biodiversity and water issues—admitted that the thought of the landscapes being a World Heritage rarely occurred to him, although he sometimes reflected on the historical landscape while driving around the island, imagining the lakes and bogs that once shaped the terrain but have long since disappeared.

The directives tied to the World Heritage designation are regulated by Swedish law and implemented by Swedish authorities. The County Administrative Board oversees both cultural and natural heritage, on behalf of the National Heritage Board and the Swedish Environmental Protection Agency. Among farmers, there was some uncertainty about what the World Heritage designation actually entails in terms of restrictions—a confusion that extends to other conservation measures as well. In one village, farmers only became aware of building restrictions linked to a historic designation when applying for permits to construct an irrigation pond.

The farmers expressed differing views on the World Heritage. One farmer emphasised its importance, both personally and for the business, while another said they rarely think about it—adding that, at the very least, it is positive that the status does not impose direct constraints on their activities. In several interviews, the potential tension between farmers and authorities surfaced unprompted—as what Pripp (2011) calls a “third present”—before the topic was even raised. One farmer said he had never personally experienced problems but knew of others who had; another described recurring conflicts with authorities.

While cooperation generally worked well—“a collaboration in everyone’s interests,” as one farmer put it—another farmer reported the opposite. He described the

system as a “bureaucratic rule” filled with “opinions and thinking without actually knowing.” He gave examples of cases where he believed the County Administrative Board had acted inconsistently in matters of nature conservation. Similarly, one municipal official acknowledged how hard it can be to gain farmers’ trust: “The farmers do something good and then the County Administration comes and prevents them from doing what they want.” He described his efforts to persuade farmers to restore wetlands as a “hard educational task,” even joking that he sometimes felt like “an annoying telemarketer.”

Discussions about water scarcity and collaboration often centred on irrigation ponds and the challenges of obtaining permits to build them. Constructing ponds is the most common strategy for securing water, and all interviewed farmers either had or wanted to build one. However, from the perspective of conservation officials, there was hesitation about their long-term value. Wetland restoration was instead promoted as a more sustainable and future-oriented measure—capable of retaining water, creating cooler microclimates, and supporting biodiversity. Some officials worried that increasing numbers of irrigation ponds could lead to competition and conflicts over water access. Others raised aesthetic concerns, describing ponds as relatively new and unfamiliar features in the landscape.

The landscape is an important part [of the World Heritage]. When you come to Öland, a key value is that we have a visible horizon line and an open, cultivated landscape—with alternating arable fields, meadows, and wetlands. That’s why I think the placement of irrigation ponds is very important. They take up a lot of space—often around three hectares—land that used to be pasture or farmland. They have high embankments that you can rarely see over (County Administrative Board official).

The World Heritage designation is rarely used to prevent change, yet it has been invoked to oppose developments such as wind turbines. In such cases, conservation can come to stand in the way of ongoing life. As one municipal official reflected: “There is a conflict in me about this World Heritage and the active agriculture that wants to remove stone walls, and with its irrigation ponds and large animal stables.” The World Heritage thus generates specific framings of the place—and, as orientations toward the future, these framings have performative effects, highlighting certain aspects while obscuring or excluding others, as seen in the differing views on water-storage measures above (cf. Goode & Godhe 2017).

Conclusion

In this article, I have examined how water scarcity in southern Öland exposes the complex negotiations between heritage values, agricultural production and environmental adaptation. I have shown how

farmers and officials, each operating within distinct temporalities and institutional logics, navigate the maintenance of livelihoods, the protection of heritage and responses to climatic uncertainty. Drawing on Budd and Linton's (2014) concept of the hydrosocial cycle, water on southern Öland emerges as an interplay of material and social processes. As groundwater levels decline, water—through its absence—becomes perceptible, mediating relations between people and the landscape. The crisis-like situations of 2016 and 2018 illustrate how shifting water flows gave rise to new infrastructures, governance practices, and framings of place and responsibility, reflecting broader tensions in governing cultural landscapes in the Anthropocene.

The water shortage revealed how a landscape celebrated as a “successful interaction between man and nature” is sustained through historically layered and fragile infrastructures—pipes, ditches and wells—that mediate and redistribute a shared resource. When interviewees reflected on the drought, they often anchored their understanding in memories of the past. These reflections underscored not only the gravity of the present but also situated their daily lives within the context of a historically dry environment. Among farmers, a dual sentiment emerged: a hopeful sense of continuity—rooted in long-term endurance—and a growing concern for an increasingly uncertain future. They emphasised the need to adapt, but viewed change as intrinsic to agricultural life, particularly within Öland's unique conditions.

The recurring droughts correspond to the notion of a creeping crisis (Boin et al. 2020): slow, cumulative, and not easily recognised as a singular event. This helps explain why farmers and officials alternated between framing the situation as an acute emergency and as something ordinary, even expected, in a dry island landscape. It suggests that even when signs of change are evident, their broader implications may remain difficult to grasp. Rather than spectacular ruins, Anthropocene environments may appear as ordinary, even productive, places where degradation has been normalised—what Swanson (2017) calls banal Anthropocene landscapes.

While farmers engaged in practical adaptations such as constructing irrigation ponds, they simultaneously navigated the interplay of regulatory frameworks, market fluctuations and EU grant conditions shaping their everyday operations. This here-and-now approach at times contrasted with the longer-term perspective of officials responsible for conservation measures. The case thus highlights a tension between the “production landscape” and the farmers' acts of “landscape production,” reflected in differing views on irrigation ponds and wetland restoration. From a hydrosocial perspective (Budd & Linton 2014), water here is not merely H₂O flowing through wells, ditches and pipes, but a relational

process linking people and landscapes. On Öland, water connects farms, households, industries, protected sites and municipal systems—and when it disappears, those relations become visible and contested.

Författarpresentation

Elin Lundquist is an ethnologist affiliated with the Department of Ecology at the Swedish University of Agricultural Sciences in Uppsala. She was previously based at the Department of Ethnology, History of Religions and Gender Studies at Stockholm University, where she carried out the project “A World Heritage Crisis – a study of how water scarcity and drought are understood and managed by actors in the Agricultural Landscape of Southern Öland”. Her research interests include, among other things, how the effects of climate change are experienced, and how people relate to and understand nature and other species.

References

- Boin, Arjen, Ekengren, Magnus, & Rhinard, Mark (2020). Hiding in plain sight: Conceptualizing the creeping crisis. *Risk, Hazards & Crisis in Public Policy*, 11(2), 116–138.
- Budd, Jessica, & Linton, Jamie (2014). The hydrosocial cycle: Defining and mobilizing a relational-dialectical approach to water. *Geoforum*, 57, 170–180. <https://doi.org/10.1016/j.geoforum.2013.10.008>
- Fatorić, Sandra & Egberts, Linde (2020). Realising the potential of cultural heritage to achieve climate change actions in the Netherlands. *Journal of Environmental Management*, 274, 111107.
- Goode, Luke & Godhe, Michael (2017). Beyond capitalist realism – why we need critical future studies. *Culture Unbound: Journal of Current Cultural Research*, 9(1), 108–129. <https://doi.org/10.3384/cu.2000.1525.1790615>
- Hall, C. Michael, Baird, Tim, James, Michael & Ram, Yael (2016). Climate change and cultural heritage: Conservation and heritage tourism in the Anthropocene. *Journal of Heritage Tourism*, 11(1), 10–24.
- Hamilton, Sarah (2022). Hidden depths: The wicked problem of groundwater management in a Spanish aquifer, 1964–1990. *Journal of Modern History*, 94(2), 363–403. <https://doi.org/10.1086/719491>
- Harrison, Rodney, DeSilvey, Caitlin, Holtorf, Cornelius, Macdonald, Sharon, Bartolini, Nadia, Breithoff, Esther, Fredheim, Harald, Lyons, Antony, May, Sarah, Morgan, Jennie & Penrose, Sefryn (2020). *Heritage futures: Comparative approaches to natural and cultural heritage practices*. London: UCL Press. <https://doi.org/10.14324/111.9781787356009>
- Hastrup, Kirsten. (2013) Water and the configuration of social worlds: An anthropological perspective. *Journal of Water Resource and Protection*, 5, 59–66. <http://doi.org/10.4236/jwarp.2013.54A009>
- Holtorf, Cornelius (2020). Conservation and heritage as creative processes of future-making. *International Journal of Cultural Property*, 27(2), 277–290. <https://doi.org/10.1017/S0940739120000107>

- Kverndokk, Kyrre (2021). The extreme summer of 2018: Norwegian weather news and the politics of weatherlore. In: Kverndokk, Kyrre, Ruge Bjørke, Marit & Eriksen, Anne (eds), *Climate change temporalities: Explorations in vernacular, popular, and scientific discourse*. London och New York: Routledge.
- Law, John (2004). *After method: Mess in social science research*. London & New York: Routledge.
- Loulanski, Tolina (2006). Revising the concept for cultural heritage: The argument for a functional approach. *International Journal of Cultural Property*, 13(2), 207–233.
- Pripp, Oscar (2011). Reflektion och etik. In: Kaijser, Lars & Öhlander, Magnus (eds), *Etnologiskt Fältarbete*. Lund: Studentlitteratur AB.
- Saltzman, Katarina. (2001). *Inget landskap är en Ö: Dialektik och praktik i öländska landskap*. Diss. Lund: Lund University.
- Sesana, Elena, Gagnon, Alexandre S., Bertolin, Chiara & Hughes, John (2021). Climate change impacts on cultural heritage: A literature review. *WIREs Climate Change*, 12(4), e710. <https://doi.org/10.1002/wcc.710>
- Swanson, Heather Anne (2017). “The banality of the Anthropocene”: Member voices. *Fieldsights*, February 22. <https://www.culanth.org/fieldsights/the-banality-of-the-anthropocene>
- Sörlin, Sverker (2018). *Antropocen. En essä om människans tidsålder*. Stockholm: Weyler.
- Turtinen, Jan (2006). *Världsarvets villkor: Intressen, förhandlingar och bruk i internationell politik*. Stockholm: Stockholm University.
- Tsing, Anna L. (2017). *The mushroom at the end of the world*. Princeton University Press.
- UNESCO (2008). *Operational guidelines for the implementation of the World Heritage Convention* (WHC 08/01). United Nations Educational, Scientific and Cultural Organization. <https://whc.unesco.org/archive/opguide08-en.pdf>
- Wardle, Deborah (2019). Groundwater as *Hyperobject*. *Mosaic: An Interdisciplinary Critical Journal*, 52(2), 1–16. *Project MUSE*. <https://doi.org/10.1353/mos.2019.0013>
- Öhman, Johan & Sandell, Klas (2015). Environmental concerns and outdoor studies: Nature as fosterer. In: Humberstone, Barbara, Prince, Heather & Henderson, Karla A. (eds), *International Handbook of Outdoor Studies*. London: Routledge.

Citera den här artikeln: Elin Lundquist. 2026. Navigating water shortage in the Agricultural landscape of Southern Öland. *Kulturella Perspektiv*, vol. 35. Tema: Klimatomställningar, s. 1–9. DOI: 10.54807/kp.v35.51298

Mottagen: 15 maj 2025 **Accepterad:** 21 januari 2026 **Publicerad:** 9 april 2026

Copyright: © 2026. Författaren/författarna. Detta är en Open Access-artikel som distribueras enligt Creative Commons, licens CC-BY 4.0, som tillåter obegränsad användning, distribution och reproduktion i samtliga medieformat, förutsatt att ursprunglig(a) författare och källa uppges. Se <http://creativecommons.org/licenses/by/4.0/>.

Kulturella Perspektiv — Svensk etnologisk tidskrift, ISSN 1102-7908, är en expertgranskad Open Access-tidskrift som publiceras av Föreningen Kulturella Perspektiv.

OPEN ACCESS 